Site-specific Quality Assurance Project Plan Addendum (SSQAPP-A)
St. Johnsbury Armory Redevelopment Project
Building Remediation

1249 Main Street, St. Johnsbury, Vermont

Prepared for:	**Town of St. Johnsbury**
Prepared by:	**Montrose Environmental Group**
EPA Cooperative Agreement Number:	**BF-00A01034**
EPA QA RFA Number:	**24013**
Montrose Project Number:	**13854-01**

MARCH 2024
REVISION 1

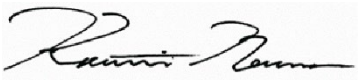
PO Box 584
1140 Valley Forge Road
Valley Forge, Pennsylvania 19482
www.montrose-env.com

PAGE LEFT INTENTIONALLY BLANK

Environmental Professional Signatures

I certify under penalty of perjury that I am an environmental professional and that all content contained within this deliverable is to the best of my knowledge true and correct.

Prepared By:



3/15/2024

Katie Nelson — Date

Reviewed By:



3/15/2024

Kevin Ignaszak — Date

Montrose Environmental Solutions Project Manager:



3/15/2024

Andrea Pedersen — Date

Title Page and Approvals

Document Title: Site-specific Quality Assurance Project Plan Addendum
St. Johnsbury Armory Redevelopment Project - Building Remediation
1249 Main Street, St. Johnsbury, Vermont
Date: March 2024
Revision: 1

Name	Title	Signature	Date
Christine Beling	EPA Region 1 Project Officer		
Lilly Simmons	EPA Region 1 QA Manager		
Kassandra Kimmey	VT DEC Project Manager		
Joe Kasprzak	Town of St. Johnsbury, Assistant Town Manager		
Lydia Work, LRS	Montrose Project Quality Assurance Officer		
Kevin Ignaszak	Montrose Project Manager		

PAGE LEFT INTENTIONALLY BLANK

Table of Contents

Environmental Professional Signatures i
Title Page and Approvals ii
1 Introduction 4
1.1 Project Organization 4
1.2 Objectives 5
1.3 Additional Project Documents 5
2 Site Background and History 7
2.1 Site Description and Location 7
2.2 Site History 7
2.3 Geology and Hydrogeology 7
2.4 Prior Investigations 7
3 Conceptual Site Model 9
3.1 Contaminants of Concern (COC) 9
3.2 Contaminant Fate and Transport 9
3.3 Sensitive Receptors and Exposure Pathways 10
4 General Remedial Approach 11
4.1 Regulated Building Materials 11
4.2 Soil Remediation 13
5 Field Sampling Plan 15
5.1 Pre-Field Activities 16
5.2 PCB Sampling 17
5.2.1 Building Material Sampling 17
5.2.1.1 Wood Flooring Building Material Verification Sampling 17
5.2.1.2 Post-Paint Removal Sampling of Walls to Remain 17
5.2.2 Soil Verification Sampling 18
5.2.3 Field Sampling Equipment Decontamination Procedures 18
5.2.4 Decontamination Wipe Samples 19
5.3 Asbestos Clearance Samples 19
5.4 Lead Clearance Samples 20
5.5 Data Quality Objectives 20
6 Project Schedule 22
7 References 23

FIGURES

Figure 1 Site Location
Figure 2 Site Plan
Figure 3 Vermont Atlas Map
Figure 4 Soil Remediation Areas and Verification Sample Locations
Figure 5A Proposed Sample Locations – Second Floor (Level 2)
Figure 5B Proposed Sample Locations – First Floor (Level 1)
Figure 5C Proposed Sample Locations – Basement (Level 0)

TABLES

Table 1A Sample Design - Post-Remediation PCB Building Material Samples
Table 1B Sample Design - PCB Excavation Verification Samples
Table 2 Sample Analytical Methods, Preservation, & Field Hold Time
Table 3A PCB Laboratory Reporting Limits, Method Detection Limits, and Regulatory Standards
Table 3B Asbestos and Lead Laboratory Reporting Limits, Method Detection Limits, and Regulatory Standards

APPENDICES

Appendix A – Project Organization
Appendix B – Project Schedule
Appendix C – Proposed PCB Building Materials and Shallow Soil Remediation Figures
Appendix D – Site Investigation Report, 2022
Appendix E – Targeted Brownfield Assessment Report for Hazardous Building Materials, 2024
Appendix F – Inventory of Asbestos-Contianing Materials
Appendix G – Analytical Laboratory Standard Operating Procedures
Appendix H – Clay Point Standard Operating Procedures

PAGE LEFT INTENTIONALLY BLANK

1 INTRODUCTION

On behalf of the Town of St. Johnsbury, Montrose Environmental Solutions, Inc. (Montrose) has prepared this Site-specific Quality Assurance Project Plan Addenda (SSQAPP-A) to perform sampling activities associated with the remediation of the St. Johnsbury Armory located at 1249 Main Street, St. Johnsbury, Vermont (the "Site"). The Town of St. Johnsbury received a United Stated Environmental Protection Agency (EPA) Brownfields Cleanup Grant (Cooperative Agreement No. BF-00A01034) for the remediation of the Armory Building. The work will be completed in accordance with the processes and procedures described in the Master (Generic) Quality Assurance Project Plan (GQAPP) prepared by Montrose and approved by EPA on December 8, 2023 (QA#24013).

This document has been prepared using guidance from EPA-New England, Region 1, Planning and Documenting Brownfields Projects, Generic Quality Assurance Project Plans and Site-specific QAPP Addenda (GQAPP and SSQAPP-A, March 2009). The following table provides a cross walk of the required SQAPP-A elements from the GQAPP/SSQAPP-A guidance, and the corresponding Sections and Worksheets presented in this document and it's associated GQAPP:

EPA Region 1 Brownfields SSQAPP-A Guidance		Montrose's SSQAPP-A / GQAPP Location	
Project Management			
Section A	Title and Approval Page / Into	Section 1	Introduction, Title and Approval Page
Section B	Project Organization	Section 1.1 of SSQAPP-A / Worksheet #3 & 5 of GQAPP	Project Organization / Program Organization and QAPP Distribution
Section C	Problem Definition	Sections 2 & 3	Site Background and History, Conceptual Site Model
Section D	Project Description / Timeline	Sections 4, 5 & 6	General Remedial Approach, Field Sampling Plan, Project Schedule
Measurement Data Acquisition			
Section E	Sampling Design and Site Figures	Sections 4 & 5	General Remedial Approach, Field Sampling Plan
Section F	Sampling & Analytical Method Requirements	Section 5 of SSQAPP-A / Worksheet #15 of GQAPP	Field Sampling Plan / Project Action Limits, Laboratory-specific Detection and Quantitation Limits

1.1 Project Organization

The project organization follows the approved GQAPP and is summarized on Worksheet #9, Project Planning Session Summary and Scoping Meetings included in **Appendix A**. An organization chart showing the relationships, lines of authority, and the lines of communication among project participants is included in **Appendix A**. Field personnel will be current on 40-hour Occupational Safety and Health Administration (OSHA) training requirements and will have familiarity with applicable standard operation procedures (SOPs) and the submitted GQAPP.

The following roles and responsibilities have been added:

- The asbestos and lead samples will be collected by Clay Point Associates, Inc (CPAI). The Project Manager for the asbestos samples will be Todd Hobson of CPAI.
- The Health and Safety Officer (HSO) for the project is Ana Mora, Montrose Corporate Safety Director. Preparation of the Health and Safety Plan (HASP), selection of personal protective equipment (PPE), health and safety recordkeeping, and evaluation of HASP effectiveness are the responsibility of the HSO.

Montrose has selected Pace Analytical Laboratory (Pace) to perform analytical services. Pace is a National Environmental Laboratory Accredited Program (NELAP) certified laboratory. A copy of this SSQAPP-A and GQAPP will be provided to the laboratories at least 10 days prior to sample receipt. Data packages will be requested in electronic format and will include internal laboratory and data handling records.

CPAI has designated the following laboratories for completing regulated building material (RBM) analytical services:

- Asbestos samples will be analyzed by CPAI in the field. A copy of their standard operating procedure (SOP) is included in **Appendix H**
- Lead wipe samples will be analyzed by Schneider Laboratories, located in Richmond, Virginia (Schneider). A copy of their SOP is included in **Appendix G**.

1.2 Objectives

The purpose of this SSQAPP-A is to provide an overview of the planned remediation and describe the sampling design and methodology. The primary objectives of this SSQAPP-A are to:

- Describe the history of the site.
- Provide an updated conceptual site model.
- Provide a brief overview of planned remediation; detailed remediation plans have been/are being prepared under separate covers (see **Section 1.3**).
- Describe the sampling necessary for asbestos, lead and PCB samples to comply with State and Federal regulations.

Sample collection procedures and project data quality objectives will follow Montrose's GQAPP (QA#24013) approved December 8, 2023, unless otherwise specified in this SSQAPP-A. The GQAPP includes project management roles and responsibilities, measurement and data acquisition guidelines, SOPs, assessment and oversight protocols, and data validation and usability guidelines.

1.3 Additional Project Documents

The proposed redevelopment will first include demolishing the majority of the rear (western) gymnasium portion of the building, gut renovation of the front (eastern) portion of the building and excavation of exterior PCB impacted soil. Following remedial activities, the Site and building will be developed into a new Town of St. Johnsbury Municipal Police and Regional Dispatch Center. Redevelopment of the Armory Building will require abatement of RBMs and remediation of shallow soil. The Project requires oversight, approval and/or compliance with various state and federal agencies and regulations given the extent and nature of impacts. The following

documents related to the redevelopment of the Site will be, or have already been, submitted for regulatory agency approval and/or as part of the Contract Documents.

Plan Name	Scope	Date	Approval Agency	Date Approved
Corrective Action Plan (CAP), Former St. Johnsbury Armory	Address PAH and Lead Impacted Soils	12/22/22	Vermont Department of Environmental Conservation (VTDEC)	3/13/23
Addendum to the CAP	Addendum to 2022 CAP to include PCB impacted soils	February, 2024	VTDEC	TBD
PCB Cleanup and Disposal Work Plan	Address PCB impacts in accordance with notification requirements per 40 CFR 761.61(a) and application requirements per 40 CFR 761.61(c)	February, 2024	EPA Region 1 Regional PCB Coordinator	TBD
Contract Document for Removal of Asbestos Containing Materials	Contract document: Will be developed in accordance with VRAC	March, 2024	NA	TBD
Universal Waste Removal	Contract documents	March, 2024	NA	TBD
Lead Paint Abatement and Substrates Removal	Contract documents	March, 2024	NA	TBD

These documents, as available, can be provided upon request. Copies of proposed PCB building materials and shallow soil remediation figures are provided in **Appendix C**.

2 SITE BACKGROUND AND HISTORY

2.1 Site Description and Location

The Site is located at 1249 Main Street, St. Johnsbury, in Caledonia County, Vermont (44.41975, -72.02099) and consists of one 0.44± acres parcel (parcel no. 023-004-074-000) (see **Figure 1**). The Site is currently owned by the Town of St. Johnsbury and is improved with a 2-story 16,700± square-foot (sq. ft.) masonry building constructed in 1916 as an armory. The Site is bounded to the north by St. Andrews Episcopal Church; to the east by Main Street; to the south by an alley followed by a 2-story commercial building occupied by Richard Kozlowski General Dentistry; and to the west by Grace United Methodist Church. The Site is currently vacant. The proposed redevelopment will include demolishing the rear (western) portion of the building, gut renovation of the front (eastern) portion of the building and excavation of impacted soil.

Figure 1 depicts the general location of the Site and surrounding area on the USGS 7.5-Minute Series Topographic Series Quadrangle Map. **Figure 2** provides a Site Plan. **Figure 3** shows the findings of Vermont's Atlas Mapper for the subject property and its vicinity.

2.2 Site History

Sanborn maps indicate that the Site contained residential dwellings between 1882 to 1912. The armory building was constructed on-Site in approximately 1916. Street Directory listings indicate continued use as an armory in some capacity from 1931 to 1974 after which the Town utilized the Site for their police and municipal departments until approximately 2009 when the building was vacated.

2.3 Geology and Hydrogeology

According to the Agency of Natural Resources (ANR) Natural Resources Atlas (NRA), native surficial soils at the Site include well sorted sand, with no pebbles or boulders. Soil boring observations generally indicate fill materials consisting of topsoil, sand, silt, and gravel of varying percentages. Native soils encountered generally consisted of well sorted fine to medium sands and were generally encountered at two feet below ground surface (ft bgs). Bedrock geology is expected to consist of phyllite from the Waits River formation. Groundwater was not previously encountered during drilling and is expected to be greater than 25 ft bgs.

2.4 Prior Investigations

A number of investigations have been performed to date to assess the presence of Regulated Building Materials (RBMs), impacts in soil and impacts in groundwater. In summary, these investigations have identified the presence of RBMs including asbestos, lead, PCBs and polycyclic aromatic hydrocarbons (PAH) shallow soil impacts. Below is a summary of two of the most recent investigations:

- Atlas Technical Consultants LLC (Atlas) 2022 Site Investigation. A copy of the site investigation report is included in **Appendix D**.
- KGSNE JV, LLC (KGSNE) 2023 Targeted Brownfields Assessment (TBA) for regulated building materials (RBMs). A copy of the TBA report is included in **Appendix E**.

During the 2022 Site Investigation (Atlas, 2022a) PAHs were detected above the applicable Vermont Soil Standard (VSS) for Urban Background (UB) in one boring (SB-6) and above VSS for Non- Resident (VSS-NR) in two borings (SB-4 and SB-9). Lead was detected in one boring (SB-9) above the applicable VSS for Resident (VSS-R). These exceedances were within what VTDEC defines as surface soils (0-1.5 ft bgs). Subsequent deeper sampling at these locations from 2-3.5 ft bgs indicated the vertical limit of these contaminated areas does not exceed 2.5 ft bgs. During this investigation groundwater was not encountered at the maximum investigation depth of 20 ft bgs. Soil vapor samples were collected to test for potential volatile organic compound (VOC) impacts and none were identified. Figures and data tables are included in the report in **Appendix D**. The two areas of impacted soil within proposed greenspaces identified during the investigation are depicted in figures included in **Appendix C**. These areas include an area to the east of the building which is impacted with PAHs, and an area to the south of the building which is impacted with PAHs and lead.

The 2023 TBA was performed between August and December 2023 by KGSNE JV II, LLC (KGSNE) in general accordance with the Workplan for Additional Hazardous building materials (Atlas, 2023) to delineate previously identified asbestos and PCB building materials, as well as sub-slab soil and lead waste characterization sampling. Supplemental for Toxic Characteristic Leaching Procedure (TCLP) composite lead paint samples were collected in January 2024 for waste characterization in support of remedial design. Findings from the TBA are summarized in KGSNE's Targeted Brownfield Assessment Hazardous Building Materials Assessment included in **Appendix E**. Generally, the TBA delineated RBMs and found no PCB impacts in sub-slab soils. PCBs have been identified in building materials and soils greater than the cleanup level of 1 ppm with the highest PCB concentrations detected being 20,000 ppm. Exterior soils adjacent to the southwest loading dock were found to contain PCBs above the cleanup level of 1 ppm to a depth of 1.5 ft bgs due to deteriorating PCB impacted paint from the adjacent southwest loading dock building. **Figure 4** shows the PCB impacted soil. Three TCLP lead based paint results were above the hazardous threshold of 5 mg/L, and are proposed to be re-sampled for confirmation of proper waste disposal during future waste characterization efforts.

On January 16, 2024 CPAI collected eight (8) samples for Toxic Characteristic Leaching Procedure (TCLP) PCB analysis. Samples were collected for waste characterization purposes in support of remedial design. The samples included collection of soil, painted wood, painted concrete, floor tile mastic and painted plaster/lathe. No detections above the reporting limit were identified and per 40 CFR 761.62(b)(1)(ii) are below the hazardous waste threshold.

3 CONCEPTUAL SITE MODEL

The conceptual site model (CSM) identifies contaminants of concern, the nature and extent of contamination to the degree known, the potential pathways for migration of contamination, and the potential receptors, both human health and ecological. The conceptual site model presented below is adapted from the CAP (Atlas, 2022b) to include the findings from the 2023 TBA (KGSNE, 2024). Section 2.1 provides a description of the site and its location, Section 2.2 provides a description of site history, and Section 2.3 provides a description of the geological conditions at the Site.

3.1 Contaminants of Concern (COC)

Based on prior Site investigations and the findings of the 2023 TBA, the following contaminants of concern (COC) were identified.

Regulated Building Materials (RBMs)

- Asbestos
- Lead
- PCBs

Soil Impacts from exterior RBMs

- Lead
- PCBs

Urban Soils

- PAHs

3.2 Contaminant Fate and Transport

As defined above the COCs for the Site include PCBs, PAHs and metals associated with shallow soils and asbestos, PCBs, and lead associated with building materials. The 2022 Site Investigation (Atlas, 2022a) identified two regulated soil areas of shallow impacted soils within greenspaces. These areas include an area to the east of the building which is impacted with PAHs, and an area to the south of the building which is impacted with PAHs and lead. The 2023 TBA identified shallow PCB impacts within the greenspace southwest of the building (KGSNE, 2024). Results from these investigations were utilized to delineate soil slated for removal and replacement as the applicable corrective action, as outlined in **Section 4**.

No known source of PAHs has been identified on-Site and the depth of exceedance indicates urban fills. In general, PAHs are hydrophobic and will tend to adsorb to shallow soil particles under typical site conditions. PCBs originating from exterior building materials have not been detected in surficial soils. Lead and PCBs have been detected in exterior building materials and have impacted surface soils adjacent to the building as outlined above. PCBs and lead are also generally hydrophobic and will tend to adsorb to shallow soil particles under typical site conditions. RBMs that have been damaged have the potential to become airborne and be distributed throughout the facility as dust. PCB containing paint has been identified throughout the building and has been found to have impacted its underlying substrate (concrete walls/flooring, plaster, drywall and wood).

3.3 Sensitive Receptors and Exposure Pathways

Soils: There is currently a direct contact exposure risk to workers/pedestrians traversing the site or workers that disturb shallow soils due to impacted development soils in areas that exceed the UB concentration. These soils require corrective actions to reduce the risk.

Soil Vapor/Indoor Air: Although VOCs were detected in soil vapor, no detections were above Resident Vapor Intrusion Standards (VIS) and therefore, there is no known risk of vapor intrusion and inhalation based on the current dataset. However, vapor intrusion is a dynamic phenomenon as atmospheric parameters (barometric pressure, solar heating, etc.) and building conditions (insulation, heating, cooling processes, etc.) can cause fluctuations in air movement, resulting in dynamic conditions over time.

Groundwater: Groundwater was not encountered during prior site investigations. Given the hydrophobic nature of the COCs identified and depth of impacted compared to expected depth of groundwater (greater than 20 ft bgs) significant groundwater impairments from Site COCs are not anticipated. Additionally, it is not anticipated that potential COCs from the Site, if any, would affect local properties due to ingestion of impacted groundwater given the municipal water source.

Regulated Building Materials: Building occupants and construction workers are potential receptors of RBMs that may be present and may be encountered during future renovations/demolitions. Many building materials were observed to be damaged. Damaged RBMs including asbestos, lead based paint and PCB containing building materials have the potential to be inhaled or accidently ingested by building occupants/construction workers. Additionally, PCB containing building materials have the ability to off-gas and could potentially affect building occupants. Corrective action is required to address RBMs.

4 GENERAL REMEDIAL APPROACH

The proposed redevelopment will first include demolishing the majority of the rear (western) gymnasium portion of the building, gut renovation of the front (eastern) portion of the building and excavation of exterior PCB impacted soil. Following remedial activities, the Site and building will be developed into a new Town of St. Johnsbury Municipal Police Station. The planned remedial approach includes abatement of RBMs, encapsulation of residual PCB impacts in building foundation walls and remediation of shallow impacted soil. The proposed project schedule is discussed **Section 6**. The estimated construction timeframe to complete the remedial action is approximately 14 weeks, contingent upon the selected Remedial Contractor's submitted schedule, and is anticipated to be completed in the following stages:

Stage 1: Preparing and submitting a Generator's Waste Profile to the disposal facility and obtaining landfill approval. Additional waste characterization samples may need to be collected to satisfy disposal facility requirements. This could occur at the time of the pre-construction meeting, if required.

Stage 2: Mobilize to Site and complete Site Preparation activities.

Stage 3: Perform RBM remediation, install building bracing system and perform demolition work. Building demolition will be broken into two phases, contingent upon the selected Remedial Contractor's proposed sequence to complete the work. Phase A will consist of abatement and demolition of the western portion of the building including the gymnasium. Phase B will include abatement of the eastern portion of the building that will remain.

Stage 4: Following completion of the abatement in Phase B, collect PCB verification samples and apply an encapsulant to the designated PCB impacted basement foundation and eastern gymnasium walls that are to remain.

Stage 5: Excavation of PCB impacted soil adjacent to southwest loading dock. Collect post excavation verification soil samples with expedited turnaround of two to three business days following receipt by lab. Following receipt of sample results, import clean fill and backfill the excavation.

Stage 6: Complete waste loadout and miscellaneous activities.

Stage 7*:* Demobilization from the site.

The following provides a brief overview of the planned remedial actions. Detailed descriptions of remedial actions can be found, or will be provided in, the documents described in **Section 1.3**.

4.1 Regulated Building Materials

Universal wastes encountered during prior surveys have included compact fluorescent bulbs, fluorescent light tubes/ballasts, exit sign/lights, batteries, thermostats, fire extinguishers, and various containers with residual cleaning solutions/paints/adhesives. Prior to the start of demolition activities Universal Waste will be removed and disposed of in accordance with state and federal regulations.

Abatement of asbestos, lead-based paint (LBP) and PCB containing building materials are expected to occur simultaneously.

Friable asbestos and non-friable asbestos have been identified in the subject building. An inventory of asbestos containing materials prepared by CPAI is included in **Appendix F**. Abatement of asbestos will be performed in accordance with Vermont's Regulations for Asbestos Control, V.S.A. Title 18, Chapter 26 (VRAC). Details on asbestos abatement means and methods will be provided in the Contract Documents being prepared under a separate cover. Asbestos work will be overseen by CPAI.

Lead based paint (LBP) has been identified throughout the building. Removal of LBP will be performed in accordance with lead safe work practices and as detailed in the Contract Documents being prepared under a separate cover.

The proposed remedial action to address PCB impacted building materials and soil will be performed in accordance with U.S. Environmental Protection Agency's (EPA) Toxic Substances Control Act (TSCA) as per the following United States Code of Federal Regulations (CFR) 761.61.

The following materials and quantities have been identified as containing PCBs >50 ppm:

SUMMARY OF MATERIALS CONTAINING TOTAL PCBS > 50 PPM		
Description	**Quantity (tons)**	**Notes:**
PCB TSCA Haz-Waste: Dried paint - failing TCLP for lead (classified as D008 hazardous waste) and with PCBs > 50 ppm. Includes PCB Paint Chips/Dust/Debris/ACM on floors, plus disposal of all ductwork, electrical, plumbing, etc. with PCB and Asbestos dust.	40	
PCB TSCA Haz-Waste: Building demo debris with asbestos. Plaster, joint compound, insulation, cloth, door(s), caulk. (friable and non-friable) Includes paint with PCBs >50 ppm and haz lead paint	21	Includes ACM and/or Haz PCB and/or Haz Lead in **Basement:** 11 tons of plaster/drywall; **1st floor:** 10 tons of plaster/lathe; **Gym and 2nd Floor:** 0 tons = **21 tons**
PCB TSCA Haz-Waste: Concrete Rubble with PCB paint levels > 50 adhered to substrate (Conversations with EPA Region 1 PCB Coordinator suggest this would be considered bulk product waste). Brick, concrete rubble, cinder blocks.	294	Includes **Basement:** 272 tons of exterior/Interior Concrete/Masonry Walls and concrete slab + 3 tons of protective plywood on floor + 0.5 tons of Stairwell 0-1 wood; **1st Floor**: 0.5 tons of Stairell 1-2 wood; **Gym:** 0 tons; **2nd floor:** 2 tons red trim + two doors + wood flooring; **Exterior:** 16 tons north central stairwell + southwest loading ramp = **294 tons**

The following materials and quantities have been identified as containing PCBs >1 ppm but <50 ppm:

SUMMARY OF MATERIALS CONTAINING TOTAL PCBS > 1 PPM BUT < 50 PPM		
Description	**Quantity (tons)**	**Notes:**
PCB Non-Haz Remediation Waste: Building demo debris with asbestos. Plaster, joint compound, insulation, cloth, door(s), caulk. (friable and non-friable) Includes paint with PCBs >1 but < 50 ppm and non-haz lead paint	246	Includes ACM debris in **Basement:** 53 tons of plaster/drywall + 5.5 tons wood framing +1 ton pipe insulations + 2.5 ton boiler; **1st Floor + E. Wall of Gym:** 86 tons of plaster/drywall/studs; **2nd Floor:** 85 tons of plaster/drywall/studs; **Exterior:** 13 tons of roof flashing, coating and caulking materials = **246 tons**
PCB Non-Haz Remediation Waste: Building demo debris with non-haz lead paint and with PCBs > 1 but < 50 ppm. Wood, painted metal, plaster, lath, concrete rubble, brick, cinder blocks, window frames w/glass, etc.	582	Includes **Basement:** 264 tons of exterior/Interior Concrete/Masonry Walls and concrete slab; **1st Floor**: 2 tons of wood flooring; **Gym:** 39 tons of floor and ceiling + 20 tons trusses + 246 tons exterior masonry walls; **2nd floor:** 0 tons; **Exterior:** 10 tons north central/west stair and canopies; 1 ton front doors and railings = **582 tons**
PCB Non-Haz Remediation Waste: Soils containing PCBs under 10 ppm	10	

The remedial goals for PCBs are consistent with TSCA and VTDEC requirements. The following cleanup standards have been determined to be protective of human health and the environment:

- The PCB Cleanup Level proposed for this Site is ≤1 ppm in accordance with 40 CFR 761.61(a)(4) for a high occupancy area.
- For building materials that cannot be removed due to integral structural locations resulting in economic unfeasibility for removal and replacement, an encapsulant will be utilized to prevent future building occupants from coming in contact with PCB containing building materials and to prevent off-gassing of residual PCBs. **Figures 5B** and **5C** depict the walls that are proposed to remain and that will be encapsulated. Because the cleanup criteria under the risk-based disposal provisions 40 CFR 761.61(c) are based on the potential for exposure to PCBs following the completion of remediation, published numerical standards need not be applied, provided the remedy is protective.

PCB abatement work will be overseen by Montrose. A full description of PCB building material remediation is provided in **Section 7** of the PCB Cleanup and Disposal Work Plan (Montrose, 2024a).

4.2 Soil Remediation

The Remediation Contractor under the direction of Montrose will excavate soil areas previously determined during site investigations and depicted on **Figure 4.** Excavation details are provided below:

SOIL EXCAVATION DETAILS

Excavation Area	Area (ft^2)	Depth (ft)	Volume (CY)	Corrected Volume (CY) w/15% "Fluff
Proposed Excavation Area A	1,096	2.5	101	116
Proposed Excavation Area B	931	2.0	69	79
Proposed Excavation Area C	90	1.5	5	6
			Total	201

A full description of PAH and Lead soil remediation is provided in the approved CAP (Atlas, 2022b), and PCB soil remediation is provided in Section 7.9 of the PCB Cleanup and Disposal Work Plan (Montrose, 2024a) and CAP Addendum (Montrose, 2024b).

5 FIELD SAMPLING PLAN

The objective of the Field Sampling Plan is to detail required samples to be collected during building and soil remediation. The below samples are anticipated to be collected as part of the armory redevelopment:

- PCBs – Samples to be collected by Montrose:
  - Following wood planking floor removal on the second floor, verification samples will be collected of wood floor joists to evaluate if they have been impacted by PCB containing paint (described in Section 7.7 of the PCB Cleanup and Disposal Work Plan (Montrose, 2024a)).
  - Following the paint removal and cleaning of walls that will remain in the basement and on the first floor, sampling of the designated wall surfaces will be completed to evaluate the residual PCB impacts to these areas. The purpose of the post-paint removal sampling is to document the concentrations of residual PCBs that may remain prior to encapsulation (described in Section 7.8 of the PCB Cleanup and Disposal Work Plan (Montrose, 2024a)).
  - Soil verification sampling will be conducted in general accordance with 40CFR § 761.280-298 Subpart O following the removal of PCB impacted soils located southwest of the building (described in Section 7.9 of the PCB Cleanup and Disposal Work Plan (Montrose, 2024a)).
  - Confirmatory wipe samples of decontaminated equipment (described in Section 7.10.2 of the PCB Cleanup and Disposal Work Plan (Montrose, 2024a))
- Asbestos – Samples to be collected by CPAI: Asbestos air clearance samples will be collected in accordance with VRAC.
- Lead – Samples to be Collected by CPAI: Clearance lead dust wipe samples will be collected per Vermont Regulations for Lead Control and Housing and Urban Development (HUD).

Additional waste characterization samples to support remedial design and/or disposal facility requirements may need to be collected and are not included in this SSQAPP-A.

Sample rationale and locations (Worksheets #17 & 18), sample handling procedures (Worksheets #19 & 30), tracking and chain-of-custody (Worksheets #26 & 27), and laboratory analytical methods (Worksheets #24, 25 & 26) are designed to be consistent with those specified in the requirements of the GQAPP (QA Tracker #24013). The GQAPP includes sample chain-of-custody form, custody seal, and sample label examples (Figures 26-1, 26-2, and 26-3).

Sample design, field QC samples and analytical methods are provided on **Tables 1A, 1B** and **2**. The minimum sample volume, container type, preservative, and technical holding time of each media (*i.e.,* solid or aqueous) and analytical request are summarized in **Table 2.** The project action limits, target analyte or compound and laboratory MDL and RL are provided in **Tables 3A** and **3B.**

The following QC sample guidelines will be followed:

- Rinsate/equipment blank (1 blank/matrix/non-dedicated equipment)
- Field duplicate (1 duplicate/10 samples)
- Matrix spike/matrix spike duplicate (1/20 samples/matrix)

The Field Activities Standard Operating Procedures (GQAPP Worksheet #21) will be followed. The SOPs applicable to the activities outlined in this SQA include:

- SOP 001: Field Documentation Procedures, March 31, 23, Revision No. 2
- SOP 002: Field Screening and Instrumentation Procedures, January 30, 2019, Revision No. 2
- SOP 003: Utility Clearance, April 29, 2021, Revision No. 2
- SOP 004: Surficial and Subsurface Soil Sampling, April 28, 2023, Revision No. 2
- SOP 015: Field Quality Control Sampling, May 5, 2021, Revision No. 2
- SOP 016: Sample Labeling, Packaging, and Shipping, May 5, 2021, Revision No. 2
- SOP 017: Decontamination of Field Equipment, April 29, 2021, Revision No. 2 – Note this SOP does not describe the double rinse/wash method for PCB sampling provided in Section 5.2.3.
- SOP 018: Management of Investigation Derived Waste, April 30, 2021, Revision No. 2

Pace's laboratory SOPs for tasks associated with analysis of samples are presented in **Appendix G**. The SOPs applicable to the activities are listed below.

- ENV-SOP-ELON-0001 v03, Microwave Extraction SW846 3546, March 24, 2023
- ENV-SOP-ELON-0034 v02, EPA 8082A, May 31, 2023

The lead clearance samples will be collected by CPAI and asbestos air samples will be collected and analyzed by CPAI. SOPs for these tasks are listed below and included in **Appendix G** and **H**.

- NIOSH 7400, Asbestos and Other Fibers by PCM NIOSH 7400 Issue 3, April 29, 2019.
- Procedures for Collection of Asbestos Air Samples (Project Clearance).
- Procedures for Collection of Lead Dust Wipe Samples (Project Clearance).

Schneider Laboratories Global, Inc. (Schneider) laboratory SOPs for tasks associated with analysis of samples for lead are presented in **Appendix G**. The SOPs applicable to the activities are listed below.

- ME-003-23-001, Digestion of Solid Samples – Metals EPA Method 3050B, December 11, 2023.
- ME-017-23-001, Analysis of Flame Atomic Absorption Spectrophotometry, November 27, 2023.

5.1 Pre-Field Activities

Before the commencement of field activities Montrose will prepare a site-specific HASP in accordance with Montrose's health and safety protocols and Title 29 of the U.S. Code of Federal Regulations, part 1910.12. Field personnel will be current on 40-hour Occupational Safety and Health Administration (OSHA) training requirements and will have familiarity with applicable SOPs and the current GQAPP.

The Town of St. Johnsbury will contract directly with the Remedial Contractor with assistance from Montrose. Montrose will contract the with the following entities prior to the start of field activities:

- Pace Analytical for analytical testing services; and
- CPAI for asbestos and lead abatement oversight, sampling and testing.

5.2 PCB Sampling

5.2.1 Building Material Sampling

5.2.1.1 Wood Flooring Building Material Verification Sampling

Following floor removal of the second-floor wood planking as described in Sections 7.6 and 7.7 of the PCB Work Plan (Montrose, 2024a), verification samples will be collected from wood floor joists to evaluate if they have been impacted by PCB containing paint. Samples will be collected by Montrose using a hand chisel. Samples shall be collected as shown on **Figure 5A** and in **Table 1A**, or in locations where visible paint has been removed. In general, three samples will be collected per room/area. A water-wetted paper towel will be used to hand wipe the sampling area prior to collecting the sample, with the objective of removing dust or surface grime. For each sample at least 10 grams of wood will be collected. Samples will be collected to a maximum depth of 1/4 inches and in a way that does not impact the structural integrity of the wood floor joists. Attempts will be made to collect wood samples from a single, grab sample location; however, in order to maintain structural integrity of the floor joists, wood chips may need to be collected over an area across multiple adjacent floor joists and then be composited together. If necessary, composite samples will be collected from like materials, for example four discrete samples will be collected from four contiguous floor joists located equal distance from the wall. Following sample collection a leveling course will be used to repair sample locations by the Remedial Contractor.

As described in Contingency Plan Section 7.12 of the PCB Work Plan (Montrose, 2024a), there is a potential for paint seepage through the wood plank flooring onto the underlying floor joists on the first floor of the building. If there is visible paint on the floor joists, the paint will be chiseled out to a maximum depth of 1/4 inches. Debris will be cleaned with a HEPA vacuum followed by a pressure washer (minimized water volume used) and a wet vacuum. Chiseled areas will be filled with a leveling course. If visible paint remains after 1/4 inches have been removed, additional samples will be collected using the methodologies described in this section.

Field notes collected during sampling will indicate date and time of collection, description of location, and include floor plan notations showing the exact location of the sample. Sampling will be completed per the December 2023 GQAPP (QA#24013). In addition, one field equipment rinsate blank per non-dedicated piece of equipment, one matrix spike/matrix spike duplicate (MS/MSD) sample per twenty samples and one duplicate building material sample per ten samples will be collected for QA/QC purposes. Sampling tools shall be decontaminated between samples by first removing gross contamination, then performing a final wipe using a clean hexane-wetted paper towel. All samples shall be placed in laboratory-supplied jars and transported under chain-of-custody protocol to a certified laboratory for PCB analysis in accordance with the Method 3546 Microwave Extraction method and SW-846 8082 Aroclor analytical method. If samples are composited, mathematical correction will be applied to account for dilution.

5.2.1.2 Post-Paint Removal Sampling of Walls to Remain

Following the paint removal procedure and cleaning described in Section 7.8 of the PCB Work Plan (Montrose, 2024a), sampling of the designated wall surfaces will be completed to evaluate the residual PCB impacts to these

areas. The purpose of the post-paint removal sampling is to document the concentrations of residual PCBs that may remain prior to encapsulation. As such, no additional remediation is proposed following sample collection.

One sample will be collected per wall immediately following cleaning with a bias to areas which previously exhibited the highest PCB concentrations prior to paint removal. Proposed sample locations are shown on **Figures 5B and 5C** and described on **Table 1A.** Bulk samples will be collected by removing a minimum of 10 grams of representative material from suspected media using hand tools or a drill. Samples shall be collected to a depth of 1/2 inch.

Sampling will be completed per the December 2023 GQAPP (QA#24013). In addition, one field equipment rinsate blank per non-dedicated piece of equipment, one duplicate building material sample per ten samples and one MS/MSD sample per twenty samples will be collected for QA/QC purposes. Sampling tools shall be decontaminated between samples by first removing gross contamination, then performing a final wipe using a clean hexane-wetted paper towel. All samples shall be placed in laboratory-supplied jars and transported under chain-of-custody protocol to a certified laboratory for PCB analysis in accordance with the Method 3546 Microwave Extraction method and SW-846 8082 Aroclor analytical method.

5.2.2 Soil Verification Sampling

Following excavation of PCB impacted soil per Section 7.9 of the PCB Work Plan (Montrose, 2024a) soil verification samples will be conducted in general accordance with 40CFR § 761.280-298 Subpart O "Sampling to Verity Completion of Self-Implementing Cleanup and on-site Disposal of Bulk PCB Remediation Waste and Porous Surfaces in Accordance with §761.61(a)(6)." Given that the size of the excavation is anticipated to be 90 sq. ft, a minimum of three verification samples will be collected utilizing a sampling grid with a maximum of 1.5 m (approximately 5 ft.) spacing, in accordance with 40 CFR 761.61 Subpart O. Soil samples will be collected with a decontaminated spade or shovel. Approximate anticipated sample locations are shown on **Figure 4** and described in **Table 1B**.

Sampling will be completed per the December 2023 GQAPP (QA#24013). One field equipment rinsate blank per non-dedicated piece of equipment, one duplicate per ten samples and one MS/MSD sample per twenty samples will be collected for QA/QC purposes. Sampling tools shall be decontaminated between samples by first removing gross contamination, then performing a final wipe using a clean hexane-wetted paper towel. All samples shall be placed in laboratory-supplied jars and transported under chain-of-custody protocol to a certified laboratory for PCB analysis in accordance with the Method 3546 Microwave Extraction method and SW-846 8082 Aroclor analytical method.

5.2.3 Field Sampling Equipment Decontamination Procedures

Equipment decontamination is needed to prevent the potential or likelihood of cross-contamination during post-excavation verification sample collection. Field equipment falls into two categories: consumable and reusable. Consumable field equipment is dedicated equipment that is immediately disposed of once it is used. Consumable equipment is preferred and will be used to the maximum extent possible. Consumable equipment includes

stainless steel trowels, scoopulas, drill bits and gloves used in sample collection for this project. The consumable equipment is exclusively used at a sample location/depth and then disposed in accordance with 40 CFR § 761.61(a)(5)(v)(A) at facility permitted, licensed, or registered to manage municipal solid waste or nonmunicipal non-hazardous waste.

Reusable equipment, if needed, may consist of hand tools, shovels, etc. Equipment that is reused will be decontaminated between sampling locations. Dedicated sampling tools shall be decontaminated between samples Sampling equipment will be decontaminated with the double wash/rinse method as defined in 40 CFR 761 Subpart S. Sampling equipment will be decontaminated following the collection of each sample. The cleaning products will be used according to the manufacturer's instructions. Use of a dedicated brush will be used for application of the product to reusable equipment. The equipment is then rinsed with de-ionized water.

5.2.4 Decontamination Wipe Samples

Prior to coming into contact with imported fill, or any other clean stone, and prior to leaving the Site, decontamination of heavy equipment that has come into contact with PCBs will be completed by the Remedial Contractor in accordance with 40 CFR § 761.7(C) "*Self-implementing decontamination procedures*". The bucket, blade or other components shall first be decontaminated over a decontamination pad that shall be constructed of timbers and two layers of 8-mil polyethylene sheeting. Decontamination procedures shall include use of a pressure washer, followed by two rounds of spraying a solvent (such as diesel fuel or hexane) and hand wiping each application with disposal rags using the double wash/rinse method as defined in 40CFR § 761 Subpart S "*Double wash/Rinse Method for Decontamination Non-Porous Surfaces*". Wash fluids shall be collected and transferred to a 55-gallon drum for proper disposal off-site by the Remedial Contractor.

When decontamination is deemed complete Montrose will collect a verification wipe sample of the equipment and submit for laboratory analyses. To collect the wipe samples, a 10 cm x 10 cm dedicated cardboard template will be utilized to delineate a sample area. Gauze, pre-soaked in hexane, will be wiped within the template by applying uniform pressure while wiping from left to right, then from top to bottom, and then once around the perimeter. The gauze will then be folded and placed within a laboratory provided container and submitted for PCB analysis.

The laboratory will be requested to provide a two to three business-day turnaround time to report the results. If results indicate that residual PCB concentrations are above 10 ug/100 cm^2 on the equipment, the Remedial Contractor will be required to repeat the decontamination procedures above, followed by a second wipe sample verification by Montrose for laboratory analysis. No heavy equipment will be allowed to leave the Site without approval by Montrose.

5.3 Asbestos Clearance Samples

Asbestos air clearance samples will be collected by CPAI in accordance with Vermont's Regulations for Asbestos Control, V.S.A. Title 18, Chapter 26 (VRAC) following abatement of asbestos and prior to removal of the containment structures. A detailed overview of asbestos abatement procedures will be provided in the Construction Documents. Upon successful completion of the final visual inspection, CPAI will collect clearance air samples utilizing aggressive collection methods in accordance with VRAC. Clearance air samples will be analyzed

in the field by CPAI using Phase Contrast Microscopy (PCM). Per VRAC, sample results must be less than 0.010 fibers per cubic centimeter (f/cc) to pass.

VRAC requires that five samples be collected. Given the size of the work area and the multiple floors involved, it is anticipated that five (5) samples will be collected per floor (15 samples total). VRAC requires that two (2) field blanks are collected. Additionally, blind reanalysis of 10% of all samples collected will be performed.

5.4 Lead Clearance Samples

Given the simultaneous asbestos and PCB abatement, lead safe work practices will be utilized while handling LBP. Lead dust wipe samples will be collected in accordance with Vermont Regulations for Lead Control (VRLC) and U.S. Department of Housing and Urban Development's (HUD), "Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing." One floor sample per room and either a window well or windowsill sample (alternating) in every room with a window will be collected. It is anticipated that a total of approximately 67 samples will be collected. To collect the wipe samples, a 1 sq. ft area will be delineated using either tape or a template. A wet wipe will be applied within the delineated sample area by applying uniform pressure while wiping from left to right, then from top to bottom, and then once around the perimeter. The wipe will then be folded and placed within a laboratory provided container and submitted to Schneider Laboratories in Richmond, Virginia for analysis. One blank sample per 20 samples collected will also be submitted for laboratory analysis. Floor samples must be less than 10 ug/ft^2 and windowsills and wells must be less than 100 ug/ft^2 to pass.

5.5 Data Quality Objectives

To determine if additional cleaning, remediation, or removal is necessary at the Site, the data collected during the field sampling activities will be screened and compared to the project action limits as listed in the above sections and **Tables 3A** and **3B**. It is anticipated that PCBs that exceed the cleanup level of 1 ppm will remain on site below an encapsulant in order to protect human health and safety. This is further described in the PCB Cleanup and Disposal Work Plan (Montrose, 2024a).

The laboratory will meet the minimum QA/QC requirements of the analytical methods listed on **Tables 1A, 1B** and **2**. The control limit for field duplicate sample analyses, measured as precision, is 30% for aqueous sample and 50% for soil samples. Control limits for matrix spike/matrix spike duplicate sample analyses will be determined by the laboratory's internal QA plan. The completeness goal for this project is 90%.

Field and matrix QC samples will be collected. Field QC samples will be collected during the work to assess sampling precision as summarized on **Tables 1A, 1B** and **2**. The minimum sample volume, container type, preservative, and technical holding time of each media (*i.e.,* solid or aqueous) and analytical methods are summarized in **Table 2.**

When received from the analytical laboratory, the PCB data will undergo an internal data validation process. If laboratory reporting limits (RLs) are above applicable action levels, Montrose will ask the laboratory to report the

data to the method detection limit (MDLs) which are normally lower than the RLs. If MDLs are above the action levels, Montrose will include a statement as to whether the compounds with elevated MDLs represent a likely risk based on other available data. If it is determined that they do represent a possible risk, identification of other analytical methods with lower MDLs, if available, will be provided. Project action levels, laboratory RLs and MDLs are presented in **Tables 3A and 3B.**

The duplicate samples utilized to evaluate precision include matrix spike, matrix spike duplicate, and field duplicate samples. To maximize precision, consistent sampling and analytical procedures are to be followed.
The data will undergo verification and validation as outlined in GQAPP.

6 PROJECT SCHEDULE

The proposed project schedule is included as **Appendix B.** If there are changes to the schedule, the following project participants will be notified via electronic mail:

- The property owner(s)
- US EPA Project Officer
- VTDEC Project Manager

7 References

Atlas Technical Consultants LLC (Atlas). 2022a. *Site Investigation Report, Former St. Johnsbury Armory*. Town of St. Johnsbury. October 11, 2022.

Atlas. 2022b. *Corrective Action Plan, Former St. Johnsbury Armory*. Town of St. Johnsbury. December 22, 2022.

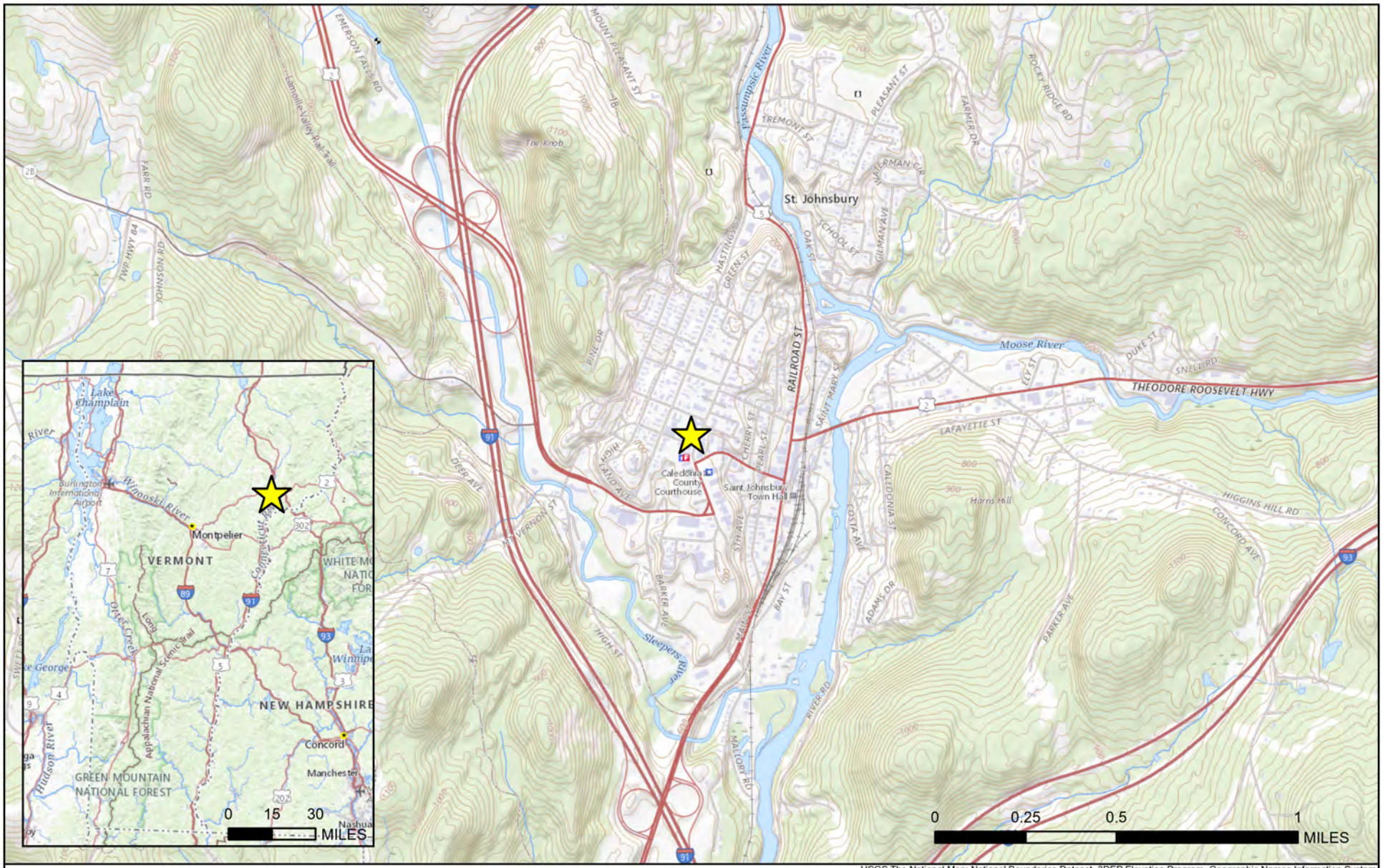
Atlas. 2023. *Work Plan for Additional Hazardous Building Materials Sampling, Former St. Johnsbury Armory*. Town of St. Johnsbury. March 20, 2023.

KGSNE JV, LLC (KGSNE). 2024. *Targeted Brownfields Assessment Hazardous Building Materials Assessment, St. Johnsbury Armory*. U.S. Environmental Protection Agency Region I. January 10, 2024.

Montrose. 2024a. *PCB Cleanup and Disposal Work Plan, St. Johnsbury Armory Redevelopment Project.* Town of St. Johnsbury. January 2024.

Montrose. 2024b. *Addendum to Corrective Action Plan, St. Johnsbury Armory Redevelopment Project.* Town of St. Johnsbury. January 2024.

Figures

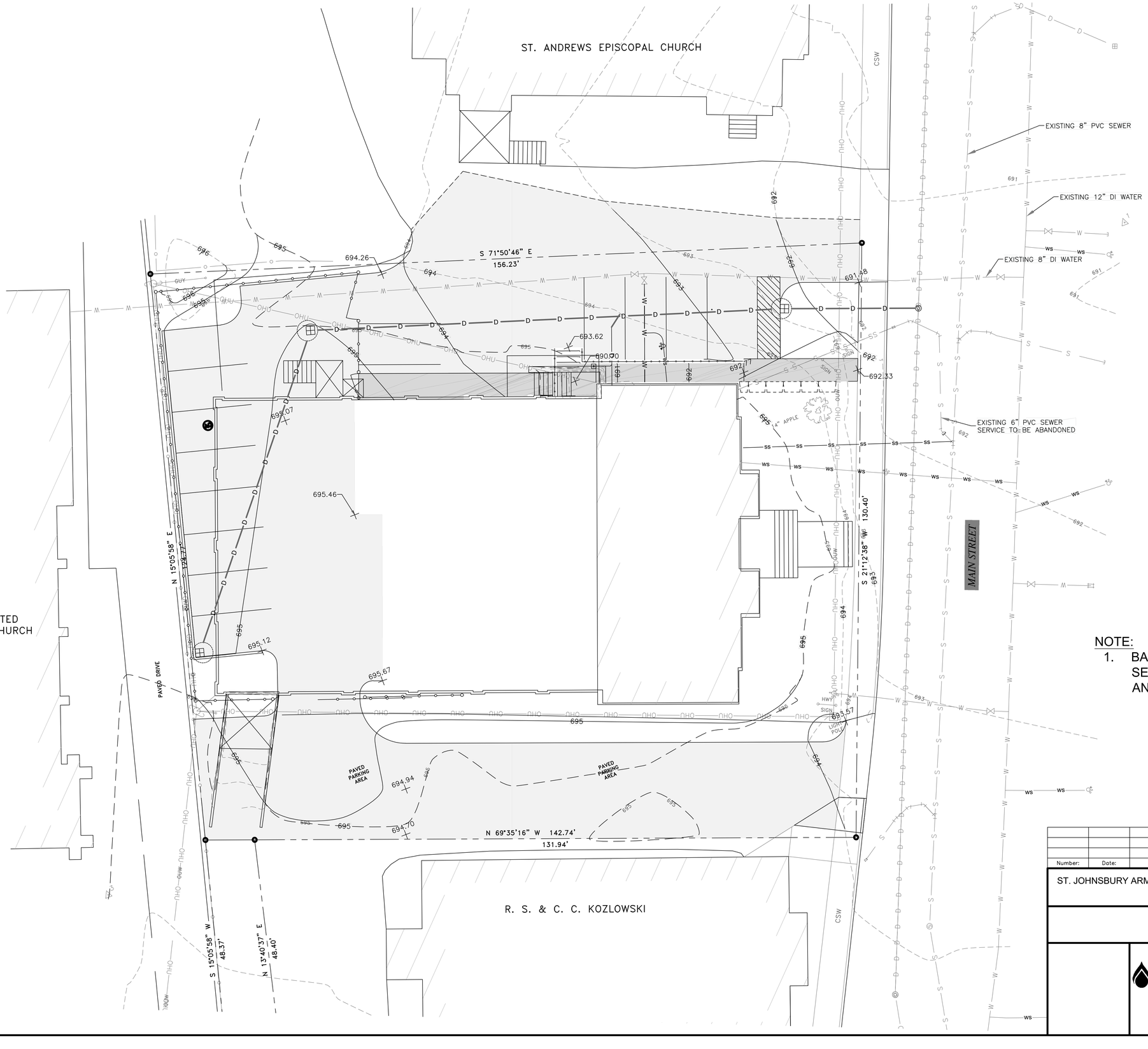


USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census Bureau TIGER/Line data; USFS Road Data; Natural Earth Data; U.S. Department of State Humanitarian Information Unit; and NOAA National Centers for Environmental Information, U.S. Coastal Relief Model. Data refreshed April, 2023.

CREATION DATE: JANUARY 8, 2024	PROJECT NO: PROJ-223533	FIGURE 1: SITE LOCATION
MONTROSE ENVIRONMENTAL	DRAWN BY: MNW / APPRV'D BY: KN	
	CHEK'D BY: KN / REVISION: 0	1249 MAIN STREET ST. JOHNSBURY, VT

W:\St. Johnsbury, Vermont\Figures\GIS\StJohnsburyVT.aprx

©2024 Environmental Standards, Inc. All rights reserved



NOTE:

1. BASE MAP TAKEN FROM ST. J. ARMORY DD SET DATED 5-13-22 BY DUFRESNE GROUP AND WIEMANN LAMPHERE ARCHITECTS.

5 0 2.5 5 10 20

1 INCH = 5 FT

Number:	Date:	Revision:

ST. JOHNSBURY ARMORY REDEVELOPMENT PROJECT - BUILDING REMEDIATION
1249 MAIN STREET
ST. JOHNSBURY, VERMONT

SITE PLAN

MONTROSE ENVIRONMENTAL

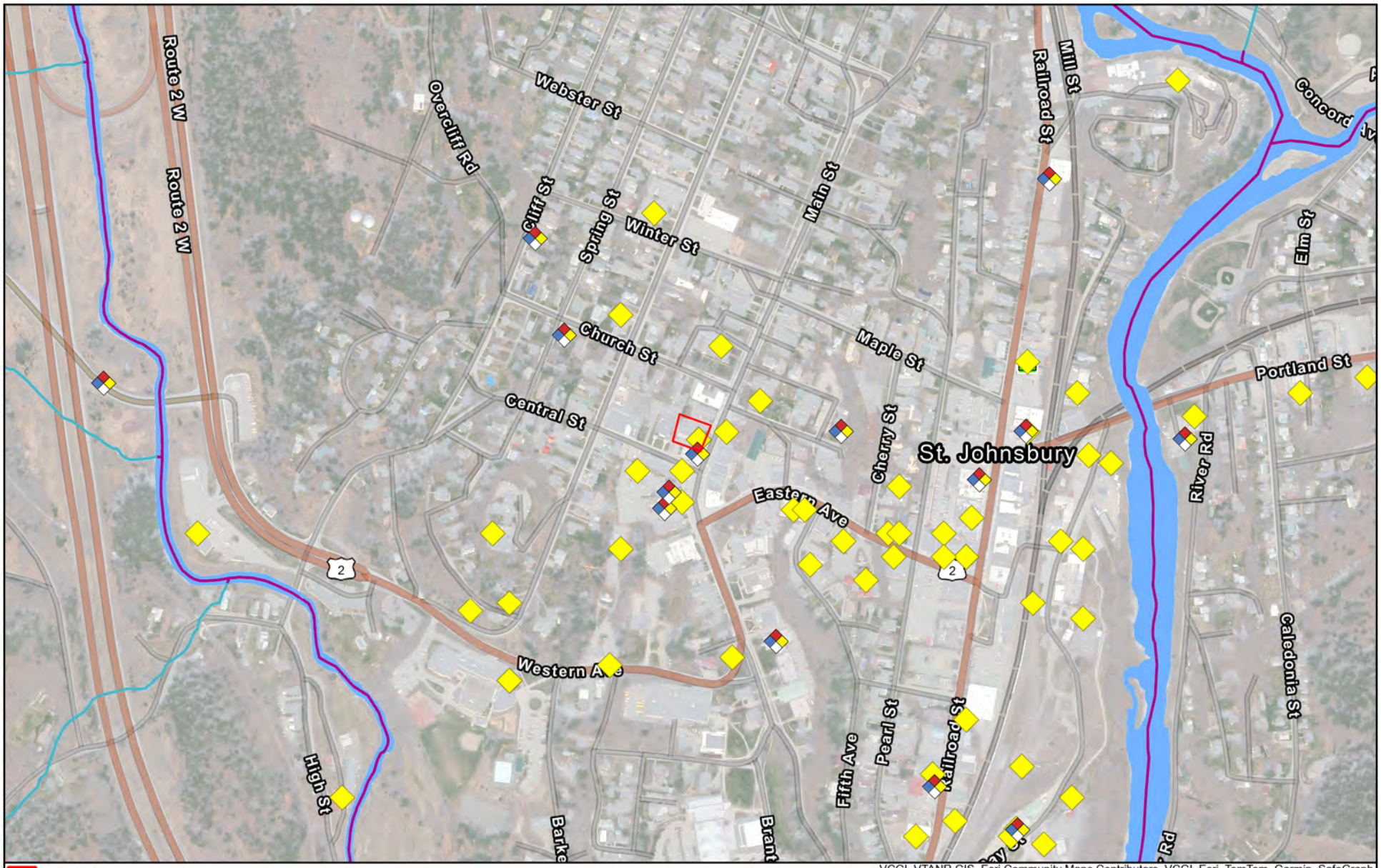
MONTROSE ENVIRONMENTAL SOLUTIONS, INC.

500 HORIZON DRIVE, SUITE 540
ROBBINSVILLE, NEW JERSEY 08691
T: 609.890.7277 montrose-env.com

Scale:	1" = 10'
Drawn By:	MCB
Checked By:	KDI
Project Mgr.:	KDI
Originated By:	MCB
Project No.:	13854
Drawing Date:	1/15/24
Sheet No.:	2 OF 17
Revision Number:	0

FIGURE 2

O:\projects\Town of St. Johnsbury_13854\13854-01\Field Data and Supporting Documents\Atlas Files_June 2023\Plan Set.dwg



VCGI, VTANR GIS, Esri Community Maps Contributors, VCGI, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS, USGS TNM – National Hydrography Dataset. Data Refreshed January, 2024.

CREATION DATE:	PROJECT NO:		FIGURE 3: VERMONT ATLAS MAP
JANUARY 8, 2024	PROJ-223533		
MONTROSE ENVIRONMENTAL	DRAWN BY: MNW	APPRV'D BY: KN	
	CHEK'D BY: KN	REVISION: 0	1249 MAIN STREET ST. JOHNSBURY, VT

W:\St. Johnsbury, Vermont\Figures\GIS\StJohnsburyVT.aprx

©2023 Environmental Standards, Inc. All rights reserved

MAG NORTH
NAD83 (2011)
GRID NORTH (VT)

GRACE UNITED METHODIST CHURCH
TAX MAP #23-04-61
REFER TO BK. 123, PG. 133

ST. ANDREWS EPISCOPAL CHURCH
TAX MAP #23-04-73
REFER TO BK. 18, PG. 357

PLAN BY J. M. PERHAM FOR
"ST. ANDREWS CHURCH LOT"
DATED DEC. 1912
W/ TRULINE FILE #A25

NOTES
1. DRAWING BASED ON SURVEY BY TRULINE LAND SURVEYORS, INC. TOWN OF ST. JOHNSBURY "ARMORY BUILDING" DATED 01/19/2021.
2. ALL LOCATIONS SHOWN ARE APPROXIMATE.
3. ALL SOILS TO BE DISPOSED OF AS NON-HAZARDOUS WASTE.

LEGEND
EXCAVATION AREA

PARCEL #1
AREA = 0.437 ACRE
(19,038 SQ. FT.)
TAX MAP #23-04-74
REFER TO BK. 56, PG. 223

PLAN BY J. M. PERHAM FOR
"ARMORY SITE"
DATED APR. 1916
W/ TRULINE FILE #D17

PARCEL #2
AREA = 0.012 ACRE
(549 SQ. FT.)
P/O TAX MAP #23-04-61
REFER TO BK. 56, PG. 223

PLAN BY J. M. PERHAM FOR
"ARMORY SITE"
DATED APR. 1916
W/ TRULINE FILE #D17

R. S. & C. C. KOZLOWSKI
TAX MAP #23-04-75
REFER TO BK. 249, PG. 125

PLAN BY J. M. PERHAM FOR
"PASSUMPSIC SAVINGS BANK"
DATED JUNE 1930
W/ TRULINE FILE #BB17

Town of St. Johnsbury, VT Received for Record
_____ A.D. _____
at _____ o'clock _____ minutes _____M
and recorded at _____
attest: _____
Town Clerk

REMOVE PCB IMPACTED SOILS (0-1.5 FT)
REMOVE PAH IMPACTED SOILS (0-2 FT)
REMOVE LEAD AND PAH IMPACTED SOILS (0-2.5 FT)

TBM = TOP OF HYDRANT BOLT AT ELEV. 697.23 FT.
TBM = TOP OF HYDRANT BOLT AT ELEV. 695.96 FT.

PAVED PARKING AREA
PAVED DRIVE
CONC. RAMP
ELEVATOR
AC UNIT
OVERHANG
SIGN
14" APPLE
CSW
MAIN STREET
CENTRAL STREET
REFER TO BK. 13 PG. 477
REFER TO RD. BK. 2 PG. 158

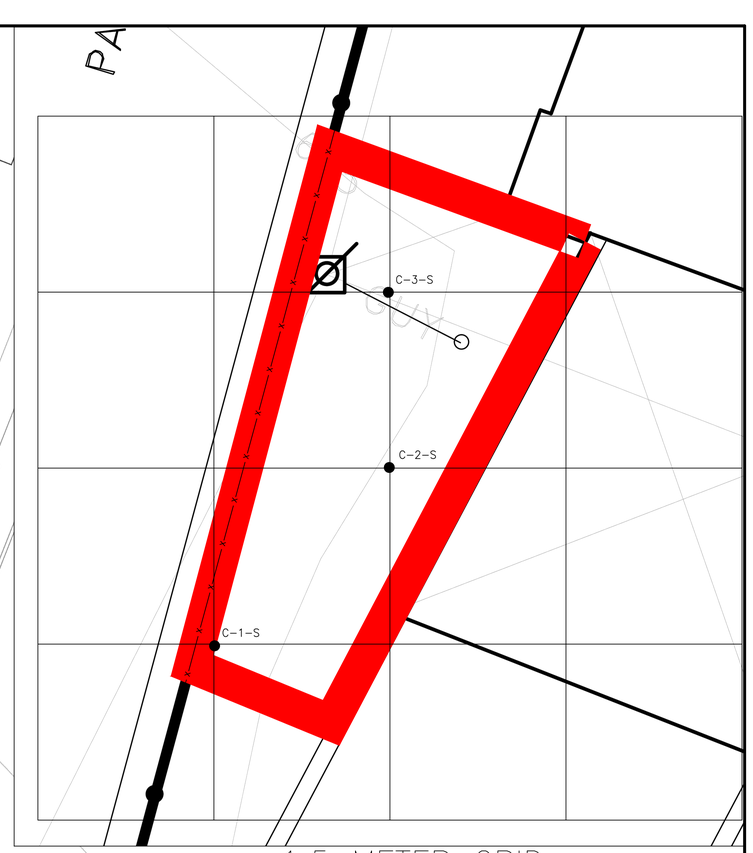
18.10' (G)
53.55' (G)
N 15°05'58" E 124.77'
S 71°50'46" E 156.23'
35.7' (B)
29.65' (G)
24.65' (G)
10.80'
S 15°05'58" W 48.37'
N 13°40'37" E 48.40'
54.98' (G)
62.10' (G)
N 69°35'16" W 142.74' 131.94'
63.10' (B)
52.8' (B)
S 21°12'38" W 130.40'
S 70°02'51" E 12.00'
63.35' (B)

— ZONING INFORMATION —
MIXED USE DISTRICT — "MU"

MINIMUM LOT SIZE:	6000 SQ. FT.		
MINIMUM LOT FRONTAGE:	75 FT.		
MINIMUM LOT DEPTH:	N/A		
MINIMUM SETBACKS:	FRONT	SIDE	REAR
	15	15	15
HEIGHT REGULATIONS:	ALL STRUCTURES: 80 FT.		

* BASED ON THE ZONING BY-LAWS FOR THE TOWN OF ST. JOHNSBURY, EFFECTIVE APRIL 30, 2018.

1 INCH = 10 FT



1.5 METER GRID
1 INCH = 2 FT

LEGEND
C-1-S ● VERIFICATION SAMPLE LOCATION — SOIL

Number:	Date:	Revision:

ST. JOHNSBURY ARMORY REDEVELOPMENT PROJECT - BUILDING REMEDIATION
1249 MAIN STREET
ST. JOHNSBURY, VERMONT

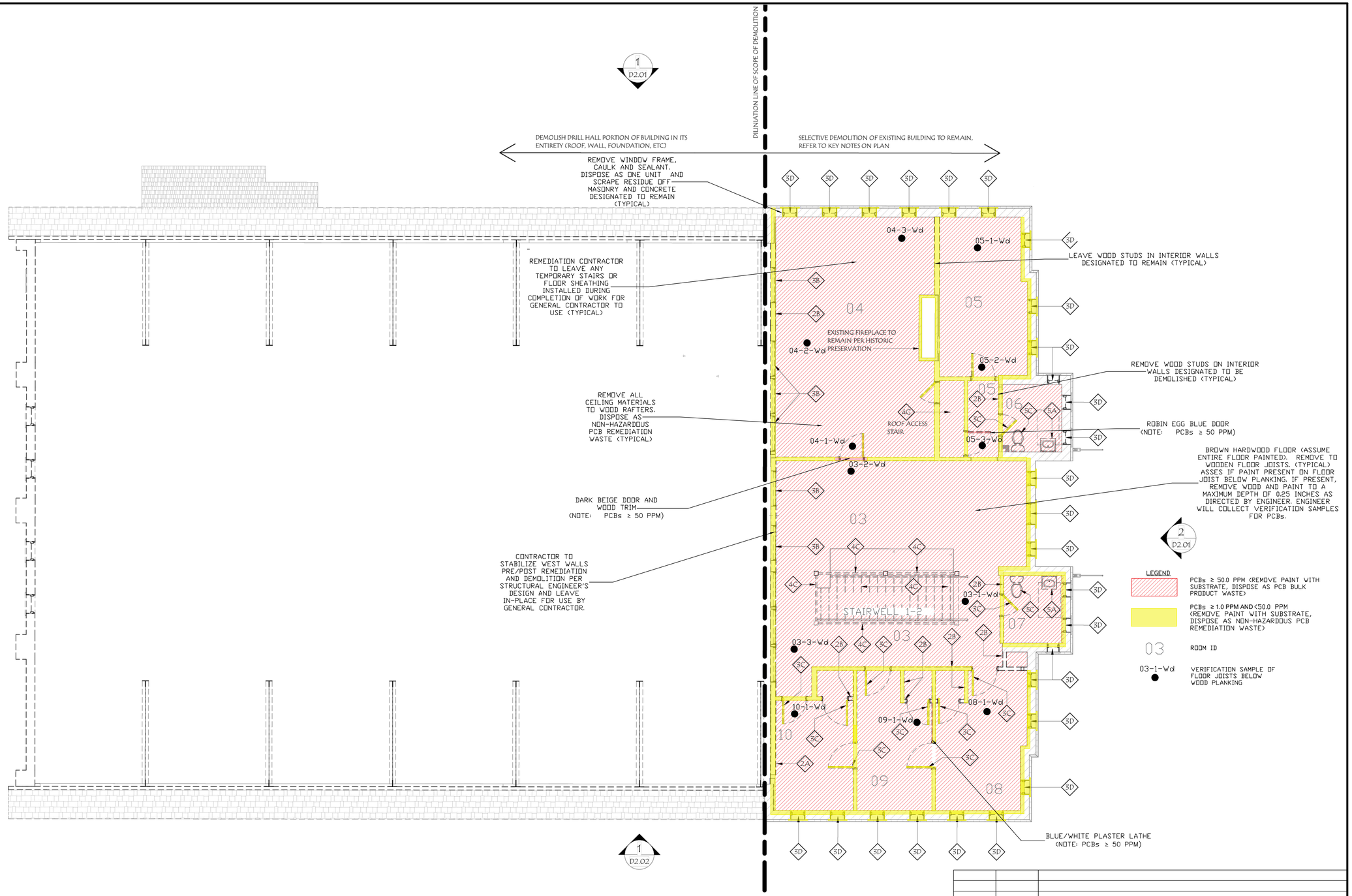
PCB REMEDIATION PLAN -
SOIL REMEDIATION AREAS AND VERIFICATION SAMPLE LOCATIONS

MONTROSE ENVIRONMENTAL
MONTROSE ENVIRONMENTAL SOLUTIONS, INC.
1140 VALLEY FORGE ROAD,
PHOENIXVILLE, PENNSYLVANIA 19460-2658
T: 610.840.9100 F: 610.840.9199 montrose-env.com

Scale:	1" = 10'
Drawn By:	MCB
Checked By:	KDI
Project Mgr.:	KDI
Originated By:	MCB
Project No.:	13854
Drawing Date:	1/16/24
Sheet No.:	4 OF 7
Revision Number:	0

FIGURE 4

C:\projects\Town of St. Johnsbury\13854\13854-01\Field Data and Supporting Documents\Atlas Files_June 2023\30% CONVERTED\Fig 2 Fig 8 Site plan.dwg



1 FLOOR PLAN - SECOND FLOOR
D1.03 3/16" = 1'-0"

NOTES
1. DRAWING BASED ON WIEMANN LAMPHERE DEMOLITION PLAN - LEVEL 2 D1.03 DATED 05/13/2022
2. ALL LOCATIONS SHOWN ARE APPROXIMATE.
3. SAMPLES SHALL BE COLLECTED BY THE ENVIRONMENTAL PROFESSIONAL FOLLOWING FLOOR REMOVAL AND CLEANING.

Number:	Date:	Revision:

ST. JOHNSBURY ARMORY REDEVELOPMENT PROJECT - BUILDING REMEDIATION
1249 MAIN STREET
ST. JOHNSBURY, BERMONT

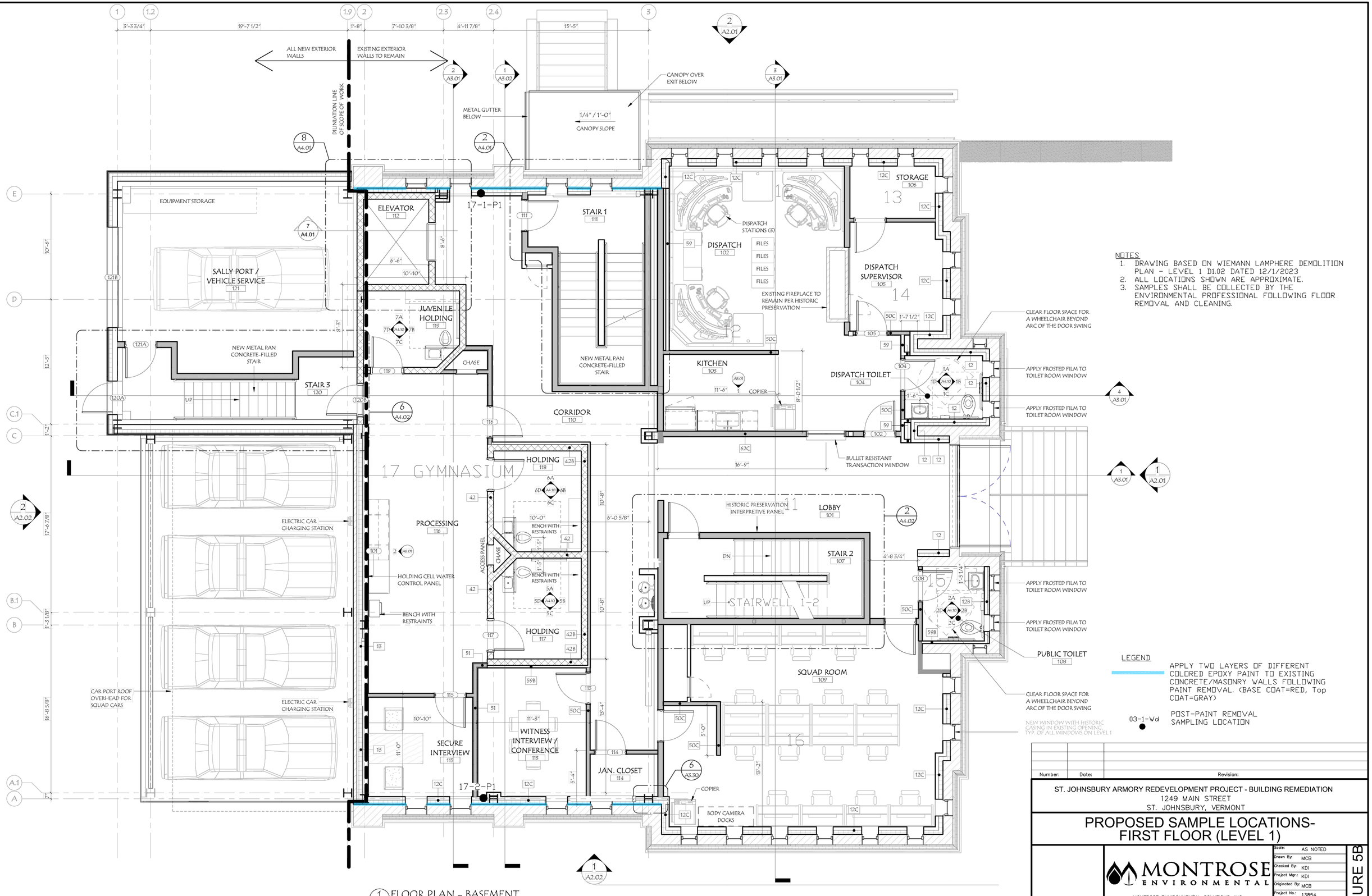
PROPOSED SAMPLE LOCATIONS- SECOND FLOOR (LEVEL 2)

MONTROSE ENVIRONMENTAL
MONTROSE ENVIRONMENTAL SOLUTIONS, INC.
1140 VALLEY FORGE ROAD,
PHOENIXVILLE, PENNSYLVANIA 19460-2658
T: 610.840.9100 F: 610.840.9199 montrose-env.com

Scale:	AS NOTED
Drawn By:	MCB
Checked By:	KDI
Project Mgr.:	KDI
Originated By:	MCB
Project No.:	13854
Drawing Date:	12/13/23
Sheet No.:	13 OF 17
Revision Number:	0

FIGURE 5a

O:\projects\Town of St. Johnsbury-13854\13854-01\Field Data and Supporting Documents\Atlas Files_June 2023\30% CONVERTED\Fig 3 St- J Public Safety_D1-03 - DEMOLITION PLAN - LEVEL 2 (12-04-2023).dwg



NOTES

1. DRAWING BASED ON WIEMANN LAMPHERE DEMOLITION PLAN - LEVEL 1 D1.02 DATED 12/1/2023
2. ALL LOCATIONS SHOWN ARE APPROXIMATE.
3. SAMPLES SHALL BE COLLECTED BY THE ENVIRONMENTAL PROFESSIONAL FOLLOWING FLOOR REMOVAL AND CLEANING.

LEGEND

APPLY TWO LAYERS OF DIFFERENT COLORED EPOXY PAINT TO EXISTING CONCRETE/MASONRY WALLS FOLLOWING PAINT REMOVAL. (BASE COAT=RED, Top COAT=GRAY)

03-1-Wd POST-PAINT REMOVAL SAMPLING LOCATION

1 FLOOR PLAN - BASEMENT
A1.01 1/4" = 1'-0"

Number:	Date:	Revision:

ST. JOHNSBURY ARMORY REDEVELOPMENT PROJECT - BUILDING REMEDIATION
1249 MAIN STREET
ST. JOHNSBURY, VERMONT

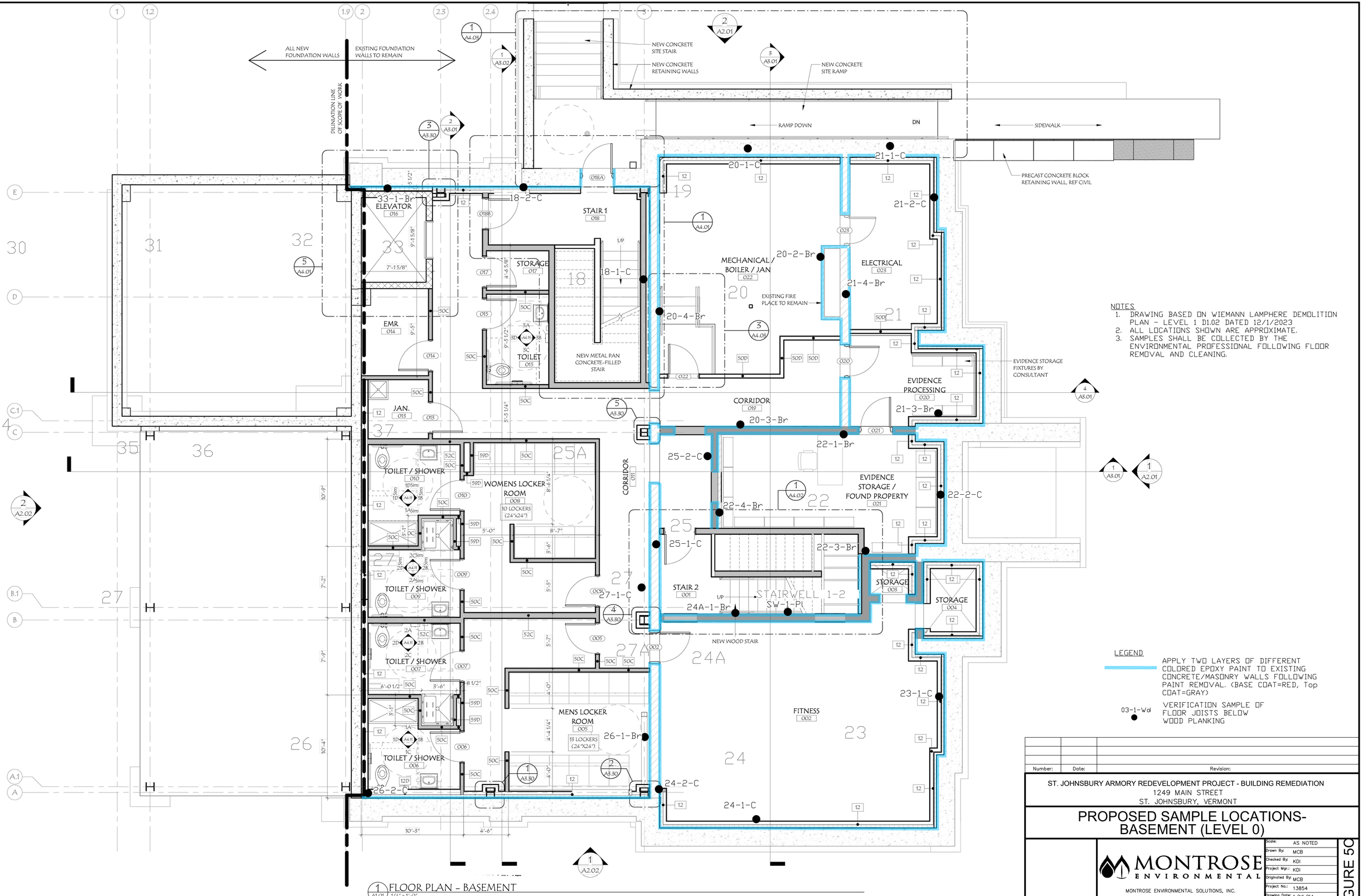
PROPOSED SAMPLE LOCATIONS- FIRST FLOOR (LEVEL 1)

MONTROSE ENVIRONMENTAL
MONTROSE ENVIRONMENTAL SOLUTIONS, INC.
1140 VALLEY FORGE ROAD,
PHOENIXVILLE, PENNSYLVANIA 19460-2658
T: 610.840.9100 F: 610.840.9199 montrose-env.com

Scale:	AS NOTED
Drawn By:	MCB
Checked By:	KDI
Project Mgr.:	KDI
Originated By:	MCB
Project No.:	13854
Drawing Date:	1/16/24
Sheet No.:	14 OF 17
Revision Number:	0

FIGURE 5B

O:\projects\Town of St. Johnsbury_13854\13854-01\Field Data and Supporting Documents\Atlas Files_June 2023\30% CONVERTED\Fig 9 St- J Public Safety_A1-01 - FLOOR PLAN - BASEMENT (12-04-2023).dwg



NOTES

1. DRAWING BASED ON WIEMANN LAMPHERE DEMOLITION PLAN - LEVEL 1 D1.02 DATED 12/1/2023
2. ALL LOCATIONS SHOWN ARE APPROXIMATE.
3. SAMPLES SHALL BE COLLECTED BY THE ENVIRONMENTAL PROFESSIONAL FOLLOWING FLOOR REMOVAL AND CLEANING.

LEGEND

APPLY TWO LAYERS OF DIFFERENT COLORED EPOXY PAINT TO EXISTING CONCRETE/MASONRY WALLS FOLLOWING PAINT REMOVAL. (BASE COAT=RED, Top COAT=GRAY)

03-1-Wd VERIFICATION SAMPLE OF FLOOR JOISTS BELOW WOOD PLANKING

1 FLOOR PLAN - BASEMENT
A1.01 1/4" = 1'-0"

Number:	Date:	Revision:

ST. JOHNSBURY ARMORY REDEVELOPMENT PROJECT - BUILDING REMEDIATION
1249 MAIN STREET
ST. JOHNSBURY, VERMONT

PROPOSED SAMPLE LOCATIONS- BASEMENT (LEVEL 0)

MONTROSE ENVIRONMENTAL
MONTROSE ENVIRONMENTAL SOLUTIONS, INC.
1140 VALLEY FORGE ROAD,
PHOENIXVILLE, PENNSYLVANIA 19460-2658
T: 610.840.9100 F: 610.840.9199 montrose-env.com

Scale:	AS NOTED
Drawn By:	MCB
Checked By:	KDI
Project Mgr.:	KDI
Originated By:	MCB
Project No.:	13854
Drawing Date:	1/16/24
Sheet No.:	15 OF 17
Revision Number:	0

FIGURE 5C

O:\projects\Town of St. Johnsbury-13854\13854-01\Field Data and Supporting Documents\Atlas Files_June 2023\30% CONVERETED.fig 9 St.-J Public Safety_A1-01 - FLOOR PLAN - BASEMENT (12-04-2023).dwg

Tables

Table 1A Sample Design - Post-Remediation PCB Building Material Samples
St. Johnsbury Armory Redevelopment Project
1249 Main Street
St. Johnsbury, Vermont

Location		Sample ID	Matrix	Notes
Floor	**Room**			
Second (Level 2)	3	03-1-Wd	Wood	Wood floor joist below brown hardwood floor near stairwell
		03-2-Wd	Wood	Wood floor joist below brown hardwood floor near beige door
		03-3-Wd	Wood	Wood floor joist below brown hardwood floor
	4	04-1-Wd	Wood	Wood floor joist below brown hardwood floor near beige door
		04-2-Wd	Wood	Wood floor joist below brown hardwood floor
		04-3-Wd	Wood	Wood floor joist below brown hardwood floor
	5	05-1-Wd	Wood	Wood floor joist below brown hardwood floor
		05-2-Wd	Wood	Wood floor joist below brown hardwood floor near robin egg blue door
		05-3-Wd	Wood	Wood floor joist below brown hardwood floor
	8	08-1-Wd	Wood	Wood floor joist below brown hardwood floor
	9	09-1-Wd	Wood	Wood floor joist below brown hardwood floor near blue/white plaster lathe
	10	10-1-Wd	Wood	Wood floor joist below brown hardwood floor
First (Level 1)	17	17-1-Pl	Plaster	Plaster wall
		17-2-Pl	Plaster	Plaster wall
Basement (Level 0)	18	18-1-C	Concrete	Concrete basement wall near prior sample P-048-R18E
		18-2-C	Concrete	Concrete basement wall near prior sample P-051-R18NC
	20	20-1-C	Concrete	Concrete basement wall near prior sample P-056-R20NC
		20-2-Br	Brick	Brick basement wall near prior sample P-053-R20E
		20-3-Br	Brick	Brick basement wall
		20-4-Br	Brick	Brick basement wall near prior sample P-054-R20W
	21	21-1-C	Concrete	Concrete basement wall
		21-2-C	Concrete	Concrete basement wall near prior sample P-057-R21EC
		21-3-Br	Brick	Brick basement wall near prior sample P-059-R21S
		21-4-Br	Brick	Brick basement wall near prior sample P-094-R21W
	22	22-1-Br	Brick	Brick basement wall
		22-2-C	Concrete	Concrete basement wall near prior sample P-069-R22EC
		22-3-Br	Brick	Brick basement wall near prior sample P-081-R22SB
		22-4-Br	Brick	Brick basement wall near prior sample P-071-R22WB
	23	23-1-C	Concrete	Concrete basement wall near prior sample P-074-R23EC
	24	24-1-C	Concrete	Concrete basement wall near prior sample P-083-R24SC
		24-2-C	Concrete	Concrete basement wall near prior sample P-085-R24W
	24A	24A-1-Br	Brick	Brick basement wall near prior sample P-099-R24AN
	25	25-1-C	Concrete	Concrete basement wall
		25-2-C	Brick	Brick basement wall near prior sample P-086-R25-E
	26	26-1-Br	Brick	Brick basement wall near prior sample P-101-R26E
		26-2-C	Concrete	Concrete basement wall
	27	27-1-C	Concrete	Concrete basement wall near P-102-R26SC
	33	33-1-Br	Brick	Brick basement wall near P-237-R33NB
	Stairwell	SW-1-Pl	Plaster	Plaster on stairwell wall near prior sample P-064-S01S
Quality Control Samples				
		FD-XX	Field Duplicate	One per 10 samples per matrix
		same as parent	MS/MSD	One per 20 samples per matrix
		EB-XX	Equipment Blank	One sample per piece of non-dedicated sampling equipment used

Notes

Br = Brick

C = Concrete

MS/MSD = Matrix Spike/Matrix Spike Duplicate

PCBs = Polychlorinated Biphenyls

Pl = Plaster

1. Samples will be submitted for PCB analysis utilizing extraction method 3546 determinative method 8082A

2. Wall samples shall be collected approximately mid-way between floor and ceiling

Table 1B Sample Design - PCB Excavation Verification Samples
St. Johnsbury Armory Redevelopment Project
1249 Main Street
St. Johnsbury, Vermont

Location / Sample ID[1]	Estimated Sample Location Depth (ft bgs)	Matrix	Rationale	Laboratory Analysis
				PCBs (8082)
C-1-S	1.5	Soil	Evaluate soil conditions in former boiler room	1
C-2-S	1.5	Soil	Evaluate subslab soil conditions near floor drain	1
C-3-S	1.5	Soil	Evaluate subslab soil conditions near floor drain	1
Quality Control Samples				
FD-01		Soil	Field Duplicate	1
same as parent		Soil	MS/MSD	1
EB-01		Water	Equipment Blank	See Note 2

Notes

ft bgs = feet below ground surface

C = Excavation Area C

MS/MSD = Matrix Spike/Matrix Spike Duplicate

PCBs = Polychlorinated Biphenyls

S = Soil

1. Sample locations subject to change based on site conditions

2. Sample will be collected for each piece of non-dedicated sampling equipment used

Table 2 Sample Analytical Methods, Preservation, Field Hold Time
St. Johnsbury Armory Redevelopment Project
1249 Main Street
St. Johnsbury, Vermont

Analytical Group (Concentration Level)	Matrix	Analytical Method	Containers (number, size, type per sample)	Minimum Volume	Estimated Number of Samples	Quality Control Samples[1]	Preservation Requirements (chemical, temperature, light protected)	Technical Hold Time (Sample Preparation)	Technical Hold Time (Analysis)	Applicable Field SOPs	Applicable Lab SOPs
PCBs as Aroclors	Bulk - Wood	Extration 3546 Analytical SW-846 8082A	Reclosable 4 mil polyethylene bags	10 grams	12 (see Table 1A)	Field Duplicate: 2 MS/MSD: 1	Iced to ≤6ºC, not frozen	14 days	40 days	--	ENV-SOP-ELON-0001 ENV-SOP-ELON-0034
PCBs as Aroclors	Bulk - Brick	Extration 3546 Analytical SW-846 8082A	Reclosable 4 mil polyethylene bags	10 grams	12 (see Table 1A)	Field Duplicate: 2 MS/MSD: 1	Iced to ≤6ºC, not frozen	14 days	40 days	--	ENV-SOP-ELON-0001 ENV-SOP-ELON-0034
PCBs as Aroclors	Bulk - Concrete	Extration 3546 Analytical SW-846 8082A	Reclosable 4 mil polyethylene bags	10 grams	12 (see Table 1A)	Field Duplicate: 2 MS/MSD: 1	Iced to ≤6ºC, not frozen	14 days	40 days	--	ENV-SOP-ELON-0001 ENV-SOP-ELON-0034
PCBs as Aroclors	Bulk - Plaster	Extration 3546 Analytical SW-846 8082A	Reclosable 4 mil polyethylene bags	10 grams	3 (see Table 1A)	Field Duplicate: 1 MS/MSD: 1	Iced to ≤6ºC, not frozen	14 days	40 days	--	ENV-SOP-ELON-0001 ENV-SOP-ELON-0034
PCBs as Aroclors	Soil	Extration 3546 Analytical SW-846 8082A	One 8-oz glass unpreserved	10 grams	3 (See Table 1B)	Field Duplicate: 1 MS/MSD: 1	Iced to ≤6ºC, not frozen	14 days	40 days	SOP 004	ENV-SOP-ELON-0001 ENV-SOP-ELON-0034
PCBs as Aroclors	Wipe	Analytical SW-846 8082A	1-Glass 120 ml/4oz with 1:4 Acetone:Hexane	1 wipe per 100 cm^2	see Note 2	None	Hexane on media prior to sampling, Iced to ≤6ºC, not frozen	14 days	40 days	--	ENV-SOP-ELON-0034
Asbestos	Air	Phase Contrast Microscopy (PCM) EPA Method 15885	1 sampling cassette	1,200 liters	15 (see Note 3)	Blank Samples: 2 (see Note 3)	None	None	None	Procedures for Collection of Asbestos Air Samples (Project Clearance)	Procedures for Collection of Asbestos Air Samples (Project Clearance)
Lead	Wipe	Flame Atomic Absorption EPA Method 7000B	1 dust wipe per sample 1 centifuge tube per dust wipe	NA	67 (see Note 4)	Blank Samples: 4 (see Note 4)	None	None	None	Performance of Lead-Based Paint Inspection & Confirmatory Paint Chip Sample Collection/Analysis	ME-003 ME-017

Notes:

1. One equipment blank will be collected per piece of non-dedicated sampling equipment use.

2. When decontamination is deemed complete Montrose will collect a verification wipe sample of the equipment and submit for laboratory analyses prior to coming into contact with imported fill, or any other clean stone, and prior to leaving the Site. The number of samples to be collected will be based on equipment used for work.

3. VRAC requires five samples be collected. Given the size of the work area and the multiple floors involved, it is anticipated that five (5) samples will be collected per floor (15 samples total). VRAC requires that two (2) field blanks are collected. Additionally, blind reanalysis of 10% of all samples collected will be performed.

4. One floor sample per room and either a window well or windowsill sample (alternating) in every room with a window will be collected. It is anticipated that a total of approximately 67 samples will be collected. One blank sample per 20 samples collected will also be submitted for laboratory analysis.

MS/MSD: Matrix Spike/Matrix Spike Duplicate

PCBs: Poly Chlorinated Biphenyl

PTFE: Polytetrafluoroethylene

Table 3A PCB Laboratory Reporting Limits, Method Detection Limits, and Regulatory Standards
St. Johnsbury Armory Redevelopment Project
1249 Main Street
St. Johnsbury, Vermont

Parameter	Laboratory Method	Project Action Limit					Pace Analytical	
		Vermont Non-Resident Soil Standards (VSS) (1)	PCB Cleanup Level for a High Occupancy Area (40 CFR 761.61(a)(4))	PCB Hazardous Bulk Remediation Waste (40 CFR Part 761.61)	PCB Non-Hazardous Bulk Remediation Waste (40 CFR 761.61)	Action Level for Moveable Equipment Decontamination (2)	MDL	RL
PCBs - Soil								
Units		**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**NU**	**mg/kg**	**mg/kg**
Aroclor 1016	8082A	NV	NV	NV	NV	NA	0.0052	0.020
Aroclor 1221	8082A	NV	NV	NV	NV	NA	0.0110	0.020
Aroclor 1232	8082A	NV	NV	NV	NV	NA	0.0065	0.020
Aroclor 1242	8082A	NV	NV	NV	NV	NA	0.0060	0.020
Aroclor 1248	8082A	NV	NV	NV	NV	NA	0.0050	0.020
Aroclor 1254	8082A	NV	NV	NV	NV	NA	0.0061	0.020
Aroclor 1260	8082A	NV	NV	NV	NV	NA	0.0053	0.020
Aroclor-1262	8082A	NV	NV	NV	NV	NA	0.0060	0.020
Aroclor-1268	8082A	NV	NV	NV	NV	NA	0.0066	0.020
Total PCBs (sum of Aroclors)		0.68	1	≥50	>1 but <50	NA	NV	NV
PCBs - Bulk Building Materials								
Units		**NU**	**mg/kg**	**mg/kg**	**mg/kg**	**NU**	**mg/kg**	**mg/kg**
Aroclor 1016	8082A	NA	NV	NV	NV	NA	0.026	0.10
Aroclor 1221	8082A	NA	NV	NV	NV	NA	0.054	0.10
Aroclor 1232	8082A	NA	NV	NV	NV	NA	0.033	0.10
Aroclor 1242	8082A	NA	NV	NV	NV	NA	0.030	0.10
Aroclor 1248	8082A	NA	NV	NV	NV	NA	0.025	0.10
Aroclor 1254	8082A	NA	NV	NV	NV	NA	0.030	0.10
Aroclor 1260	8082A	NA	NV	NV	NV	NA	0.027	0.10
Aroclor-1262	8082A	NA	NV	NV	NV	NA	0.030	0.10
Aroclor-1268	8082A	NA	NV	NV	NV	NA	0.033	0.10
Total PCBs (sum of Aroclors)		NA	1	≥50	>1 but <50	NA	NV	NV
PCBs - Wipe								
Units		**NU**	**NU**	**NU**	**NU**	**ug/100 cm^2**	**ug/100 cm^2**	**ug/100 cm^2**
Aroclor 1016	8082A	NA	NA	NA	NA	NV	0.052	0.20
Aroclor 1221	8082A	NA	NA	NA	NA	NV	0.110	0.20
Aroclor 1232	8082A	NA	NA	NA	NA	NV	0.065	0.20
Aroclor 1242	8082A	NA	NA	NA	NA	NV	0.060	0.20
Aroclor 1248	8082A	NA	NA	NA	NA	NV	0.050	0.20
Aroclor 1254	8082A	NA	NA	NA	NA	NV	0.061	0.20
Aroclor 1260	8082A	NA	NA	NA	NA	NV	0.053	0.20
Aroclor-1262	8082A	NA	NA	NA	NA	NV	0.060	0.20
Aroclor-1268	8082A	NA	NA	NA	NA	NV	0.066	0.20
Total PCBs (sum of Aroclors)		NA	NA	NA	NA	10	NV	NV

Notes:
MDL = Method Detection Limit
RL = Reporting Limit
NA = Not Applicable
NU = No Units
NV = No Value
(1) Vermont Screening Levels, Investigation and Remediation of Contaminated Properties Rule, 2019 update (Appendix A - Soil Standards).
(2) Movable equipment, tools, and sampling equipment will be decontaminated prior to removal from the Site and confirmatory wipe samples will be submitted for laboratory analysis to demonstrate residual PCB concentrations are less than the action limit of 10 ug/100cm^2

Table 3B Asbestos and Lead Laboratory Reporting Limits, Method Detection Limits, and Regulatory Standards
St. Johnsbury Armory Redevelopment Project
1249 Main Street
St. Johnsbury, Vermont

Parameter	Laboratory Method	Project Action Limit		MDL	RL
		Clearance per Vermont's Regulations for Asbestos Control, V.S.A. Title 18, Chapter 26	U.S. Department of Housing and Urban Development's (HUD), "Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing." and V.S.A Chapter 6 Subchapter 3		
Asbestos - Analyzed by CPAI					
Units		**f/cc**	**NU**	**fibers/100 fields**	**NU**
Asbestos Air	Phase Contrast Microscopy (PCM)	0.010	NV	5.5	NA
Lead - Analyzed by Schneider Laboratories					
Units		**NU**	**ug/ft2**	**ug/mL**	**ug/ft2**
Lead Wipe - Floor	Flame Atomic Absorption EPA Method 7000B	NV	10	0.2	5.0
Lead Wipe - Window Wells	Flame Atomic Absorption EPA Method 7000B	NV	100	0.2	5.0
Lead Wipe - Windowsills	Flame Atomic Absorption EPA Method 7000B	NV	100	0.2	5.0

Notes:
Samples to be collected by Clay Point Associates Inc.
CPAI = Clay Point Associates Inc.
f/cc = fibers per cubic centimeter
MDL = Method Detection Limit
RL = Reporting Limit
NV = No Value

Appendix A – Project Organization

- Worksheet #9
- Project Organization Chart

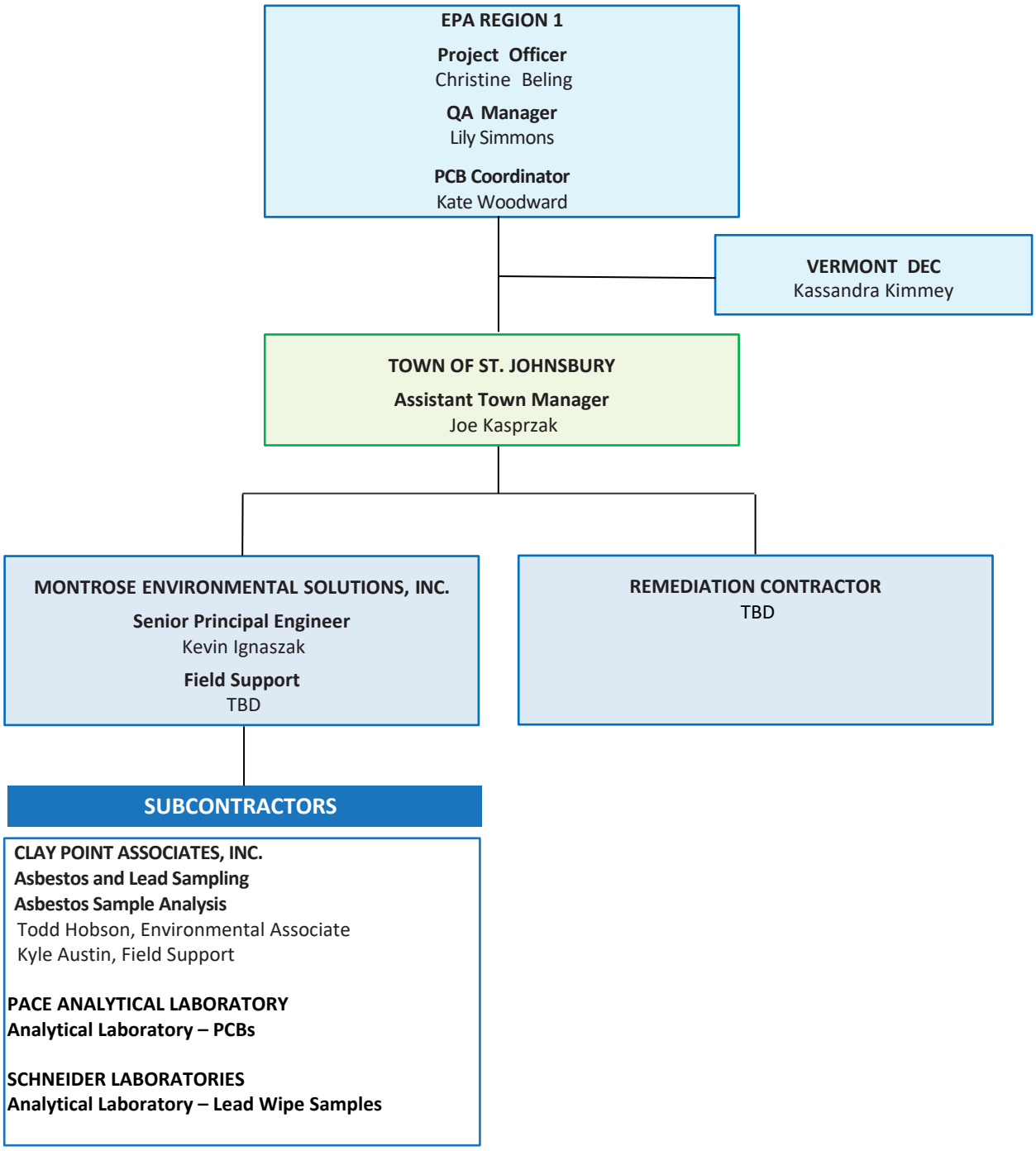
WORKSHEET #9: PROJECT PLANNING SESSION SUMMARY AND SCOPING MEETINGS

Project Scoping/Planning Session Participants Sheet

Project Name	St Johnsbury Armory Project		**Site Name**	St. Johnsbury Armory	
Projected Date(s) of Sampling	June-August 2024		**Site Location**	1249 Main Street, St. Johnsbury, Vermont	
Program Manager	Andrea Pedersen				
Date of Session	TBD, will occur at least two weeks prior to field mobilization activities				
Scoping/Planning Session Purpose:	TBD, typically a kick-off meeting to discuss site work and schedule				
Name	**Title**	**Affiliation**	**Phone #**	**E-Mail Address**	**Project Role**
TBD	Field Team Leader	Montrose Environmental Solutions, Inc.	TBD	TBD	Field Team Leader
Kassandra Kimmey	Environmental Analyst	VTDEC	802-505-8060	kassandra.kimmey@vermont.gov	VTDEC Site Manager
Christine Beling	Project Engineer	EPA Region 1	617-918-1792	beling.christine@epa.gov	EPA Site Manager
Kevin Ignaszak	Sr. Principal Engineer	Montrose Environmental Solutions, Inc.	716-329-0672	keignaszak@montrose-env.com	Lead Remediation Engineer / Construction Oversight
Lydia Work	Principal Chemist	Montrose Environmental Solutions, Inc.	304-552-1442	lwork@montrose-env.com	Quality Assurance Manager
Todd Hobson	Environmental Associate	Clay Point Associates, Inc.	802-343-4809	hobson@claypointassociates.com	Subcontracted Asbestos/ Lead Oversight– Project Manager
TBD	Remedial Contractor	TBD	TBD	TBD	Remedial Contractor
Comments/Decisions:					
Action Items:					

Notes:
EPA U.S. Environmental Protection Agency
TBD to be determined

Project Organization Chart



Appendix B – Project Schedule

ST. JOHNSBURY ARMORY PROJECT SCHEDULE

Last Update: 02/02/24

DESCRIPTION OF ACTIVITIES & DELIVERABLES	ANTICIPATED START DATE	ANTICIPATED END DATE	2023						2024													2025							
			July '23	Aug '23	Sept '23	Oct '23	Nov '23	Dec '23	Jan '24	Feb '24	Mar '24	April '24	May '24	June '24	Jul '24	Aug "24	Sept '24	Oct '24	Nov '24	Dec '24	Jan '25	Feb '25	Mar '25	April '25	May '25	June '25	Jul '25	25-Aug	25-Sep
ENVIRONMENTAL																												
CLEANUP PLANNING																												
PCB Remediation Concept Coordination Call with EPA	12/08/23	12/08/23																										
Abatement & PCB Remediation Work Plan																												
Prepare Abatement & PCB Remediation Work Plan	11/28/23	01/26/24																										
Submit Draft Plan for Town Review	01/26/24	02/01/24																										
Revise Plan per Town Comments	02/01/24	02/02/24																										
Submit Revised Plan for EPA Review	02/02/24	02/16/24																										
Revise Plan per EPA Comments	02/19/24	02/23/24																										
Submit Final Plan for EPA Approval	02/26/24	02/26/24																										
Update Site-Specific QAPP																												
Update and submit concurrent with Abatement and Remediation	12/11/23	02/02/24																										
Abatement Specifications & Bid Documents																												
Prepare Contract Documents	12/01/23	03/01/24																										
Submit Contract Documents for Town Review	03/04/24	03/08/24																										
Revise Contract Documents per Town Comments	03/11/24	03/15/24																										
Submit Revised Contract Documents for EPA/DEC Review	03/18/24	03/29/24																										
Revise Contract Documents per Agency comments and issue as Final	04/01/24	04/05/24																										
Advertise for Bids, Conduct Pre-Bid Meeting, Contractor Selection	04/08/24	04/30/24																										
STAKEHOLDER ENGAGEMENT																												
Develop Outreach Materials (as needed)																												
Public Meetings (as needed)																												
SITE CLEANUP & ABATEMENT OVERSIGHT																												
CAP Implementation, Abatement & PCB Remediation																												
Town executes Agreement with Selected Contractor	05/01/24	05/17/24																										
Pre-Construction Meeting	05/20/24	05/20/24																										
Montrose HASP	04/01/24	04/05/24																										
Contractor Submittals	05/21/24	06/07/24																										
Construction Activities, Observation, CAMP & Contractor Payment	06/10/24	09/23/24																										
Project Updates During Construction (Weekly Progress Reports)	06/10/24	09/23/24																										
Confirmatory Sampling (Collect & Analyze PCB Samples)	06/10/24	09/23/24																										
Cleanup Documentation																												
Contractor Punchlist, Closeout Documentation and Final Invoice	09/23/24	10/07/24																										
PCB Cleanup Completion Report to EPA (includes review/revision/finalization)	10/07/24	01/30/25																										
CAP Completion Report to VTDEC (includes review/revision/finalization)	10/07/24	12/30/24																										
Institutional Control Plan (includes review/revision/finalization)	10/07/24	11/27/24																										
Vermont Asbestos Final Report	10/07/24	11/27/24																										
GRANT MANAGEMENT & REPORTING																												
Project Check-in Meetings																												
Biweekly Consultant Team Meetings	07/01/23	7/31/2025																										
Monthly Regulatory Agency Meetings	07/01/23	7/31/2025																										
Compliance Reporting to EPA																												
ACRES Database Updates	06/01/23	07/31/25																										
Quarterly Progress Reports	06/01/23	07/31/25																										
Annual DBE Utilization Report	10/01/23	09/30/25																										
Annual Federal Financial Report	10/01/23	09/30/25																										
Davis-Bacon Act Prevailing Wage Audits	06/10/24	12/31/24																										
Final Performance Report	07/01/25	09/30/25																										
Final DBE Utilization Report	07/01/25	09/30/25																										
Final Federal Financial Report	07/01/25	09/30/25																										
Compliance/Closeout Reporting to ACCD	07/01/25	09/30/25																										
DEMO, CONSTRUCTION & OCCUPANCY																												
DEMO AND CONSTRUCTION																												
Mobilization, Demo and Construction	09/10/24	12/30/24																										
MOVE IN AND BUILDING OCCUPANCY																												
FF&E Move-in and Setup	07/10/24	6/31/25																										
Building Occupancy		08/07/25																										

ASSUMPTIONS:

Schedule assumes estimated Town and Agency review timeframes as indicated.

Schedule assumes one round of Town and Agency review comments will be required for all Deliverables to be issued as final.

Remediation Timeframe of three months is for informational purposes and is contingent upon Contractor's construction schedule to be submitted at the time of bidding.

Appendix C – Proposed PCB Building Materials and Shallow Soil Remediation Figures

- Cover
- Figure 2 Site Plan
- Figure 3A PCB Remediation Plan – Second Floor (Level 2)
- Figure 4A PCB Remediation Plan – First Floor (Level 1)
- Figure 5A PCB Remediation Plan – Basement (Level 0)
- Figure 6A PCB Remediation Plan – North and East Elevations
- Figure 7A PCB Remediation Plan – South and West Elevations
- Figure 8 Soil Remediation Plan
- Figure 9 PCB Encapsulation Plan – Basement (Level 0)
- Figure 10 PCB Encapsulation Plan – First Floor (Level 1)

ST. JOHNSBURY ARMORY REDEVELOPMENT PROJECT

BUILDING REMEDIATION

1249 MAIN STREET
ST. JOHNSBURY, VERMONT

CONTRACT DRAWINGS

OWNER

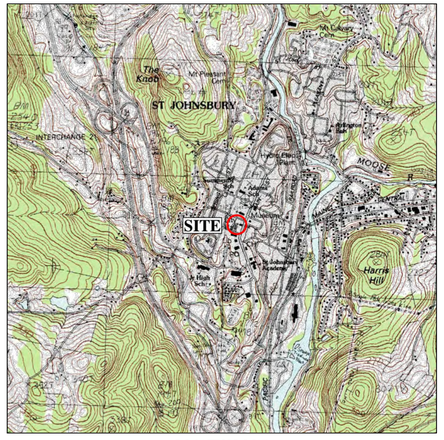
TOWN OF SAINT JOHNSBURY

51 DEPOT SQUARE, SUITE 3
SAINT JOHNSBURY, VERMONT

DRAWING LIST

DRAWING NUMBER	SHEET NUMBER	DRAWING TITLE	DATE
FIGURE 1	1 OF 16	COVER	1/12/24
FIGURE 2	2 OF 16	SITE PLAN	1/12/24
FIGURE 3A	3 OF 16	PCB REMEDIATION PLAN –SECOND FLOOR (LEVEL 2)	1/12/24
FIGURE 3B	4 OF 16	ASBESTOS REMOVAL PLAN –SECOND FLOOR (LEVEL 2)	1/12/24
FIGURE 4A	5 OF 16	PCB REMEDIATION PLAN –FIRST FLOOR (LEVEL 1)	1/12/24
FIGURE 4B	6 OF 16	ASBESTOS REMOVAL PLAN –FIRST FLOOR (LEVEL 1)	1/12/24
FIGURE 5A	7 OF 16	PCB REMEDIATION PLAN –BASEMENT (LEVEL 0)	1/12/24
FIGURE 5B	8 OF 16	ASBESTOS REMOVAL PLAN –BASEMENT (LEVEL 0)	1/12/24
FIGURE 6A	9 OF 16	PCB REMEDIATION PLAN –NORTH AND EAST ELEVATIONS	1/12/24
FIGURE 6B	10 OF 16	ASBESTOS REMOVAL PLAN –NORTH AND EAST ELEVATIONS	1/12/24
FIGURE 7A	11 OF 16	PCB REMEDIATION PLAN –SOUTH AND WEST	1/12/24
FIGURE 7B	12 OF 16	ASBESTOS REMOVAL PLAN –SOUTH AND WEST ELEVATIONS	1/12/24
FIGURE 7C	13 OF 16	ASBESTOS REMOVAL PLAN –ROOF	1/12/24
FIGURE 8	14 OF 16	SOIL REMEDIATION PLAN	1/12/24
FIGURE 9	15 OF 16	PCB ENCAPSULATION PLAN –BASEMENT (LEVEL 0)	1/12/24
FIGURE 10	16 OF 16	PCB ENCAPSULATION PLAN –FIRST FLOOR (LEVEL 1)	1/12/24

50% DESIGN SET
NOT FOR CONSTRUCTION



LOCATION MAP
SCALE: 1"=2000'

BASEMAP: USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE SAINT JOHNSBURY, VERMONT 1983

MONTROSE ENVIRONMENTAL

MONTROSE ENVIRONMENTAL SOLUTIONS, INC.

1140 VALLEY FORGE ROAD
PHOENIXVILLE, PENNSYLVANIA 19460–2658
T: 610.840.9100
F: 610.840.9199
montrose–env.com

PROJECT NO.: 13854
DRAWING NO.: FIGURE 1
SHEET NO.: 1 OF 16
DATE: 1/16/24
LAST REVISED: NONE

O:\projects\Town of St. Johnsbury\13854\13854-01\Field Data and Supporting Documents\Atlas Files_June 2023\30% CONVERTED\Fig 1 St - J Public Safety_COVER.dwg

MAG NORTH
NAD83 (2011)
GRID NORTH (VT)

GRACE UNITED METHODIST CHURCH
TAX MAP #23-04-61
REFER TO BK. 123, PG. 133

ST. ANDREWS EPISCOPAL CHURCH
TAX MAP #23-04-73
REFER TO BK. 18, PG. 357

PLAN BY J. M. PERHAM FOR
"ST. ANDREWS CHURCH LOT"
DATED DEC. 1912
W/ TRULINE FILE #A25

18.10' (G)
53.55' (G)
S 71°50'46" E
156.23'
N 15°05'58" E
124.77'
35.7' (B)
24 FT WIDE LOCKING GATE
AC UNIT
ELEVATOR
OVERHANG
PAVED PARKING AREA
PAVED DRIVE
14" APPLE
SIGN
CSW
INSTALL TEMPORARY PERIMETER FENCING WITH VISUAL SCREEN
MAIN STREET
S 21°12'38" W 130.40'

PARCEL #1
AREA = 0.437 ACRE
(19,038 SQ. FT.)
TAX MAP #23-04-74
REFER TO BK. 56, PG. 223

PLAN BY J. M. PERHAM FOR
"ARMORY SITE"
DATED APR. 1916
W/ TRULINE FILE #D17

29.65' (G)
24.65' (G)
10.80'
54.98' (G)
62.10' (G)
S 15°05'58" W
48.37'
N 13°40'37" E
48.40'
N 69°35'16" W 142.74'
131.94'
63.10' (B)
52.85' (B)
CONC. RAMP
TBM = TOP OF HYDRANT BOLT AT ELEV. 697.23 FT.
LIGHT POLE
24 FT WIDE LOCKING GATE

PARCEL #2
AREA = 0.012 ACRE
(549 SQ. FT.)
P/O TAX MAP #23-04-61
REFER TO BK. 56, PG. 223

PLAN BY J. M. PERHAM FOR
"ARMORY SITE"
DATED APR. 1916
W/ TRULINE FILE #D17

R. S. & C. C. KOZLOWSKI
TAX MAP #23-04-75
REFER TO BK. 249, PG. 125

PLAN BY J. M. PERHAM FOR
"PASSUMPSIC SAVINGS BANK"
DATED JUNE 1930
W/ TRULINE FILE #BB17

TBM = TOP OF HYDRANT BOLT AT ELEV. 695.96 FT.
REFER TO BK. 13 PG. 477
S 70°02'51" E
12.00'
10 FT WIDE LOCKING GATE
63.35' (B)
REFER TO RD. BK. 2 PG. 158
CENTRAL STREET

50% DESIGN SET
NOT FOR CONSTRUCTION

Town of St. Johnsbury, VT Received for Record
_____ A.D. _____
at _____ o'clock _____ minutes _____M
and recorded at _____
attest: _____
Town Clerk

NOTES
1. DRAWING BASED ON SURVEY BY TRULINE LAND SURVEYORS, INC. TOWN OF ST. JOHNSBURY "ARMORY BUILDING" DATED 01/19/2021.
2. ALL LOCATIONS SHOWN ARE APPROXIMATE.
3. CONTRACTOR TO FIELD LOCATE CONSTRUCTION OFFICE TRAILER, ELECTRICAL PANEL, SANITARY FACILITIES AND DECONTAMINATION PAD.

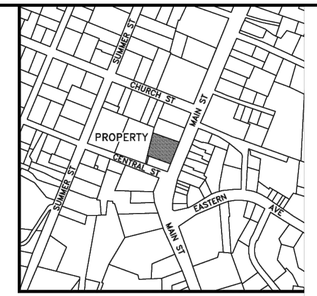
10 0 5 10 20 40
1 INCH = 10 FT

– ZONING INFORMATION –

MIXED USE DISTRICT – "MU"

MINIMUM LOT SIZE:	6000 SQ. FT.		
MINIMUM LOT FRONTAGE:	75 FT.		
MINIMUM LOT DEPTH:	N/A		
MINIMUM SETBACKS:	FRONT	SIDE	REAR
	15	15	15
HEIGHT REGULATIONS:	ALL STRUCTURES: 80 FT.		

* BASED ON THE ZONING BY-LAWS FOR THE TOWN OF ST. JOHNSBURY, EFFECTIVE APRIL 30, 2018.



– LOCUS –
SCALE: 1" = 400'±

– LEGEND –

◎	IRON PIPE
●	REINFORCING ROD
○	UNMARKED/ANGLE POINT
(G)	GRANITE TIE
(B)	BRICK TIE
◇	HYDRANT
⊠	UTILITY POLE
CSW	CONC. SIDEWALK
"E"	EXISTING MONUMENT
"S"	SET MONUMENT
———	PROPERTY LINE
——— - - ———	RIGHT-OF-WAY LIMITS
——v——v——	CHAIN LINK FENCE
OUW	OVERHEAD UTILITY WIRES
——•——•——	IRON RAIL FENCE

– NOTES –

1. THIS PLAT IS PREPARED FOR THE EXCLUSIVE USE OF THE TOWN OF ST. JOHNSBURY AND NO REPRESENTATIONS ARE MADE TO, OR ANY RELIANCE JUSTIFIED BY, ANY OTHER INDIVIDUAL OR ENTITY.
2. THE BEARINGS SHOWN ARE BASED ON VERMONT GRID NORTH, NAD83 (2011). THE COORDINATES SHOWN ARE BASED ON VERMONT GRID NAD83 (2011), FEET.
3. THE METES AND BOUNDS SHOWN ARE BASED ON A CLOSED TRAVERSE OF AN ELECTRONIC MEASURMENT SYSTEM SURVEY WITH A DEGREE OF PRECISION OF 1 IN 27,000.
4. ALL EXISTING MONUMENTS AND SET MONUMENTS SHOWN ARE STABLE AND PLUMB UNLESS OTHERWISE NOTED.
5. NO ATTEMPT WAS MADE TO IDENTIFY OR LOCATE ANY UNRECORDED OR OBSCURED EASEMENTS AND/OR RIGHTS, OTHER THAN SHOWN, DURING THE COURSE OF THIS SURVEY.
6. THIS IS A CERTIFIED PLAT WHEN ACCOMPANIED BY AN ORIGINAL SIGNATURE, DATE AND REGISTERED SURVEYOR'S STAMP OF A TRULINE REPRESENTATIVE.

– CERTIFICATION –

I HEREBY CERTIFY THAT THE PROPERTY LINES SHOWN ARE BASED ON AND ARE CONSISTENT WITH THE DEED REFERENCES LISTED (EXCEPT WHERE NOTED) AND/OR OTHER DOCUMENTS REFERRED TO HEREON AS WELL AS EXISTING MONUMENTATION AND OTHER EVIDENCE OBSERVED ON THE PROPERTY, AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AS OF JANUARY 19, 2021. THIS PLAT CONFORMS WITH THE REQUIREMENTS OF V.S.A. TITLE 27 §1403. (SEE NOTES.)

SIGNATURE

01/19/2021
DATE

Number:	Date:	Revision:

ST. JOHNSBURY ARMORY REDEVELOPMENT PROJECT - BUILDING REMEDIATION
1249 MAIN STREET
ST. JOHNSBURY, VERMONT

SITE PLAN

MONTROSE ENVIRONMENTAL
MONTROSE ENVIRONMENTAL SOLUTIONS, INC.
1140 VALLEY FORGE ROAD,
PHOENIXVILLE, PENNSYLVANIA 19460-2658
T: 610.840.9100 F: 610.840.9199 montrose-env.com

Scale:	1" = 10'
Drawn By:	MCB
Checked By:	KDI
Project Mgr.:	KDI
Originated By:	MCB
Project No.:	13854
Drawing Date:	1/16/24
Sheet No.:	2 OF 16
Revision Number:	0

FIGURE 2

O:\projects\Town of St. Johnsbury 13854\13854-01\Field Data and Supporting Documents\Atlas Files_June 2023\30% CONVERTED\Fig 2 Fig 8 Site plan.dwg

TCLP PCB SAMPLE RESULTS - AUGUST 14 - DECEMBER 3 2023

Sample ID	Eastern Analytical Sample ID	Sample Date	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Aroclor-1262	Aroclor-1268	Total PCBs
011624159798.001	273015.01	1/16/2024	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	--
011624159798.002	273015.02	1/16/2024	<2	<2	<2	<2	<2	<2	<2	<2	<2	--
011624159798.003	273015.03	1/16/2024	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	--
011624159798.004	273015.04	1/16/2024	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	--
011624159798.005	273015.05	1/16/2024	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	--
011624159798.006	273015.06	1/16/2024	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	--
011624159798.007	273015.07	1/16/2024	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	--
011624159798.008	273015.08	1/16/2024	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	--

Notes:
All results reported in micrograms per liter (ug/L), or parts per million (ppm)
"--" Indicates that the Total PCBs result for a given sample were non-detect
<(Number) - Result was not detected above the reported MDL
MDL - Method Detection Limit - the lowest quantitative threshold
Detection limits displayed are elevated in response to a lower intial volume used for analysis

PCB SAMPLE RESULTS - AUGUST 14 - DECEMBER 3, 2023

Room	Direction	Substrate	Color	Sample ID	Total PCBs (ppm)
3	East	Plaster/Lath	Beige/Brown	P-003-R03E	37
	South	Plaster/Lath	Beige/Brown/Pink	P-002-R03S	46
	West	Plaster/Lath	Beige/Yellow/ Salmon/Brown	P-003-R03W	43
	Ceilling	Plaster/Lath	White	P-004-R03C	29
	Wood Trim	Wood Trim	Salmon	P-005-R03W/T	52
	Door		Blue	P-006-R03D	41
	West	Plaster/Lath	Beige/Yellow/ Salmon/Brown	P-FD-012	41
4	East	Plaster/Lath	Beige/Salmon	P-007-R04E	23
	South	Plaster/Lath	Beige/Salmon	P-008-R04S	17
	West	Plaster/Lath	Beige/Salmon/Maroon	P-009-R04W	24
	Wood Trim		Drk. Beige	P-010-R04W/T	51
	Door		Drk. Beige	P-011-R04D	50
	West	Plaster/Lath	Beige/Salmon/Maroon	P-FD-013	23
5	East	Plaster/Lath	Lt. Biege	P-012-R05E	18
	South	Plaster/Lath	Light Blue	P-013-R05S	31
	West	Plaster/Lath	Lt. Beige	P-014-R05W	22
	Ceilling	Drop Tiles	White	P-015-R05C	16
	Wood Trim		Lt. Beige	P-017-R05W/T	35
	Door		Robin Egg Blue	P-024-R05D	72
	Floor	Hardwood	Brown	P-016-R05F	21
6	East	Plaster/Lath	Drk. Beige/Lt. Green	P-018-R06E	23
	South	Plaster/Lath	Drk. Beige/Lt. Green	P-019-R06S	21
	South	Plaster/Lath	Drk. Beige/Lt. Green	P-019-R06S-MS/MSD	21
	Ceilling	Drywall	White	P-020-R06C	18
	Wood Trim		Robins egg Blue/Orange	P-021-R06W/T	38
	Door		White	P-022-R06D	49
	Floor	Hardwood	Brown	P-023-R06F	52
	East	Plaster/Lath	Drk. Beige/Lt. Green	P-FD-01	21
		--	Celotex board - loose panels	P-284-R6	2.6
				P-285-R6	2.2
7	East	Plaster/Lath	Drk. Beige	P-025-R07E	22
	South	Plaster/Lath	Drk. Beige	P-026-R07S	14
	Wood Trim		Drk. Beige/Green	P-029-R07W/T	35
	Door		Beige	P-031-R07D	19
	Ceilling	Drywall	White	P-027-R07C	33
	Floor	Hardwood	Brown	P-028-R07F	36
8	East	Plaster/Lath	Yellow/Green	P-030-R08E	20
	South	Plaster/Lath	Yellow	P-031-R08S	16
	West	Plaster/Lath	Yellow	P-032-R08W	11
	Ceilling	Plaster/Lath	White	P-033-R08C	20
	Wood Trim		Red/Maroon	P-035-R08W/T	34
	Door		Red/Maroon	P-036-R08D	45
	Floor	Hardwood	Brown	P-034-R08F	51
9	East	Plaster/Lath	Blue/White	P-037-R09E	50
	South	Plaster/Lath	Yellow/Lt. Blue	P-038-R09S	17
	West	Plaster/Lath	Lt. Beige/Blue	P-040-R09W	16
	Ceilling	Plaster/Lath	White	P-041-R09C	14
	Wood Trim		Blue	P-043-R09W/T	27
	Door		Blue	P-044-R09D	31
	Floor	Hardwood	Brown	P-042-R09F	50
	West	Plaster/Lath	Lt. Beige/Blue	P-FD-02	19
10	East	Plaster/Lath	White	P-045-R10E	13
	South	Plaster/Lath	White	P-046-R10S	21
	West	Plaster/Lath	White	P-047-R10W	19
	Wood Trim		White	P-156-R10W/T	38
		--	Celotex board - walls of closet	P-286-R10	1.6

TCLP LEAD SAMPLE RESULTS - AUGUST 14 - DECEMBER 3 2023

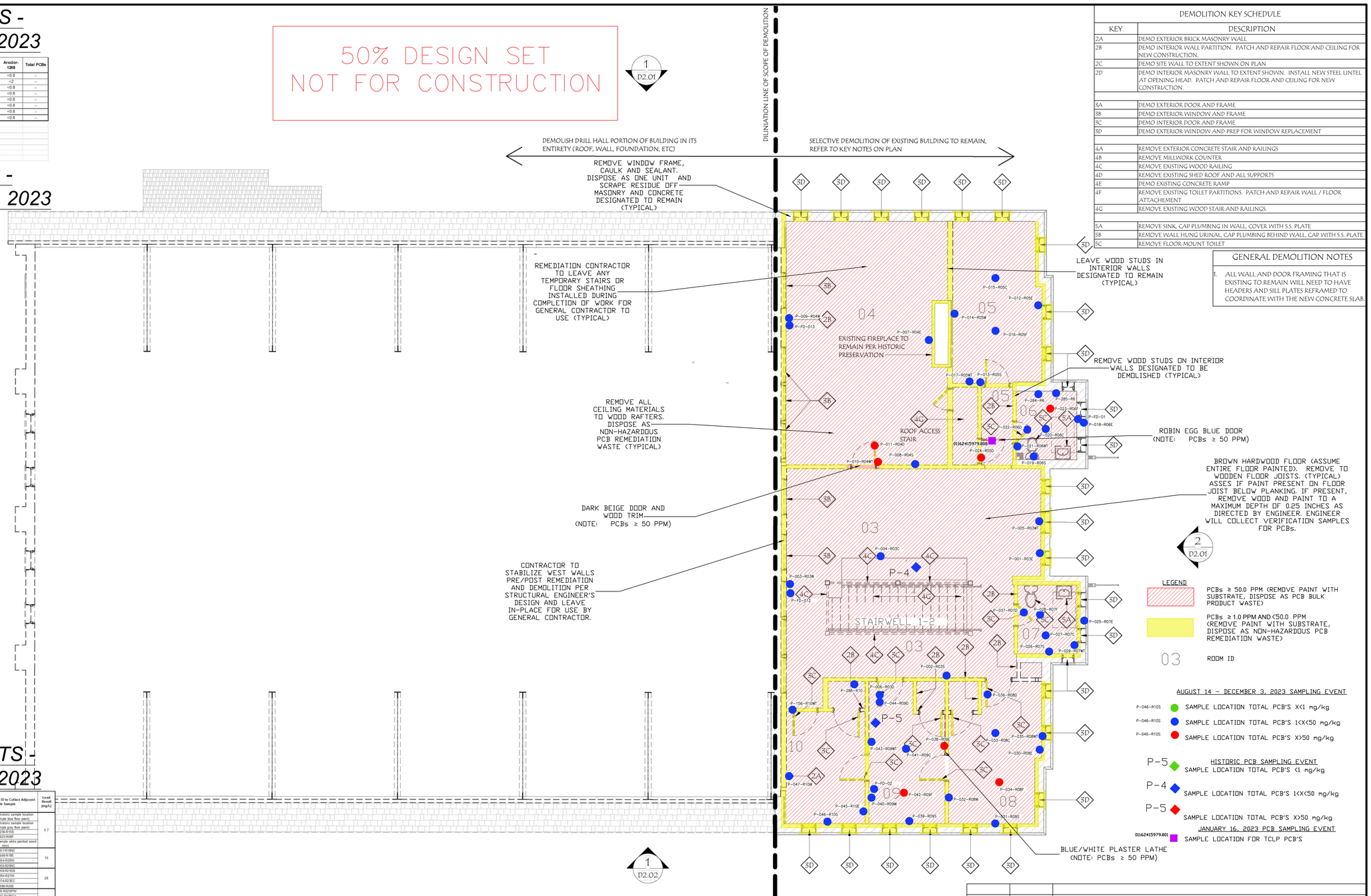
Waste Characterization Composite Sample Identification	Exterior/Interior	Floor	Room	Direction	Substrate	Color	Former Sample ID to Collect Adjacent Grab Sample	Lead Result (mg/L)
WC-Lead-Comp 1	Interior	Basement	26	Floor	Concrete	Blue	PCB-25C (note-historic sample location unknown, sample blue floor paint)	6.7
	Interior	Basement	23	Floor	Concrete	Grey	PCB-18D (note-historic sample location unknown, sample grey floor paint)	
	Interior	1st floor	15	South	Plaster/Lath	Pink, Green, White, Brown	P-002-R03S	
	Interior	2nd Floor	6	Floor	Wood	Brown	P-023-R06F	
	Exterior	N/A	N/A	Southeast Leading Ramp Roof	Wood Trim/Soffit/Door & Sheet Metal walls	White	P-168-Ex (Note-sample white painted wood trim)	
WC-Lead-Comp 2	Interior	Basement	18	North	Sheet Metal walls	White/Green/Drk. Grey	P-08-R01MC	15
	Interior	Basement	18	East	Brick	Lt. Blue/Salmon/ Brown	P-048-R18E	
	Interior	Basement	20	West	Brick	Lt. Green	P-054-R20W	
	Interior	Basement	23	North	Concrete	Beige/Drk. Grey	P-054-R23NC	
WC-Lead-Comp 3	Interior	Basement	21	East	Brick	Pink/Lt. Green/Brown	P-058-R21EB	28
	Interior	Basement	21	West	Brick	Blue/Lt. Green	P-284-R21W	
	Interior	Basement	23	East	Concrete	Salmon/Drk. Green	P-074-R23EC	
	Interior	Basement	25	East	Brick	White/ Lt. Green/ Maroon	P-086-R25E	
WC-Lead-Comp 4	Interior	Basement	22	South	Painted Plywood	Yellow/Drk. Blue	P-088-R22SPW	0.21
	Interior	1st floor	Gym	East	Cabinet	Lt. Green - high	P-264-R15C1	
	Interior	2nd Floor	8	South	Plaster/Lath	Yellow	P-031-R08S	
	Exterior	N/A	N/A	Front Entrance – Surround	Wood	Dark Green	P-178-Ex	
	Exterior	N/A	N/A	Roof-Edge Trim/Soffits	Wood	White/Gray	P-190-Ex	
WC-Lead-Comp 5	Interior	Basement	Stairwell 1-2	Ceiling	Drywall	White	P-066-S01C	0.63
	Interior	1st floor	10	Ceiling	Plaster/Lath	Beige/Pink/Brown	P-211-S10P	
	Interior	2nd Floor	5	Behind wall pannelling in Room 5	Gray adhesive associated with brown, faux wood wall pannelling	Grey	A-006a-R5	
	Exterior	N/A	Roof	Chimney	Light gray horizontal caulk (#5)	Light gray	P-281-Ex	
	Exterior	N/A	Roof	silver paint associated with metal roofing	Tin	Silver	A-022a	

Notes:
Material IDs and Room numbers from Atlas Technical Consultants Workplan for Additional Hazardous Building Materials Sampling, 2023
mg/L = milligrams per liter

HISTORIC PCB SAMPLE RESULTS

Sample Location / Room	Exterior/ Interior	Sampled Material	Description / Notes	Sample ID	Total PCBs (ppm)	Sample Location Unknown
4	Interior	Tar sealant?	Black tar	P-2	ND	Unknown
3	Interior	Wall Paint	Light pink	P-4	45	-
9	Interior	Wall Paint	Light blue	P-5	22	-

50% DESIGN SET
NOT FOR CONSTRUCTION



DEMOLITION KEY SCHEDULE

KEY	DESCRIPTION
2A	DEMO EXTERIOR BRICK MASONRY WALL
2B	DEMO INTERIOR WALL PARTITION. PATCH AND REPAIR FLOOR AND CEILING FOR NEW CONSTRUCTION.
2C	DEMO SITE WALL TO EXTENT SHOWN ON PLAN
2D	DEMO INTERIOR MASONRY WALL TO EXTENT SHOWN. INSTALL NEW STEEL LINTEL AT OPENING HEAD. PATCH AND REPAIR FLOOR AND CEILING FOR NEW CONSTRUCTION.
5A	DEMO EXTERIOR DOOR AND FRAME
5B	DEMO EXTERIOR WINDOW AND FRAME
5C	DEMO INTERIOR DOOR AND FRAME
5D	DEMO EXTERIOR WINDOW AND PREP FOR WINDOW REPLACEMENT
4A	REMOVE EXTERIOR CONCRETE STAIR AND RAILINGS
4B	REMOVE MILLWORK COUNTER
4C	REMOVE EXISTING WOOD RAILING
4D	REMOVE EXISTING SHED ROOF AND ALL SUPPORTS
4E	DEMO EXISTING CONCRETE RAMP
4F	REMOVE EXISTING TOILET PARTITIONS. PATCH AND REPAIR WALL / FLOOR ATTACHEMENT
4G	REMOVE EXISTING WOOD STAIR AND RAILINGS.
5A	REMOVE SINK, CAP PLUMBING IN WALL, COVER WITH S.S. PLATE
5B	REMOVE WALL HUNG URINAL, CAP PLUMBING BEHIND WALL, CAP WITH S.S. PLATE
5C	REMOVE FLOOR MOUNT TOILET

GENERAL DEMOLITION NOTES

1. ALL WALL AND DOOR FRAMING THAT IS EXISTING TO REMAIN WILL NEED TO HAVE HEADERS AND SILL PLATES REFRAMED TO COORDINATE WITH THE NEW CONCRETE SLAB.

LEGEND

PCBs ≥ 50.0 PPM (REMOVE PAINT WITH SUBSTRATE, DISPOSE AS PCB BULK PRODUCT WASTE)

PCBs ≥ 1.0 PPM AND <50.0 PPM (REMOVE PAINT WITH SUBSTRATE, DISPOSE AS NON-HAZARDOUS PCB REMEDIATION WASTE)

03 ROOM ID

AUGUST 14 - DECEMBER 3, 2023 SAMPLING EVENT
P-046-R10S SAMPLE LOCATION TOTAL PCB'S X<1 ng/kg
P-046-R10S SAMPLE LOCATION TOTAL PCB'S 1<X<50 ng/kg
P-046-R10S SAMPLE LOCATION TOTAL PCB'S X>50 ng/kg

HISTORIC PCB SAMPLING EVENT
P-5 SAMPLE LOCATION TOTAL PCB'S <1 ng/kg
P-4 SAMPLE LOCATION TOTAL PCB'S 1<X<50 ng/kg
P-5 SAMPLE LOCATION TOTAL PCB'S X>50 ng/kg

JANUARY 16, 2023 PCB SAMPLING EVENT
011624159798.001 SAMPLE LOCATION FOR TCLP PCB'S

1 D2.01 — 2 D2.01 — 1 D2.02

1 FLOOR PLAN - SECOND FLOOR
(D1.03) 3/16" = 1'-0"

NOTES:
1. DRAWING BASED ON WIEMANN LAMPHERE DEMOLITION PLAN - LEVEL 2 D1.03 DATED 12/1/2023
2. ALL LOCATIONS SHOWN ARE APPROXIMATE.
3. CONTRACTOR SHALL SCRAPE ALL LOOSE AND PEALING PAINT FROM ALL SURFACES AND SHOP VAC FLOOR PRIOR TO STARTING REMEDIATION ON A RESPECTIVE FLOOR.
4. CONTRACTOR SHALL WET A RESPECTIVE AREA PRIOR TO REMOVAL TO MINIMIZE DUST.
5. CONTRACTOR TO REMOVE AND DISPOSE OF ALL UNIVERSAL WASTES AS PART OF WORK.
6. CONTRACTOR TO REMOVE ANY VISIBLE PAINT VIA DRY-ICE BLASTING (OR APPROVED EQUAL) FROM ANY CONCRETE OR MASONRY WALLS DESIGNATED TO REMAIN AND APPLY TWO COATS OF ENCAPSULANT.

Number:	Date:	Revision:

ST. JOHNSBURY ARMORY REDEVELOPMENT PROJECT - BUILDING REMEDIATION
1249 MAIN STREET
ST. JOHNSBURY, VERMONT

PCB REMEDIATION PLAN-SECOND FLOOR (LEVEL 2)

MONTROSE ENVIRONMENTAL
MONTROSE ENVIRONMENTAL SOLUTIONS, INC.
1140 VALLEY FORGE ROAD,
PHOENIXVILLE, PENNSYLVANIA 19460-2658
T: 610.840.9100 F: 610.840.9199 montrose-env.com

Scale:	AS NOTED
Drawn By:	MCB
Checked By:	KDI
Project Mgr.:	KDI
Originated By:	MCB
Project No.:	13854
Drawing Date:	1/16/24
Sheet No.:	3 OF 16
Revision Number:	0

FIGURE 3A

O:\projects\Town of St. Johnsbury-13854\13854-01\Field Data and Supporting Documents\Atlas Files_June 2023\30% CONVERTED\Fig 3 - St - J Public Safety_D1-03 - DEMOLITION PLAN - LEVEL 2 (12-04-2023).dwg

TCLP LEAD SAMPLE RESULTS - AUGUST 14 - DECEMBER 3 2023

Waste Characterization Composite Sample Identification	Exterior/Interior	Floor	Room	Direction	Substrate	Color	Former Sample ID to Collect Adjacent Grab Sample	Lead Result (mg/L)
WC-Lead-Comp 1	Interior	Basement	25	Floor	Concrete	Blue	P-136-FD (note historic sample location unknown, sample true floor plan)	0.7
	Interior	Basement	23	Floor	Concrete	Gray	P-136-FD (note historic sample location unknown, sample grey floor paint)	
	Interior	1st floor	15	South	Plaster/Lath	Pink, Green, White, Brown	P-215A-R15	
	Interior	2nd Floor	6	Floor	Wood	Brown	P-225-R13W	
	Exterior	N/A	N/A	Southwest Loading Ramp Roof	Wood Trim/Soffit/Door & Sheet Metal walls	White	P-169-EX (Note: PCBs ≥ 50.0 PPM) - Door with painted wood	
WC-Lead-Comp 2	Interior	Basement	16	North	Sheet Metal walls	White/Green/Dk. Gray	P-101-R16NC	15
	Interior	Basement	16	East	Brick	Lt. Blue/Cannon Brown	P-246A-R16	
	Interior	Basement	20	West	Brick	Lt. Green	P-254-R20W	
	Interior	Basement	20	North	Concrete	Beige/Dk. Gray	P-254-R20NC	
WC-Lead-Comp 3	Interior	Basement	21	East	Brick	Peach/ Green/Brown	P-259-R21EB	29	
	Interior	Basement	21	West	Brick	Blue/Lt. Green	P-254-R21W	
	Interior	Basement	21	East	Concrete	Salmon/Dk. Green	P-274-R21EC	
	Interior	Basement	25	East	Brick	White/ Lt. Green/ Beige	P-265-R25E	
WC-Lead-Comp 4	Interior	Basement	22	South	Painted Fb wood	Yellow/Dk. Blue	P-260-R22SPW	0.21
	Interior	1st floor	Gym	East	Ceilette	Lt Green - High	P-265-R1701	
	Interior	2nd Floor	9	South	Plaster/Lath	Yellow	P-231-R09S	
	Exterior	N/A	N/A	Front Entrance - Samsund	Wood	Dark Green	P-170-EX	
	Exterior	N/A	N/A	Roof Edge Trim/Soffits	Wood	White/Gray	P-169-EX	
WC-Lead-Comp 5	Interior	Basement	8/9	Ceiling	Drywall	White	P-265-R21C	0.02
	Interior	1st floor	15	Ceiling	Plaster/Lath	Beige/Yes/Brown	P-213-R15CP	
	Interior	2nd Floor	6	Exterior wall paneling in Room 6	Gray adhesive associated with brown, faux wood wall paneling	Gray	A-208A-R5	
	Exterior	N/A	Roof	Chimney	Light gray horizontal Cast JRS	Light gray	P-281-EX	
	Exterior	N/A	Roof	Mine paint associated with metal roofing	Tin	Silver	A-602a	

Notes:
Material IDs and Room numbers from Atlas Technical Consultants Workplan for Additional Hazardous Building Materials Sampling, 2023
mg/L = milligrams per liter

TCLP PCB SAMPLE RESULTS - AUGUST 14 - DECEMBER 3 2023

Sample ID	Eastern Analytical Sample ID	Sample Date	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Aroclor-1262	Aroclor-1268	Total PCBs
0116241597B 001	273015.01	1/16/2024	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	--
0116241597B 002	273015.02	1/16/2024	<2	<2	<2	<2	<2	<2	<2	<2	<2	--
0116241597B 003	273015.03	1/16/2024	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	--
0116241597B 004	273015.04	1/16/2024	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	--
0116241597B 005	273015.05	1/16/2024	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	--
0116241597B 006	273015.06	1/16/2024	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	--
0116241597B 007	273015.07	1/16/2024	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	--
0116241597B 008	273015.08	1/16/2024	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	--

Notes:
All results reported in mil-nograms per liter (ug/L), or parts per million (ppm)
"J" - Indicates that the Total PCBs result for a given sample were non-detect
<(Number) - Result was not detected above the reported MDL
MDL - Method Detection Limit - the lowest quantitative threshold
Detection limits displayed are elevated in response to a lower initial volume used for analysis.

PCB SAMPLE RESULTS - AUGUST 14 - DECEMBER 3, 2023

Room	Direction	Substrate	Color	Sample ID	Total PCBs (ppm)
Stairwell 1-2	South	Plaster/Lath	White/Salmon	P-215-R15C	50
	North	Plaster/Lath	White	P-215-R15C	50
	Ceiling	Plaster/Lath	Beige/White/Red	P-229-R15C	19
	Wood Rails		Beige	P-229-R15C	19
11	Floor	Wood Steps	Lt. Green/Orange/Blue	P-225-R13S	50
	East	Drywall over	Beige/White	P-158-R11EDW	17
	East	Plaster/Lath	White/Orange/Lt. Green	P-213-R11EP	16
	South	Drywall over	Salmon	P-213-R11SDW	12
	West	Drywall over	Salmon	P-238-R11WDW	15
	West	Plaster/Lath	White	P-164-R11WP	20
	Ceiling	Drywall over	White	P-254-R11CDW	7
	Ceiling	Plaster/Lath	White	P-211-R11CP	17
	Wood Trim		Drk. Green/Beige/Blue	P-268-R11WT	43
	Door		White/Beige/Blue	P-257-R11D	50
12	Floor	Hardwood	Brown	P-137-R12F	11
	East	Drywall over	Beige/White	P-FD-08	1.8
	East	Plaster/Lath	Beige/Blue	P-151-R12EP	10
	South	Drywall over	Lt. Yellow	P-162-R12SDW	0.9
	North	Drywall over	White	P-245-R12NDW	0.6
	North	Plaster/Lath	White	P-247-R12NP	2.4
	Ceiling	Drywall	White	P-214-R12CDW	1.3
	Ceiling	Particle board	White	P-213-R12CPB	6
	Ceiling	Plaster/Lath	White	P-263-R12CP	0.66
	Wood Trim		Green/Blue	P-228-R12WT	26
	Door	Hardwood	Brown	P-234-R12F	11
		Carpet remnant fibers on wood floor	--	P-290-R12	3.3
				P-291-R12	2.7
				P-292-R12	1.4
13	East	Plaster/Lath	Drk. Green/Lt. Green	P-215-R13E	4.1
	South	Plaster/Lath	Lt. Green/Drk. Green	P-225-R13S	4.5
	Ceiling	Wood Panel	White	P-226-R13CWP	0.9
	Ceiling	Plaster/Lath	White	P-214-R13CP	0.23
	Wood Trim		Dark Blue	P-218-R13WT	11
	Door		White Beige	P-240-R13D	11
	Floor	Hardwood	Brown	P-253-R13F	37
		Mastic on Wood Floor	Beige	P-287-R13	4.3
				P-288-R13	2.2
14	East	Drywall	Beige	P-159-R14EDW	6.8
	East	Plaster/Lath	White	P-227-R14EP	4.8
	South	Drywall	Salmon	P-228-R14SDW	12
	South	Plaster/Lath	White	P-213-R14SP	3.5
	West	Drywall	Beige/Yellow	P-160-R14WDW	1.8
	West	Plaster/Lath	Pink	P-260-R14WP	1.1
	Ceiling	Drywall	White	P-230-R14CDW	0.9
	Ceiling	Drop Ceiling Wood Panel	White	P-180-R14CWP	8.3
	Ceiling	Plaster/Lath	White	P-208-R14CP	1.4
	Wood Trim		Green/Blue	P-219-R14WT	26
	Floor	Hardwood	Brown/Yellow	P-154-R14F	12
		Mastic on Wood Floor	Beige	P-289-R14	11
15	East	Plaster/Lath	Pink, Green, White, Brown	P-226-R15E	50
	South	Plaster/Lath	Pink, Green, White, Brown	P-255-R15S	50
	Ceiling	Plywood panel	Beige/Pink/Brown	P-250-R15CPW	21
	Ceiling	Plaster/Lath	Beige/Pink/Brown	P-211-R15CP	0.58
	Wood Trim		Lt. Brown/Blue/White	P-221-R15WT	50
	Door		Drk. Green/White	P-253-R15D	11
		Old Linoleum Mastic	--	P-296-R15	7.6
				P-297-R15	13
16	East	Wood Panel	White	P-154-R16EW	23
	East	Plaster/Lath	Lt. Green/Drk. Green	P-153-R16EP	1.5
	South	Wood Panel	White	P-181-R16WP	23
	South	Plaster/Lath	Green	P-209-R16SP	4.4
	North	Wood Panel	Green/White	P-210-R16NWP	28
	North	Plaster/Lath	White	P-222-R16NP	16
	Ceiling	Plaster/Lath	White	P-257-R16C	12
	Wood Trim		Drk. Green	P-133-R16WT	33
	Door			P-165-R16D	24
	East	Plaster/Lath	Lt. Green/Drk. Green	P-FD-06	1.6
Gym	East	Wood panelling	White	P-161-R16EP	5.4
			White	P-161-R16P1	1.8
			White/Green	P-161-R16P2	5.8
	East	Particle Board	Green	P-148-EP01	9.3
			Green	P-148-EP02	4.7
			Green	P-152-EP03	7.8
		Plaster/Lath	White	P-152-EP1	0.55
			White	P-152-EP2	0.82
			White	P-152-EP3	1.2
		Celotex		P-265-R17EC1	0.3
				P-266-R17EC2	5.3
				P-267-R17EC3	2.9
				P-268-R17EC4	3.1
	South	Brick	White/Blue	P-252-R17S	2.2
	West	Brick	White/Yellow	P-264-R17W	4.8
				P-205-R17W	8.2
				P-206-R17W	10
	North	Brick	White/Yellow/Green	P-136-GN	8.1
	Ceiling	Particle board/plywood	White/Beige	P-195-GC	1.8
				P-194-GC	0.66
				P-193-GC	0.83
				P-196-GC	0.31
				P-197-GC	0.07
				P-198-GC	3.1
	Metal Girders		White	P-199	7.6
				P-200	4.6
				P-201	7.9
				P-202	8.5
	Floor	Hardwood/polyurethane	Brown	P-137-GFN	3
			Brown	P-138-GFE	3.6
			Brown	P-139-GFS	7.1
			Brown	P-140-GFW	4.1
			Brown	P-141-GFC	7.9
	Floor	Hardwood/Dk green	Drk.Green	P-142-GFDG	3.7
	Floor	Hardwood/Lt green	Lt. Green	P-143-GFLG	2.4
	Floor	Hardwood/White	White	P-144-GFW	3.4
	South	Brick	White/Blue	P-FD-014	4.1
	East	Wood Paneling	White	P-FD-07	4.8

HISTORIC PCB SAMPLE RESULTS

Sample Location / Room	Exterior / Interior	Sampled Material	Description / Notes	Sample ID	Total PCBs (ppm)	Sample Location Unknown
Gym / 17, South Side	Interior	Wall Paint	White	19A	7.4	-
	Interior			19B	7.4	-
	Interior			PCB-19C	9	-
Gym / 17	Interior	Paper Under Flooring	Unknown	P-1	4.4	-
16	Interior	Paper Under Flooring	Unknown	P-3	7.8	-

50% DESIGN SET
NOT FOR CONSTRUCTION

DILINEATION LINE OF SCOPE OF DEMOLITION WORK

DEMOLISH DRILL HALL PORTION OF BUILDING IN ITS ENTIRETY (ROOF, WALL, FOUNDATION, ETC)

SELECTIVE DEMOLITION OF EXISTING BUILDING TO REMAIN. REFER TO KEY NOTES ON PLAN

GENERAL DEMOLITION NOTES

1. ALL WALL AND DOOR FRAMING THAT IS EXISTING TO REMAIN WILL NEED TO HAVE HEADERS AND SILL PLATES REFRAMED TO COORDINATE WITH THE NEW CONCRETE SLAB.

DEMOLITION KEY SCHEDULE

KEY	DESCRIPTION
2A	DEMO EXTERIOR BRICK MASONRY WALL
2B	DEMO INTERIOR WALL PARTITION. PATCH AND REPAIR FLOOR AND CEILING FOR NEW CONSTRUCTION.
2C	DEMO SITE WALL TO EXTENT SHOWN ON PLAN
2D	DEMO INTERIOR MASONRY WALL TO EXTENT SHOWN. INSTALL NEW STEEL LINTEL AT OPENING HEAD. PATCH AND REPAIR FLOOR AND CEILING FOR NEW CONSTRUCTION.
3A	DEMO EXTERIOR DOOR AND FRAME
3B	DEMO EXTERIOR WINDOW AND FRAME
3C	DEMO INTERIOR DOOR AND FRAME
3D	DEMO EXTERIOR WINDOW AND PREP FOR WINDOW REPLACEMENT
4A	REMOVE EXTERIOR CONCRETE STAIR AND RAILINGS
4B	REMOVE MILLWORK COUNTER
4C	REMOVE EXISTING WOOD RAILING
4D	REMOVE EXISTING SHED ROOF AND ALL SUPPORTS
4E	DEMO EXISTING CONCRETE RAMP
4F	REMOVE EXISTING TOILET PARTITIONS. PATCH AND REPAIR WALL / FLOOR ATTACHEMENT
4G	REMOVE EXISTING WOOD STAIR AND RAILINGS.
5A	REMOVE SINK, CAP PLUMBING IN WALL, COVER WITH S.S. PLATE
5B	REMOVE WALL HUNG URINAL, CAP PLUMBING BEHIND WALL, CAP WITH S.S. PLATE
5C	REMOVE FLOOR MOUNT TOILET

REMOVE WINDOW FRAME, CAULK AND SEALANT. DISPOSE AS ONE UNIT AND SCRAPE RESIDUE OFF MASONRY AND CONCRETE DESIGNATED TO REMAIN (TYPICAL)

LEAVE WOOD STUDS ON INTERIOR WALLS DESIGNATED TO REMAIN (TYPICAL)

REMOVE ALL CEILING MATERIALS TO LEVEL 2 FLOOR JOISTS. DISPOSE AS NON-HAZARDOUS PCB REMEDIATION WASTE (TYPICAL)

BROWN HARDWOOD FLOOR (ASSUME ENTIRE FLOOR PAINTED). REMOVE TO WOODEN FLOOR JOISTS. (TYPICAL) ASSESS IF PAINT PRESENT ON FLOOR JOIST BELOW PLANKING. IF PRESENT, REMOVE WOOD AND PAINT TO A MAXIMUM DEPTH OF 0.25 INCHES AS DIRECTED BY ENGINEER. ENGINEER WILL COLLECT VERIFICATION SAMPLES FOR PCBs.

WHITE/BEIGE/BLUE DOOR (NOTE: PCBs ≥ 50.0 PPM)

ROOM 15 (NOTE: PCBs ≥ 50.0 PPM) -PINK/GREEN/WHITE/BROWN PLASTER/LATHE -LIGHT BROWN/BLUE/WHITE WOOD TRIM

ALL GYMNASIUM CONSTRUCTION MATERIALS DESIGNATED FOR DEMOLITION SHALL BE DISPOSED AS NON-HAZARDOUS PCB REMEDIATION WASTE.

CONTRACTOR TO STABILIZE WALLS PRE/POST REMEDIATION AND DEMOLITION PER STRUCTURAL ENGINEER'S DESIGN AND LEAVE IN-PLACE FOR USE BY GENERAL CONTRACTOR.

REMOVE WOOD STUDS ON INTERIOR WALLS DESIGNATED TO BE DEMOLISHED (TYPICAL)

REMEDIATION CONTRACTOR TO LEAVE ANY TEMPORARY STAIRS OR FLOOR SHEATHING INSTALLED DURING COMPLETION OF WORK FOR GENERAL CONTRACTOR TO USE (TYPICAL)

STAIRWELL 1-2 (NOTE: PCBs ≥ 50.0 PPM)
-WHITE/SALMON PLASTER LATHE
-WHITE PLASTER LATHE
-BEIGE/WHITE RED PLASTER LATHE
-BEIGE WOOD RAILS
-LIGHT GREEN/ ORANGE/BLUE WOOD STEPS

REMOVE ENTIRE FLOOR TO WOODEN FLOOR JOISTS (TYPICAL) ASSES IF PAINT PRESENT ON FLOOR JOIST BELOW PLANKING. IF PRESENT, REMOVE WOOD AND PAINT TO A MAXIMUM DEPTH OF 0.25 INCHES AS DIRECTED BY ENGINEER. ENGINEER WILL COLLECT VERIFICATION SAMPLES FOR PCBs.

LEGEND

PCBs ≥ 50.0 PPM (REMOVE PAINT WITH SUBSTRATE, DISPOSE AS PCB BULK PRODUCT WASTE)

PCBs ≥ 1.0 PPM AND <50.0 PPM (REMOVE PAINT WITH SUBSTRATE, DISPOSE AS NON-HAZARDOUS PCB REMEDIATION WASTE)

SAND BLAST PAINT OFF BRICK, CONCRETE AND, MORTAR DESIGNATED TO REMAIN, DISPOSE OF REMOVED PAINT AS HAZARDOUS PCB REMEDIATION WASTE

03 ROOM ID

AUGUST14 - DECEMBER 3, 2023 SAMPLING EVENT
- P-046-R10S SAMPLE LOCATION TOTAL PCB'S XC1 mg/kg
- P-046-R10S SAMPLE LOCATION TOTAL PCB'S 1CX<50 mg/kg
- P-046-R10S SAMPLE LOCATION TOTAL PCB'S X>50 mg/kg

HISTORIC PCB SAMPLING EVENT
- P-5 SAMPLE LOCATION TOTAL PCB'S <1 mg/kg
- P-4 SAMPLE LOCATION TOTAL PCB'S 1CX<50 mg/kg
- P-5 SAMPLE LOCATION TOTAL PCB'S X>50 mg/kg

JANUARY 16, 2023 PCB SAMPLING EVENT
- 0116241597B.801 SAMPLE LOCATION FOR TCLP PCB'S

1 DEMOLITION PLAN - LEVEL 1
D1.02 3/16" = 1'-0"

NOTES
1. DRAWING BASED ON WIEMANN LAMPHERE DEMOLITION PLAN - LEVEL 1 D1.02 DATED 12/1/2023
2. ALL LOCATIONS SHOWN ARE APPROXIMATE.
3. CONTRACTOR SHALL SCRAPE ALL LOOSE AND PEALING PAINT FROM ALL SURFACES AND SHOP VAC FLOOR PRIOR TO STARTING REMEDIATION ON A RESPECTIVE FLOOR.
4. CONTRACTOR SHALL WET A RESPECTIVE AREA PRIOR TO REMOVAL TO MINIMIZE DUST.
5. CONTRACTOR TO REMOVE AND DISPOSE OF ALL UNIVERSAL WASTES AS PART OF WORK.
6. CONTRACTOR TO REMOVE ANY VISIBLE PAINT VIA DRY-ICE BLASTING (OR APPROVED EQUAL) FROM ANY CONCRETE OR MASONRY WALLS DESIGNATED TO REMAIN AND APPLY TWO COATS OF ENCAPSULANT.

Number:	Date:	Revision:

ST. JOHNSBURY ARMORY REDEVELOPMENT PROJECT - BUILDING REMEDIATION
1249 MAIN STREET
ST. JOHNSBURY, VERMONT

PCB REMEDIATION PLAN - FIRST FLOOR (LEVEL 1)

MONTROSE ENVIRONMENTAL
MONTROSE ENVIRONMENTAL SOLUTIONS, INC.
1140 VALLEY FORGE ROAD,
PHOENIXVILLE, PENNSYLVANIA 19460-2658
T: 610.840.9100 F: 610.840.9199 montrose-env.com

Scale:	AS NOTED
Drawn By:	MCB
Checked By:	KDI
Project Mgr.:	KDI
Originated By:	MCB
Project No.:	13854
Drawing Date:	1/16/24
Sheet No.:	5 OF 16
Revision Number:	0

FIGURE 4A

O:\projects\Town of St. Johnsbury\13854\13854-01\Field Data and Supporting Documents\Atlas Files_June 2023\30% CONVERTED\Fig 4 - St - J Public Safety_D1-02 - DEMOLITION PLAN - LEVEL 1 (12-04-2023).dwg

PCB SAMPLE RESULTS - AUGUST 14 - DECEMBER 3, 2023

Room	Direction	Substrate	Color	Sample ID	Total PCBs (ppm)
Stairwell 0-1	South	Plaster/Lath	Beige/Green/Brown	P-062-501S	18
	West	Plaster/Lath	Beige/Green/Brown	P-063-501W	40
	North	Plaster/Lath	Beige/Brown	P-066-501N	13
	Ceiling	Drywall	White	P-066-501C	0.33
	Wood Rails		Drk. Green	P-063-501R	31
	Door		White/ Drk. Green	P-067-501D	28
	Floor	Wood Steps	White/Drk. Green/ Black/Brown/Lt. Blue	P-234-501F	110
18	East	Brick	Lt. Blue/Salmon/ Brown	P-045-R18E	180
	South	Brick	Lt. Blue/ White	P-049-R18S	130
	North	Concrete	White/Green/Drk. Grey	P-051-R18NC	240
		Brick	White/Beige	P-050-R18NB	130
	Ceiling	Pressed tin	Drk. Beige/Black	P-052-R18C	89
		Mastic on underside of VFT	Black	P-294-R18	5200
				P-294-R18	4600
				P-295-R18	6800
20	East	Brick	White/Dark Grey	P-053-R20E	1000
	West	Brick	Lt. Green	P-054-R20W	1000
	North	Concrete	Beige/Drk. Grey	P-056-R20NC	4600
		Brick	Lt. Green	P-055-R20NB	1000
21	East	Concrete	Lt. Blue/ Brown	P-057-R21E	66
		Brick	Pink/Lt. Green/Brown	P-059-R21B	72
	South	Brick	White/Lt. Blue	P-059-R21S	180
	West	Brick	Blue/Lt. Green	P-094-R21W	71
	Ceiling	Drywall over ??	White	P-060-R21C	20
	Door		Lt. Blue/White/ Green/Orange/yellow	P-061-R21D	72
	Floor	Beige Painted Concrete	Grey/Beige	P-095-R21FN	21
	Floor	Beige Painted Concrete	Grey/Beige	P-096-R21FS	26
22	East	Painted Drywall	Yellow/White	P-058-R21EB	23
	East	Concrete Foundation	Brown	P-069-R22EC	660
	South	Printed Plywood	Yellow/Drk. Blue	P-098-R22SPW	25
	South	Brick	Lt. Blue	P-097-R22SB	660
	West	Painted Plywood	White	P-070-R22WPW	21
	West	Brick	Lt. Blue	P-071-R22WB	280
	Ceiling	2x4 wood	White	P-075-R22C	20
	Door		White	P-073-R2D	200
23	East	Concrete	Salmon/Drk. Green	P-074-R23EC	130
		Brick	Salmon/Lt. Green/White	P-076-R23EB	68
	West	Brick	Salmon/Lt. Green	P-077-R23W	120
	North	Brick	Salmon	P-078-R23N	130
	Ceiling	Pressed tin over lath	White	P-234-R23C	350
	Wood Trim		Drk. Green/White	P-075-R23WT	91
	Door		White/Drk. Blue	P-079-R23D	74
24	East	Brick	Salmon/White/Lt. Green	P-082-R24E	120
	South	Concrete	Beige/ Lt. Green	P-083-R24SC	130
		Brick	Beige/ Lt. Green	P-084-R24SB	130
	West	Brick	White/Lt. Green	P-085-R24W	110
	Door		White/Beige	P-236-R24D	70
	South	Painted plywood	White/Beige	P-087-R24AS	42
24A	West	Brick	White/Lt. Green	P-099-R24AW	200
	North	Brick	Beige/ Lt. Green	P-098-R24AN	130
	Ceiling	Drywall over ??		P-100-R24AC	130
25	East	Brick	White/ Lt. Green/ Maroon	P-086-R25E	100
	South	Brick		P-087-R25	99
	Ceiling	Drywall	Beige	P-088-R25CDW	66
	Ceiling	Plaster/Lath	Beige	P-089-R25CP	70
	Door		Drk. Blue	P-237-R25D	89
25A	East	Brick	Lt. Green	P-090-R25AE	570
	South	Brick	Lt. Green	P-091-R25AS	330
	Ceiling	Drywall	Beige	P-092-R25ACDW	27
	Ceiling	Plaster/Lath	Beige	P-093-R25ACP	30
26	East	Brick	White	P-101-R26E	41
	South	Concrete	White	P-102-R26SC	61
		Brick	White	P-103-R26SB	36
	North	CMU	White	P-104-R26N	42
	Ceiling	Drywall over lath	White	P-105-R26C	7.9
27	South	CMU	White	P-106-R 27S	42
	North	CMU	White/Pink	P-107-R27NC	36
	North	Brick	White	P-108-R27NB	30
27A	East	Brick	Lt. Green/Red/White	P-109-R27AE	12
	West	CMU	White	P-110-R27AW	23
28	South	Concrete	White	P-111-R28SC	89
		Brick	White	P-112-R28SB	11
	West	Concrete	Lt. Green/Pink/Lt. Blue	P-113-R28WC	28
		Brick	Lt. Green/Lt. Pink	P-114-R28WB	16
	Door		White/Lt. Green	P-115-R2D	27
29	West	Concrete		P-116-29WC	66
		Brick		P-117-29WB	17
	North	Concrete		P-118-29NC	66
		Brick	Lt. Green/Yellow	P-119-29NB	72
30	East	Brick	Lt. Green/White	P-123-R30E	170
	North	Concrete	Lt.Green/White	P-121-R30NC	130
		Brick	Lt. Green/White	P-122-R30NB	94
	Ceiling	Drywall over lath	White	P-120-R30C	31
31	West	Brick	Drk. Green/White	P-124-R31W	28
	North	Concrete	White	P-125-R31NC	180
		Brick	White	P-132-R31NB	150
33	East	Brick	Lt. Green	P-126-R33E	130
	North	Concrete	Lt. Green/White	P-127-R33NC	130
		Brick	Lt. Green	P-237-R33NB	130
37	East	Brick	White/Lt. Green	P-128-R37E	130
	South	Brick	Lt. Green	P-130-R37S	130
25A	N/A	Soil	--	P-271-R25A35	ND
21		Soil	--	P-272-R21SS	ND
		Soil	--	P-273-R31SS	ND
Stairwell 0-1	Wood Rails		Drk. Green	P-235-01	110
28	South		White	P-FD-04	10.3
33	North	Concrete	Lt. Green/White	P-131-01	1.6
37	South	Brick	Lt. Green	P-FD-011	7.0
23	N/A	Soil	--	P-FD-015	ND

TCLP PCB SAMPLE RESULTS - AUGUST 14 - DECEMBER 3 2023

Sample ID	Eastern Analytical Sample ID	Sample Date	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Aroclor-1262	Aroclor-1268	Total PCBs
011624159979.801	273015.01	1/19/2024	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	--
011624159979.802	273015.02	1/19/2024	<2	<2	<2	<2	<2	<2	<2	<2	<2	--
011624159979.803	273015.03	1/19/2024	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	--
011624159979.804	273015.04	1/19/2024	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	--
011624159979.805	273015.05	1/19/2024	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	--
011624159979.806	273015.06	1/19/2024	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	--
011624159979.807	273015.07	1/19/2024	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	--
011624159979.808	273015.08	1/19/2024	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	--

Notes:
All results reported in micrograms per liter (ug/L), or parts per million (ppm)
'--' - Indicates that the Total PCBs result for a given sample were non-detect
<(Number) - Result was not detected above the reported MDL
MDL - Method Detection Limit - the lowest quantitative threshold
Detection limits displayed are elevated in response to a lower initial volume used for analysis.

TCLP LEAD SAMPLE RESULTS - AUGUST 14 - DECEMBER 3 2023

Waste Characterization Composite Sample Identification	Exterior/Interior	Floor	Room	Direction	Substrate	Color	Former Sample ID to Collect Adjacent Grab Sample	Lead Result (mg/L)
WC-Lead-Comp 1	Interior	Basement	29	Floor	Concrete	Blue	PCB-20C (note-historic sample location within, sample blue floor paint)	0.7
	Interior	Basement	23	Floor	Concrete	Grey	PCB-16D (note-historic sample location unknown, sample grey floor paint)	
	Interior	1st floor	15	South	Plaster/Lath	Pink, Green, White, Brown	P-236-R15S	
	Interior	2nd Floor	6	Floor	Wood	Brown	P-023-R06F	
	Exterior	N/A	N/A	Southwest Loading Ramp Roof	Wood Trim/Soffit/Door & Sheet Metal walls	White	P-166-Ex (Note-sample white painted wood trim)	
WC-Lead-Comp 2	Interior	Basement	18	North	Sheet Metal walls	White/Green/Drk. Grey	P-051-R18NC	10
	Interior	Basement	18	East	Brick	Lt. Blue/Salmon/ Brown	P-045-R18E	
	Interior	Basement	20	West	Brick	Lt. Green	P-054-R20W	
	Interior	Basement	20	North	Concrete	Beige/Drk. Grey	P-056-R20NC	
WC-Lead-Comp 3	Interior	Basement	21	East	Brick	Pink/Lt. Green/Brown	P-059-R21B	28
	Interior	Basement	21	West	Brick	Blue/Lt. Green	P-094-R21W	
	Interior	Basement	23	East	Concrete	Salmon/Drk. Green	P-074-R23EC	
	Interior	Basement	25	East	Brick	White/ Lt. Green/ Maroon	P-086-R25E	
	Interior	Basement	22	South	Painted Plywood	Yellow/Drk. Blue	P-098-R22SPW	
WC-Lead-Comp 4	Interior	1st floor	Gym	East	Cellotex	Lt. Green - high	P-265-R1TEC1	0.21
	Interior	2nd Floor	6	South	Plaster/Lath	Yellow	P-031-R06S	
	Exterior	N/A	N/A	Front Entrance - Surround	Wood	Dark Green	P-178-Ex	
	Exterior	N/A	N/A	Roof Edge Trim/Soffits	Wood	White/Grey	P-156-Ex	
WC-Lead-Comp 5	Interior	Basement	Stairwell 0-1	Ceiling	Drywall	White	P-066-501C	0.63
	Interior	1st floor	15	Ceiling	Plaster/Lath	Beige/Pink/Brown	P-211-R15CP	
	Interior	2nd Floor	5	Behind wall paneling in Room 5	Gray adhesive associated with brown, faux wood wall paneling	Gray	A-006a-R5	
	Exterior	N/A	Roof	Chimney	Light gray	Light gray	P-281-Ex	
	Exterior	N/A	Roof	silver paint associated with metal roofing	Tin	Silver	A-022a	

Notes:
Material IDs and Room numbers from Atlas Technical Consultants *Workplan for Additional Hazardous Building Materials Sampling* , 2023
mg/L = milligrams per liter

HISTORIC PCB SAMPLE RESULTS

Sample Location / Room	Exterior/ Interior	Substrate	Description / Notes	Sample ID	Total PCBs (ppm)	Sample Location Unknown
26	Interior	Floor Paint	Blue	20A	27	-
26	Interior			20B	44	-
Unknown	Interior			PCB-20C	67	-
23	Interior	Floor Paint	Grey	16A	5700	-
23	Interior			16B	4600	-
Unknown	Interior			16C	5700	Unknown
Unknown	Interior			PCB-16D	20000	Unknown

50% DESIGN SET
NOT FOR CONSTRUCTION

DILINATION LINE OF SCOPE OF DEM...

...N OF BUILDING IN ITS ...DATION, ETC)

SELECTIVE DEMOLITION OF EXISTING BUILDI...
REFER TO KEY NOTES ON PLAN

FOUNDATIONS WALL TO REMAIN IN THESE AREAS BELOW GYMNASIUM WALLS DESIGNATED TO REMAIN.

VERIFY FLOOR UNPAINTED IN THESES AREAS. IF SO, VERIFY COLOR. FOR PROPER DISPOSAL IN CONSULTATION WITH ENGINEER.

REMOVE WINDOW FRAME, CAULK AND SEALANT. DISPOSE AS ONE UNIT AND SCRAPE RESIDUE OFF MASONRY AND CONCRETE DESIGNATED TO REMAIN (TYPICAL)

VERIFY FLOOR UNPAINTED IN THESES AREAS. IF SO, VERIFY COLOR. FOR PROPER DISPOSAL IN CONSULTATION WITH ENGINEER.

CONTRACTOR TO LEAVE TILE AND MASTIC ADHERED TO CONCRETE SLAB AND TO-DISPOSE OF AS PCB BULK PRODUCT WASTE.

FORMER BASEMENT WALLS AND DOORS, ONLY WOOD STUDS REMAIN. AS PART OF EXISTING CONDITIONS FOR CONTRACTOR TO REMOVE.

CONTRACTOR TO STABILIZE WALLS PRE/POST REMEDIATION AND DEMOLITION PER STRUCTURAL ENGINEER'S DESIGN.

CONTRACTOR TO PROTECT BASEMENT CONCRETE SLAB WITH 2 LAYERS OF POLYETHYLENE SHEETING AND 3/4" PLYWOOD DURING DEMOLITION OF OVERLYING GYMNASIUM. (TYPICAL)

VERIFY IF BLUE OR GRAY FLOOR PAINT IS PRESENT ON THESE FLOORS.

STAIRWELL 0-1
-DARK GREEN WOOD HANDRAILS
-WHITE/DARK GREEN DOOR
-WHITE/ DARK GREEN/BLACK/BROWN/LIGHT BLUE WOOD STEPS

VERIFY FLOOR UNPAINTED IN THESE AREAS. IF SO, VERIFY COLOR FOR PROPER DISPOSAL IN CONSULTATION WITH ENGINEER.

LEGEND

PCBs ≥ 50.0 PPM (REMOVE PAINT WITH SUBSTRATE, DISPOSE AS PCB BULK PRODUCT WASTE)

PCBs ≥ 1.0 PPM AND <50.0 PPM (REMOVE PAINT WITH SUBSTRATE, DISPOSE AS NON-HAZARDOUS PCB REMEDIATION WASTE)

SAND BLAST PAINT OFF BRICK, CONCRETE AND, MORTAR DESIGNATED TO REMAIN, DISPOSE OF REMOVED PAINT AS HAZARDOUS PCB REMEDIATION WASTE

03 ROOM ID

AUGUST 14-DECEMBER 3, 2023 SAMPLING EVENT
P-046-R10S SAMPLE LOCATION TOTAL PCB'S X<1 mg/kg
P-046-R10S SAMPLE LOCATION TOTAL PCB'S 1<X<50 mg/kg
P-046-R10S SAMPLE LOCATION TOTAL PCB'S X>50 mg/kg

HISTORIC PCB SAMPLING EVENT
P-5 SAMPLE LOCATION TOTAL PCB'S <1 mg/kg
P-4 SAMPLE LOCATION TOTAL PCB'S 1<X<50 mg/kg
P-5 SAMPLE LOCATION TOTAL PCB'S X>50 mg/kg

JANUARY 16, 2023 PCB SAMPLING EVENT
011624159979.801 SAMPLE LOCATION FOR TCLP PCB'S

KEY	DESCRIPTION
2A	DEMO EXTERIOR BRICK MASONRY WALL
2B	DEMO INTERIOR WALL PARTITION. PATCH AND REPAIR FLOOR AND CEILING FOR NEW CONSTRUCTION.
2C	DEMO SITE WALL TO EXTENT SHOWN ON PLAN
2D	DEMO INTERIOR MASONRY WALL TO EXTENT SHOWN. INSTALL NEW STEEL LINTEL AT OPENING HEAD. PATCH AND REPAIR FLOOR AND CEILING FOR NEW CONSTRUCTION.
3A	DEMO EXTERIOR DOOR AND FRAME
3B	DEMO EXTERIOR WINDOW AND FRAME
3C	DEMO INTERIOR DOOR AND FRAME
3D	DEMO EXTERIOR WINDOW AND PREP FOR WINDOW REPLACEMENT
4A	REMOVE EXTERIOR CONCRETE STAIR AND RAILINGS
4B	REMOVE MILLWORK COUNTER
4C	REMOVE EXISTING WOOD RAILING
4D	REMOVE EXISTING SHED ROOF AND ALL SUPPORTS
4E	DEMO EXISTING CONCRETE RAMP
4F	REMOVE EXISTING TOILET PARTITIONS. PATCH AND REPAIR WALL / FLOOR ATTACHEMENT
4G	REMOVE EXISTING WOOD STAIR AND RAILINGS.
5A	REMOVE SINK, CAP PLUMBING IN WALL, COVER WITH S.S. PLATE
5B	REMOVE WALL HUNG URINAL, CAP PLUMBING BEHIND WALL, CAP WITH S.S. PLATE
5C	REMOVE FLOOR MOUNT TOILET

GENERAL DEMOLITION NOTES

1. ALL WALL AND DOOR FRAMING THAT IS EXISTING TO REMAIN WILL NEED TO HAVE HEADERS AND SILL PLATES REFRAMED TO COORDINATE WITH THE NEW CONCRETE SLAB.

Table 4: PCB Concrete Core Sample Results- November 27, 2017:

Sample Location	Results mg/kg (ppm) 0.0 to 0.25" depth	Results mg/kg (ppm) 0.25 to 0.50" depth	Results mg/kg (ppm) 0.50 to 1.0" depth	Results mg/kg (ppm) 1.0 to 1.5" depth	Results mg/kg (ppm) 0.0 to 0.50" depth
01- Room 37	1,040	650	226	310	NS
02- Room 23	82	45	3.3	2.5	NS
03- Room 26	20.3	3.5	3.2	0.12	NS
04- Room 28	26	20.6	4.7	0.75	NS
05- Room 27	41	6.3	2.59	1.99 (1.3)	NS
06- Room Hall between Rooms 30 and 34	14.8	3.89	0.40	0.87	NS
07- Room 31	106	58	36	41	NS
08- Room 36	NS	NS	NS	NS	180
09- Room 28	NS	NS	NS	NS	1.6
10- Room 27	NS	NS	NS	NS	7.0
11- Room 26	NS	NS	NS	NS	4.3
12- Room 25	NS	NS	NS	NS	14
13- Room Hall Between Rooms 24 and 25	NS	NS	NS	NS	16
14- Room 27	NS	NS	NS	NS	1.9

NS- No Sample collected for interval depth (#) - Duplicate sample for QA/QC purposes

1 FLOOR PLAN - BASEMENT
D1.01 3/16" = 1'-0"

NOTES:
1. DRAWING BASED ON WIEMANN LAMPHERE DEMOLITION PLAN - BASEMENT D1.01 DATED 12/1/2023
2. ALL LOCATIONS SHOWN ARE APPROXIMATE.
3. CONTRACTOR SHALL SCRAPE ALL LOOSE AND PEALING PAINT FROM ALL SURFACES AND SHOP VAC FLOOR PRIOR TO STARTING REMEDIATION ON A RESPECTIVE FLOOR.
4. CONTRACTOR SHALL WET A RESPECTIVE AREA PRIOR TO REMOVAL TO MINIMIZE DUST.
5. REFER TO TABLES ON THIS SHEET TO DETERMINE A RESPECTIVE ROOM'S CEILING METHOD OF WASTE STREAM DISPOSAL. REMOVE ALL CEILING MATERIALS TO LEVEL 1 FLOOR JOISTS (TYPICAL).
6. CONCRETE FLOOR SLAB THICKNESS RANGES FROM 2.5-5 INCHES IN THICKNESS.
7. CONTRACTOR TO REMOVE AND DISPOSE OF ALL UNIVERSAL WASTES AS PART OF WORK.
8. CONTRACTOR TO REMOVE ANY VISIBLE PAINT VIA DRY-ICE BLASTING (OR APPROVED EQUAL) FROM ANY CONCRETE OR MASONRY WALLS DESIGNATED TO REMAIN AND APPLY TWO COATS OF ENCAPSULANT.

Number:	Date:	Revision:

ST. JOHNSBURY ARMORY REDEVELOPMENT PROJECT - BUILDING REMEDIATION
1249 MAIN STREET
ST. JOHNSBURY, VERMONT

PCB REMEDIATION PLAN-BASEMENT (LEVEL 0)

MONTROSE ENVIRONMENTAL
MONTROSE ENVIRONMENTAL SOLUTIONS, INC.
1140 VALLEY FORGE ROAD,
PHOENIXVILLE, PENNSYLVANIA 19460-2658
T: 610.840.9100 F: 610.840.9199 montrose-env.com

Scale:	AS NOTED
Drawn By:	MCB
Checked By:	KDI
Project Mgr.:	KDI
Originated By:	MCB
Project No.:	13854
Drawing Date:	1/16/24
Sheet No.:	7 OF 16
Revision Number:	0

FIGURE 5A

O:\projects\Town of St. Johnsbury\13854\13854-01\Field Data and Supporting Documents\Atlas Files_June 2023\30% CONVERTED\Fig 5 St.- J Public Safety_D1-01 - DEMOLITION PLAN - BASEMENT (12-04-2023).dwg

SELECTIVE DEMOLITION OF EXISTING BUILDING TO REMAIN, REFER TO KEY NOTES ON PLAN

DEMOLISH DRILL HALL PORTION OF BUILDING IN ITS ENTIRETY (ROOF, WALL, FOUNDATION, ETC)

ALL GYMNASIUM CONSTRUCTION MATERIALS DESIGNATED FOR DEMOLITION SHALL BE DISPOSED AS NON-HAZARDOUS PCB REMEDIATION WASTE

REMOVE WINDOW FRAME, CAULK AND SEALANT. DISPOSE AS ONE UNIT AND SCRAPE RESIDUE OFF MASONRY AND CONCRETE DESIGNATED TO REMAIN (TYPICAL)

CONTRACTOR TO STABILIZE WALLS PRE/POST REMEDIATION AND DEMOLITION PER STRUCTURAL ENGINEER'S DESIGN AND LEAVE IN-PLACE FOR USE BY GENERAL CONTRACTOR

T.O. MASONRY 126' - 6"
LEVEL 3 123' - 9"
LEVEL 2 111' - 0"
LEVEL 1 100' - 0"
T.O. FOUNDATION 95' - 0"
BASEMENT 89' - 6"

NORTH BASEMENT STAIRWELL MULTI-COLORED CONCRETE

DILINEATION LINE OF SCOPE OF DEMOLITION WORK

1 D2.01 DEMOLITION ELEVATION - NORTH
3/16" = 1'-0"

VERIFY DARK GREEN PAINT NOT PRESENT ON WINDOW FRAMES OR SASHES. IF PRESENT, DISPOSE OF WINDOW ASSEMBLY AS PCB BULK PRODUCT WASTE (TYPICAL)

REMOVE WINDOW FRAME, CAULK AND SEALANT. DISPOSE AS ONE UNIT AND SCRAPE RESIDUE OFF MASONRY AND CONCRETE DESIGNATED TO REMAIN (TYPICAL)

REMOVE WINDOW FRAME, CAULK AND SEALANT. DISPOSE AS ONE UNIT AND SCRAPE RESIDUE OFF MASONRY AND CONCRETE DESIGNATED TO REMAIN (TYPICAL)

FRONT ENTRANCE
-WHITE FRAME
-GREEN DOORS
-BLACK HANDRAILS

2 D2.01 DEMOLITION ELEVATION - EAST
3/16" = 1'-0"

NOTES

1. DRAWING BASED ON WIEMANN LAMPHERE DEMOLITION ELEVATIONS D2.01 DATED 12/01/2023.
2. ALL LOCATIONS SHOWN ARE APPROXIMATE.
3. CONTRACTOR SHALL SCRAPE ALL LOOSE AND PEALING PAINT FROM ALL SURFACES AND SHOP VAC FLOOR PRIOR TO STARTING REMEDIATION ON A RESPECTIVE FLOOR.
4. CONTRACTOR SHALL WET A RESPECTIVE AREA PRIOR TO REMOVAL TO MINIMIZE DUST.
5. CONTRACTOR TO REMOVE AND DISPOSE OF ALL UNIVERSAL WASTES AS PART OF WORK.
6. CONTRACTOR TO REMOVE ANY VISIBLE PAINT VIA DRY-ICE BLASTING (OR APPROVED EQUAL) FROM ANY CONCRETE OR MASONRY WALLS DESIGNATED TO REMAIN AND APPLY TWO COATS OF ENCAPSULANT.

LEGEND

PCBs ≥ 50.0 PPM (REMOVE PAINT WITH SUBSTRATE, DISPOSE AS PCB BULK PRODUCT WASTE)

PCBs ≥ 1.0 PPM AND <50.0 PPM (REMOVE PAINT WITH SUBSTRATE, DISPOSE AS NON-HAZARDOUS PCB REMEDIATION WASTE)

TCLP PCB SAMPLE RESULTS - AUGUST 14 - DECEMBER 3 2023

Sample ID	Eastern Analytical Sample ID	Sample Date	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Aroclor-1262	Aroclor-1268	Total PCBs
011624159979.001	273015.01	1/16/2024	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	--
011624159979.002	273015.02	1/16/2024	<2	<2	<2	<2	<2	<2	<2	<2	<2	--
011624159979.003	273015.03	1/16/2024	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	--
011624159979.004	273015.04	1/16/2024	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	--
011624159979.005	273015.05	1/16/2024	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	--
011624159979.006	273015.06	1/16/2024	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	--
011624159979.007	273015.07	1/16/2024	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	--
011624159979.008	273015.08	1/16/2024	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	--

Notes:
All results reported in micrograms per liter (ug/L), or parts per million (ppm)
'--' - Indicates that the Total PCBs result for a given sample were non-detect
<(Number) - Result was not detected above the reported MDL
MDL - Method Detection Limit - the lowest quantitative threshold
Detection limits displayed are elevated in response to a lower initial volume used for analysis.

DEMOLITION KEY SCHEDULE	
KEY	DESCRIPTION
2A	DEMO EXTERIOR BRICK MASONRY WALL
2B	DEMO INTERIOR WALL PARTITION. PATCH AND REPAIR FLOOR AND CEILING FOR NEW CONSTRUCTION.
2C	DEMO SITE WALL TO EXTENT SHOWN ON PLAN
2D	DEMO INTERIOR MASONRY WALL TO EXTENT SHOWN. INSTALL NEW STEEL LINTEL AT OPENING HEAD. PATCH AND REPAIR FLOOR AND CEILING FOR NEW CONSTRUCTION.
3A	DEMO EXTERIOR DOOR AND FRAME
3B	DEMO EXTERIOR WINDOW AND FRAME
3C	DEMO INTERIOR DOOR AND FRAME
3D	DEMO EXTERIOR WINDOW AND PREP FOR WINDOW REPLACEMENT
4A	REMOVE EXTERIOR CONCRETE STAIR AND RAILINGS
4B	REMOVE MILLWORK COUNTER
4C	REMOVE EXISTING WOOD RAILING
4D	REMOVE EXISTING SHED ROOF AND ALL SUPPORTS
4E	DEMO EXISTING CONCRETE RAMP
4F	REMOVE EXISTING TOILET PARTITIONS. PATCH AND REPAIR WALL / FLOOR ATTACHMENT
4G	REMOVE EXISTING WOOD STAIR AND RAILINGS.
5A	REMOVE SINK, CAP PLUMBING IN WALL, COVER WITH S.S. PLATE
5B	REMOVE WALL HUNG URINAL, CAP PLUMBING BEHIND WALL, CAP WITH S.S. PLATE
5C	REMOVE FLOOR MOUNT TOILET

TCLP LEAD SAMPLE RESULTS - AUGUST 14 - DECEMBER 3 2023

Waste Characterization Composite Sample Identification	Exterior/Interior	Floor	Room	Direction	Substrate	Color	Former Sample ID to Collect Adjacent Grab Sample	Lead Result (mg/L)
WC-Lead-Comp 1	Interior	Basement	26	Floor	Concrete	Blue	P126-29C (note-historic sample location unknown, sample's blue floor paint)	5.7
	Interior	Basement	23	Floor	Concrete	Gray	P126-18C (note-historic sample location unknown, sample gray floor paint)	
	Interior	1st floor	15	South	Plaster/Lath	Pink, Green, White, Brown	P-254-R1S	
	Interior	2nd Floor	5	Floor	Wood	Brown	P-161-W2F	
	Exterior	N/A	N/A	Southwest Loading Ramp Roof	Wood Trim/Soffit/Door & Sheet Metal walls	White	P-169-EV (Note-sample white painted wood trim)	
WC-Lead-Comp 2	Interior	Basement	16	North	Sheet Metal walls	White/Green/Dk. Gray	P-072-W3NC	15
	Interior	Basement	18	East	Brick	Lt. Blue/Salmon/ Brown	P-048-R1NE	
	Interior	Basement	20	West	Brick	Lt. Green	P-054-R2SW	
	Interior	Basement	26	North	Concrete	Beige/Dirk. Grey	P-055-R2SNC	
WC-Lead-Comp 3	Interior	Basement	21	East	Brick	Pale Lt. Green/Brown	P-058-R2TES	28
	Interior	Basement	21	West	Brick	Black/Lt. Green	P-054-R2TW	
	Interior	Basement	23	East	Concrete	Salmon/Dk. Green	P-074-R2EC	
	Interior	Basement	26	East	Brick	White/ Lt. Green/ Maroon	P-066-R2SE	
WC-Lead-Comp 4	Interior	Basement	32	South	Painted Plywood	Yellow/Dk. Blue	P-083-R2SPW	0.21
	Interior	1st floor	Gym	East	Cabinet	Lt Green - high	P-200-R1TEC1	
	Interior	2nd Floor	8	South	Plaster/Lath	Yellow	P-101-R3S	
	Exterior	N/A	N/A	Front Entrance - Surround	Wood	Dark Green	P-178-Ex	
	Exterior	N/A	N/A	Roof Edge Trim/Soffits	Wood	White/Gray	P-180-Ex	
WC-Lead-Comp 5	Interior	Basement	Stairwell S-1	Ceiling	Dry wall	White	P-165-S1NC	0.63
	Interior	1st floor	15	Ceiling	Plaster/Lath	Beige/Pink/Brown	P-211-R1SCP	
	Interior	2nd Floor	5	Stairwell wall paneling in Room 5	Gray adhesive associated with brown, faux wood wall paneling	Gray	A-069a-RR	
	Exterior	N/A	Roof	Chimney	Light grey hard/ extra coarse stucco	Light gray	P-261-Ex	
	Exterior	N/A	Roof	silver paint associated with metal roofing	Tin	Silver	A-022a	

Notes:
Material IDs and Room numbers from Atlas Technical Consultants Workplan for Additional Hazardous Building Materials Sampling, 2023
mg/L = milligrams per liter

Number:	Date:	Revision:

ST. JOHNSBURY ARMORY REDEVELOPMENT PROJECT - BUILDING REMEDIATION
1249 MAIN STREET
ST. JOHNSBURY, VERMONT

PCB REMEDIATION PLAN - NORTH AND EAST ELEVATIONS

MONTROSE ENVIRONMENTAL

MONTROSE ENVIRONMENTAL SOLUTIONS, INC.

1140 VALLEY FORGE ROAD,
PHOENIXVILLE, PENNSYLVANIA 19460-2658
T: 610.840.9100 F: 610.840.9199 montrose-env.com

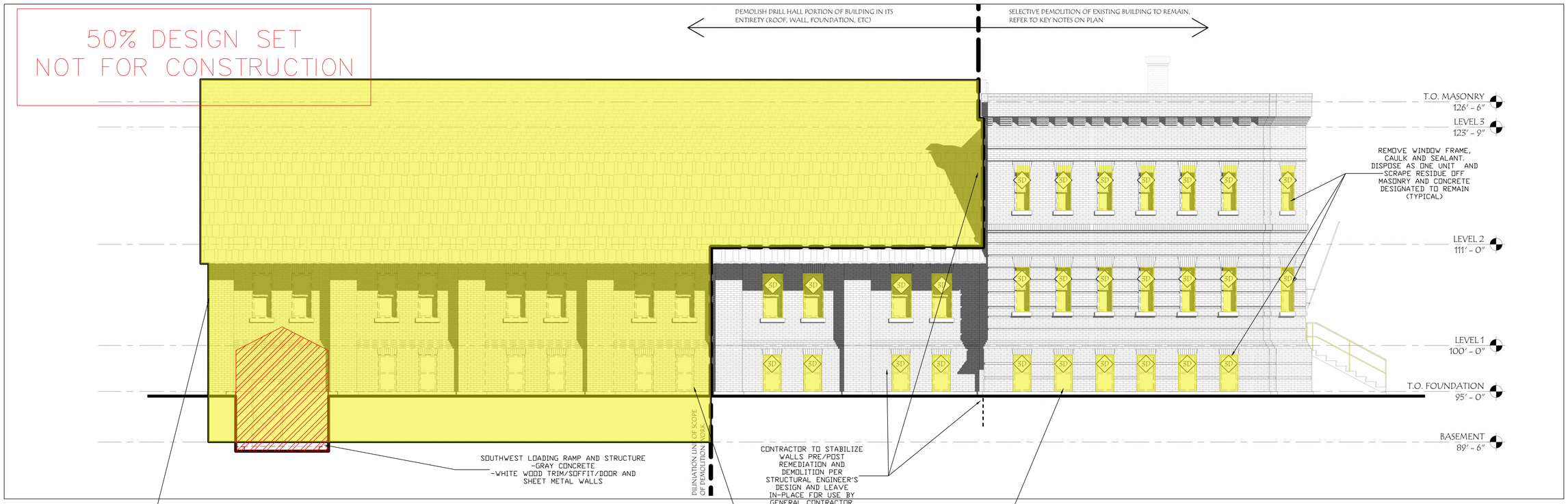
Scale:	AS NOTED
Drawn By:	MCB
Checked By:	KDI
Project Mgr.:	KDI
Originated By:	MCB
Project No.:	13854
Drawing Date:	1/16/24
Sheet No.:	9 OF 16
Revision Number:	0

FIGURE 6A

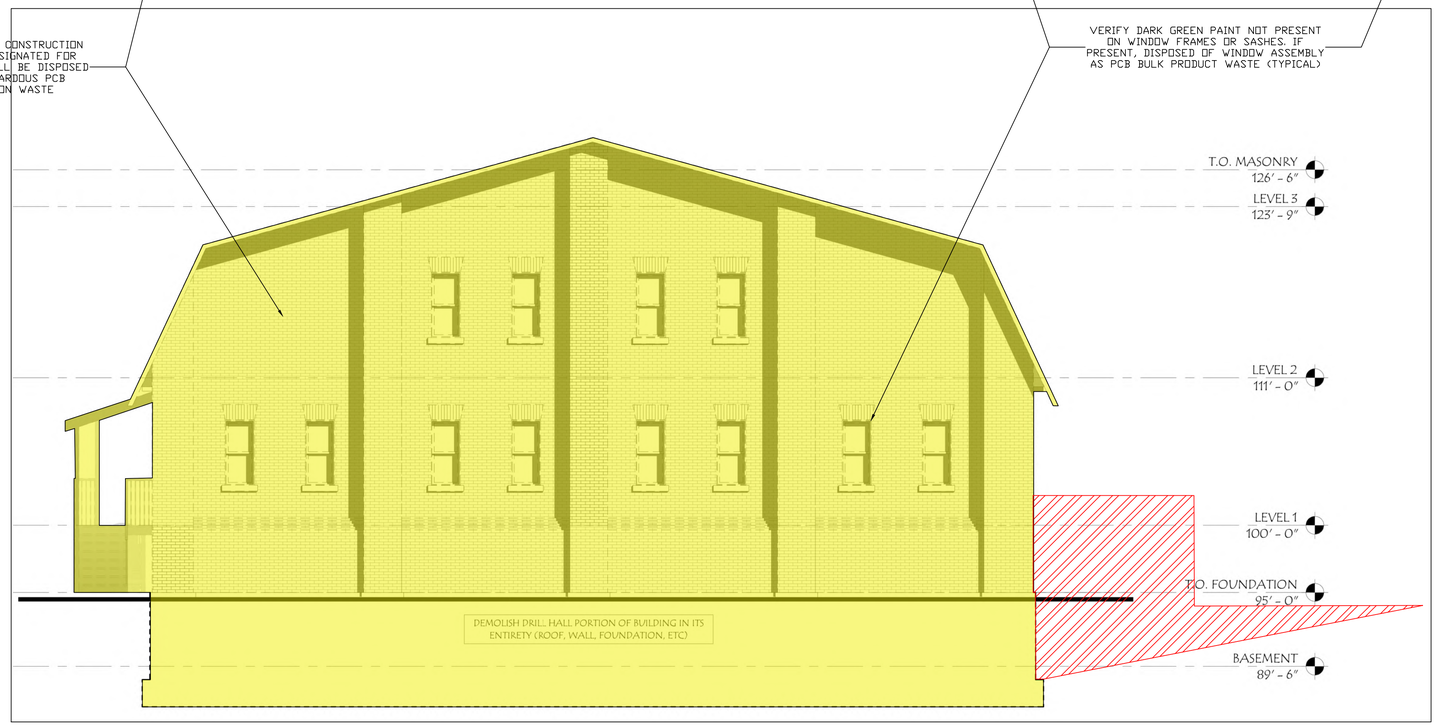
50% DESIGN SET
NOT FOR CONSTRUCTION

O:\projects\Town of St. Johnsbury,13854\13854-01\Field Data and Supporting Documents\Atlas Files_June 2023\30% CONVERTED\Fig 6 St - I Public Safety, D2-01 - DEMOLITION ELEVATIONS (12-04-2023).dwg

50% DESIGN SET
NOT FOR CONSTRUCTION



1 D2.02 DEMOLITION ELEVATION - SOUTH
3/16" = 1'-0"



2 D2.02 DEMOLITION ELEVATION - WEST
3/16" = 1'-0"

DEMOLITION KEY SCHEDULE	
KEY	DESCRIPTION
2A	DEMO EXTERIOR BRICK MASONRY WALL
2B	DEMO INTERIOR WALL PARTITION. PATCH AND REPAIR FLOOR AND CEILING FOR NEW CONSTRUCTION.
2C	DEMO SITE WALL TO EXTENT SHOWN ON PLAN
2D	DEMO INTERIOR MASONRY WALL TO EXTENT SHOWN. INSTALL NEW STEEL LINTEL AT OPENING HEAD. PATCH AND REPAIR FLOOR AND CEILING FOR NEW CONSTRUCTION.
3A	DEMO EXTERIOR DOOR AND FRAME
3B	DEMO EXTERIOR WINDOW AND FRAME
3C	DEMO INTERIOR DOOR AND FRAME
3D	DEMO EXTERIOR WINDOW AND PREP FOR WINDOW REPLACEMENT
4A	REMOVE EXTERIOR CONCRETE STAIR AND RAILINGS
4B	REMOVE MILLWORK COUNTER
4C	REMOVE EXISTING WOOD RAILING
4D	REMOVE EXISTING SHED ROOF AND ALL SUPPORTS
4E	DEMO EXISTING CONCRETE RAMP
4F	REMOVE EXISTING TOILET PARTITIONS. PATCH AND REPAIR WALL / FLOOR ATTACHEMENT
4G	REMOVE EXISTING WOOD STAIR AND RAILINGS.
5A	REMOVE SINK, CAP PLUMBING IN WALL, COVER WITH S.S. PLATE
5B	REMOVE WALL HUNG URINAL, CAP PLUMBING BEHIND WALL, CAP WITH S.S. PLATE
5C	REMOVE FLOOR MOUNT TOILET

NOTES
1. DRAWING BASED ON WIEMANN LAMPHERE DEMOLITION ELEVATIONS D2.02 DATED 12/01/2023.
2. ALL LOCATIONS SHOWN ARE APPROXIMATE.
3. CONTRACTOR SHALL SCRAPE ALL LOOSE AND PEALING PAINT FROM ALL SURFACES AND SHOP VAC FLOOR PRIOR TO STARTING REMEDIATION ON A RESPECTIVE FLOOR.
4. CONTRACTOR SHALL WET A RESPECTIVE AREA PRIOR TO REMOVAL TO MINIMIZE DUST.
5. CONTRACTOR TO REMOVE AND DISPOSE OF ALL UNIVERSAL WASTES AS PART OF WORK.
6. CONTRACTOR TO REMOVE ANY VISIBLE PAINT VIA DRY-ICE BLASTING (OR APPROVED EQUAL) FROM ANY CONCRETE OR MASONRY WALLS DESIGNATED TO REMAIN AND APPLY TWO COATS OF ENCAPSULANT.

LEGEND

PCBs ≥ 50.0 PPM (REMOVE PAINT WITH SUBSTRATE, DISPOSE AS PCB BULK PRODUCT WASTE)

PCBs ≥ 1.0 PPM AND <50.0 PPM (REMOVE PAINT WITH SUBSTRATE, DISPOSE AS NON-HAZARDOUS PCB REMEDIATION WASTE)

Number:	Date:	Revision:

ST. JOHNSBURY ARMORY REDEVELOPMENT PROJECT - BUILDING REMEDIATION
1249 MAIN STREET
ST. JOHNSBURY, VERMONT

PCB REMEDIATION PLAN - SOUTH AND WEST ELEVATIONS

MONTROSE ENVIRONMENTAL
MONTROSE ENVIRONMENTAL SOLUTIONS, INC.
1140 VALLEY FORGE ROAD,
PHOENIXVILLE, PENNSYLVANIA 19460-2658
T: 610.840.9100 F: 610.840.9199 montrose-env.com

Scale:	AS NOTED
Drawn By:	MCB
Checked By:	KDI
Project Mgr.:	KDI
Originated By:	MCB
Project No.:	13854
Drawing Date:	1/16/24
Sheet No.:	11 OF 16
Revision Number:	0

FIGURE 7A

O:\projects\Town of St. Johnsbury-13854\13854-01\Field Data and Supporting Documents\Atlas Files_June 2023\30% CONVERTED\Fig 7 - St. J Public Safety_D2-02 - DEMOLITION ELEVATIONS (12-04-2023).dwg

GRACE UNITED METHODIST CHURCH
TAX MAP #23-04-61
REFER TO BK. 123, PG. 133

ST. ANDREWS EPISCOPAL CHURCH
TAX MAP #23-04-73
REFER TO BK. 18, PG. 357

PLAN BY J. M. PERHAM FOR
"ST. ANDREWS CHURCH LOT"
DATED DEC. 1912
W/ TRULINE FILE #A25

MAG NORTH
NAD83 (2011)
GRID NORTH (VT)

NOTES
1. DRAWING BASED ON SURVEY BY TRULINE LAND SURVEYORS, INC. TOWN OF ST. JOHNSBURY "ARMORY BUILDING" DATED 01/19/2021.
2. ALL LOCATIONS SHOWN ARE APPROXIMATE.
3. ALL SOILS TO BE DISPOSED OF AS NON-HAZARDOUS WASTE.

LEGEND
EXCAVATION AREA

18.10' (G)
53.55' (G)
S 71°50'46" E
156.23'
N 15°05'58" E
124.77'
AC UNIT
ELEVATOR
OVERHANG
PAVED PARKING AREA
CSW
35.7' (B)
SIGN
14" APPLE
REMOVE PAH IMPACTED SOILS (0-2 FT)
REMOVE PCB IMPACTED SOILS (0-1.5 FT)
PAVED DRIVE
CONC. RAMP
29.65' (G)
24.65' (G)
10.80'
S 15°05'58" W
48.37'
N 13°40'37" E
48.40'
54.98' (G)
62.10' (G)
N 69°35'16" W
142.74'
131.94'
63.10' (B)
52.8' (B)
S 21°12'38" W
130.40'
MAIN STREET
REMOVE LEAD AND PAH IMPACTED SOILS (0-2.5 FT)
TBM = TOP OF HYDRANT BOLT AT ELEV. 697.23 FT.
TBM = TOP OF HYDRANT BOLT AT ELEV. 695.96 FT.
S 70°02'51" E
12.00'
REFER TO BK. 13 PG. 477
REFER TO RD. BK. 2 PG. 158
63.35' (B)
CENTRAL STREET

PARCEL #1
AREA = 0.437 ACRE
(19,038 SQ. FT.)
TAX MAP #23-04-74
REFER TO BK. 56, PG. 223

PLAN BY J. M. PERHAM FOR
"ARMORY SITE"
DATED APR. 1916
W/ TRULINE FILE #D17

PARCEL #2
AREA = 0.012 ACRE
(549 SQ. FT.)
P/O TAX MAP #23-04-61
REFER TO BK. 56, PG. 223

PLAN BY J. M. PERHAM FOR
"ARMORY SITE"
DATED APR. 1916
W/ TRULINE FILE #D17

R. S. & C. C. KOZLOWSKI
TAX MAP #23-04-75
REFER TO BK. 249, PG. 125

PLAN BY J. M. PERHAM FOR
"PASSUMPSIC SAVINGS BANK"
DATED JUNE 1930
W/ TRULINE FILE #BB17

Town of St. Johnsbury, VT Received for Record
_____ A.D. _____
at _____ o'clock _____ minutes _____M
and recorded at _____
attest: _____
Town Clerk

50% DESIGN SET
NOT FOR CONSTRUCTION

1 INCH = 10 FT

– ZONING INFORMATION –

MIXED USE DISTRICT – "MU"

MINIMUM LOT SIZE:	6000 SQ. FT.		
MINIMUM LOT FRONTAGE:	75 FT.		
MINIMUM LOT DEPTH:	N/A		
MINIMUM SETBACKS:	FRONT	SIDE	REAR
	15	15	15
HEIGHT REGULATIONS:	ALL STRUCTURES: 80 FT.		

* BASED ON THE ZONING BY-LAWS FOR THE TOWN OF ST. JOHNSBURY, EFFECTIVE APRIL 30, 2018.



– LOCUS –
SCALE: 1" = 400'±

– LEGEND –

- IRON PIPE
- REINFORCING ROD
- UNMARKED/ANGLE POINT
- (G) GRANITE TIE
- (B) BRICK TIE
- HYDRANT
- UTILITY POLE
- CSW CONC. SIDEWALK
- "E" EXISTING MONUMENT
- "S" SET MONUMENT
- PROPERTY LINE
- RIGHT-OF-WAY LIMITS
- CHAIN LINK FENCE
- OUW OVERHEAD UTILITY WIRES
- IRON RAIL FENCE

– NOTES –

1. THIS PLAT IS PREPARED FOR THE EXCLUSIVE USE OF THE TOWN OF ST. JOHNSBURY AND NO REPRESENTATIONS ARE MADE TO, OR ANY RELIANCE JUSTIFIED BY, ANY OTHER INDIVIDUAL OR ENTITY.
2. THE BEARINGS SHOWN ARE BASED ON VERMONT GRID NORTH, NAD83 (2011). THE COORDINATES SHOWN ARE BASED ON VERMONT GRID NAD83 (2011), FEET.
3. THE METES AND BOUNDS SHOWN ARE BASED ON A CLOSED TRAVERSE OF AN ELECTRONIC MEASURMENT SYSTEM SURVEY WITH A DEGREE OF PRECISION OF 1 IN 27,000.
4. ALL EXISTING MONUMENTS AND SET MONUMENTS SHOWN ARE STABLE AND PLUMB UNLESS OTHERWISE NOTED.
5. NO ATTEMPT WAS MADE TO IDENTIFY OR LOCATE ANY UNRECORDED OR OBSCURED EASEMENTS AND/OR RIGHTS, OTHER THAN SHOWN, DURING THE COURSE OF THIS SURVEY.
6. THIS IS A CERTIFIED PLAT WHEN ACCOMPANIED BY AN ORIGINAL SIGNATURE, DATE AND REGISTERED SURVEYOR'S STAMP OF A TRULINE REPRESENTATIVE.

– CERTIFICATION –

I HEREBY CERTIFY THAT THE PROPERTY LINES SHOWN ARE BASED ON AND ARE CONSISTENT WITH THE DEED REFERENCES LISTED (EXCEPT WHERE NOTED) AND/OR OTHER DOCUMENTS REFERRED TO HEREON AS WELL AS EXISTING MONUMENTATION AND OTHER EVIDENCE OBSERVED ON THE PROPERTY, AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AS OF JANUARY 19, 2021. THIS PLAT CONFORMS WITH THE REQUIREMENTS OF V.S.A. TITLE 27 §1403. (SEE NOTES.)

SIGNATURE

01/19/2021
DATE

Number:	Date:	Revision:

ST. JOHNSBURY ARMORY REDEVELOPMENT PROJECT - BUILDING REMEDIATION
1249 MAIN STREET
ST. JOHNSBURY, VERMONT

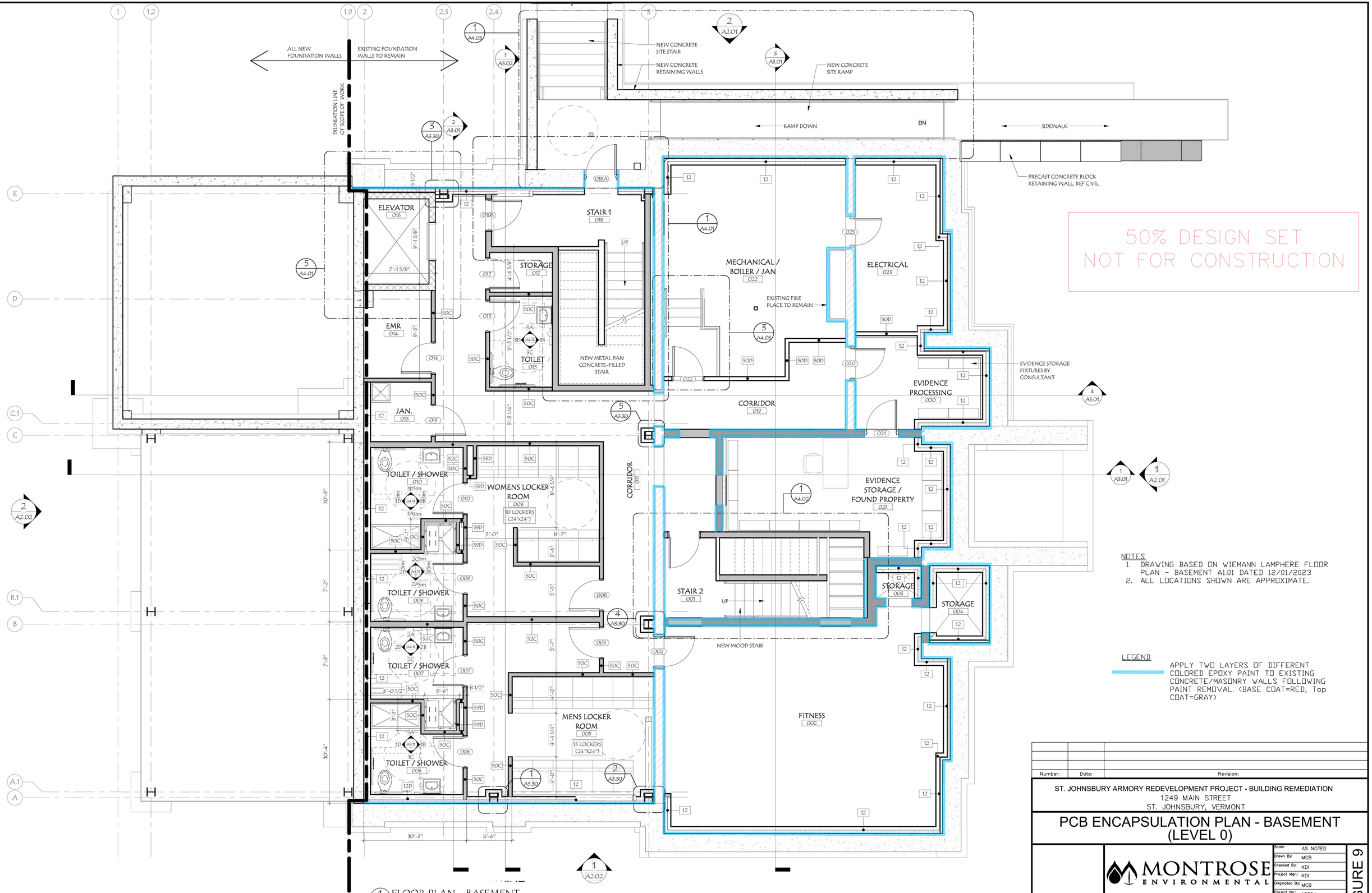
SOIL REMEDIATION PLAN

MONTROSE ENVIRONMENTAL
MONTROSE ENVIRONMENTAL SOLUTIONS, INC.
1140 VALLEY FORGE ROAD,
PHOENIXVILLE, PENNSYLVANIA 19460-2658
T: 610.840.9100 F: 610.840.9199 montrose-env.com

Scale:	1" = 10'
Drawn By:	MCB
Checked By:	KDI
Project Mgr.:	KDI
Originated By:	MCB
Project No.:	13854
Drawing Date:	1/16/24
Sheet No.:	14 OF 16
Revision Number:	0

FIGURE 8

O:\projects\Town of St. Johnsbury\13854\13854-01\Field Data and Supporting Documents\Atlas Files_June 2023\30% CONVERTED\Fig 2 Fig 8 Site plan.dwg



50% DESIGN SET
NOT FOR CONSTRUCTION

NOTES
1. DRAWING BASED ON WIEMANN LAMPHERE FLOOR PLAN - BASEMENT A1.01 DATED 12/01/2023
2. ALL LOCATIONS SHOWN ARE APPROXIMATE.

LEGEND

APPLY TWO LAYERS OF DIFFERENT COLORED EPOXY PAINT TO EXISTING CONCRETE/MASONRY WALLS FOLLOWING PAINT REMOVAL. (BASE COAT=RED, Top COAT=GRAY)

1 A1.01 FLOOR PLAN - BASEMENT
1/4" = 1'-0"

Number:	Date:	Revision:

ST. JOHNSBURY ARMORY REDEVELOPMENT PROJECT - BUILDING REMEDIATION
1249 MAIN STREET
ST. JOHNSBURY, VERMONT

PCB ENCAPSULATION PLAN - BASEMENT (LEVEL 0)

MONTROSE ENVIRONMENTAL

MONTROSE ENVIRONMENTAL SOLUTIONS, INC.

1140 VALLEY FORGE ROAD,
PHOENIXVILLE, PENNSYLVANIA 19460-2658
T: 610.840.9100 F: 610.840.9199 montrose-env.com

Scale:	AS NOTED
Drawn By:	MCB
Checked By:	KDI
Project Mgr.:	KDI
Originated By:	MCB
Project No.:	13854
Drawing Date:	1/16/24
Sheet No.:	15 OF 16
Revision Number:	0

FIGURE 9

O:\projects\Town of St. Johnsbury\13854\13854-01\Field Data and Supporting Documents\Atlas Files_June 2023\30% CONVERTED\Fig 9 St - J Public Safety_A1-01 - FLOOR PLAN - BASEMENT (12-04-2023).dwg

50% DESIGN SET
NOT FOR CONSTRUCTION

EQUIPMENT STORAGE
SALLY PORT / VEHICLE SERVICE 121
ELEVATOR 112
STAIR 1 111
JUVENILE HOLDING 119
NEW METAL PAN CONCRETE-FILLED STAIR
STAIR 3 120
CHASE
CORRIDOR 110
HOLDING 118
HOLDING 117
PROCESSING 116
SECURE INTERVIEW 115
WITNESS INTERVIEW / CONFERENCE 115
JAN. CLOSET 114
DISPATCH 102
DISPATCH STATIONS (3)
FILES
STORAGE 106
DISPATCH SUPERVISOR 105
EXISTING FIREPLACE TO REMAIN PER HISTORIC PRESERVATION
KITCHEN 103
COPIER
DISPATCH TOILET 104
BULLET RESISTANT TRANSACTION WINDOW
CLEAR FLOOR SPACE FOR A WHEELCHAIR BEYOND ARC OF THE DOOR SWING
APPLY FROSTED FILM TO TOILET ROOM WINDOW
HISTORIC PRESERVATION INTERPRETIVE PANEL
LOBBY 101
STAIR 2 107
PUBLIC TOILET 108
SQUAD ROOM 109
BODY CAMERA DOCKS
NEW WINDOW WITH HISTORIC CASING IN EXISTING OPENING, TYP. OF ALL WINDOWS ON LEVEL 1
ALL NEW EXTERIOR WALLS
EXISTING EXTERIOR WALLS TO REMAIN
DILINIATION LINE OF SCOPE OF WORK
METAL GUTTER BELOW
CANOPY OVER EXIT BELOW
1/4" / 1'-0" CANOPY SLOPE
ELECTRIC CAR CHARGING STATION
ENCAPSULATING PAINT TO EXTEND TO TOP OF GYMNASIUM WALLS DESIGNATED TO REMAIN.
HOLDING CELL WATER CONTROL PANEL
BENCH WITH RESTRAINTS
CAR PORT ROOF OVERHEAD FOR SQUAD CARS
NEW METAL PAN CONCRETE-FILLED STAIR
ACCESS PANEL

NOTES
1. DRAWING BASED ON WIEMANN LAMPHERE FLOOR PLAN - BASEMENT A1.01 DATED 12/01/2023
2. ALL LOCATIONS SHOWN ARE APPROXIMATE.

LEGEND
APPLY TWO LAYERS OF DIFFERENT COLORED EPOXY PAINT TO EXISTING CONCRETE/MASONRY WALLS FOLLOWING PAINT REMOVAL. (BASE COAT=RED, Top COAT=GRAY)

1 FLOOR PLAN - BASEMENT
A1.01 1/4" = 1'-0"

Number:	Date:	Revision:

ST. JOHNSBURY ARMORY REDEVELOPMENT PROJECT - BUILDING REMEDIATION
1249 MAIN STREET
ST. JOHNSBURY, VERMONT

PCB ENCAPSULATION PLAN - FIRST FLOOR (LEVEL 1)

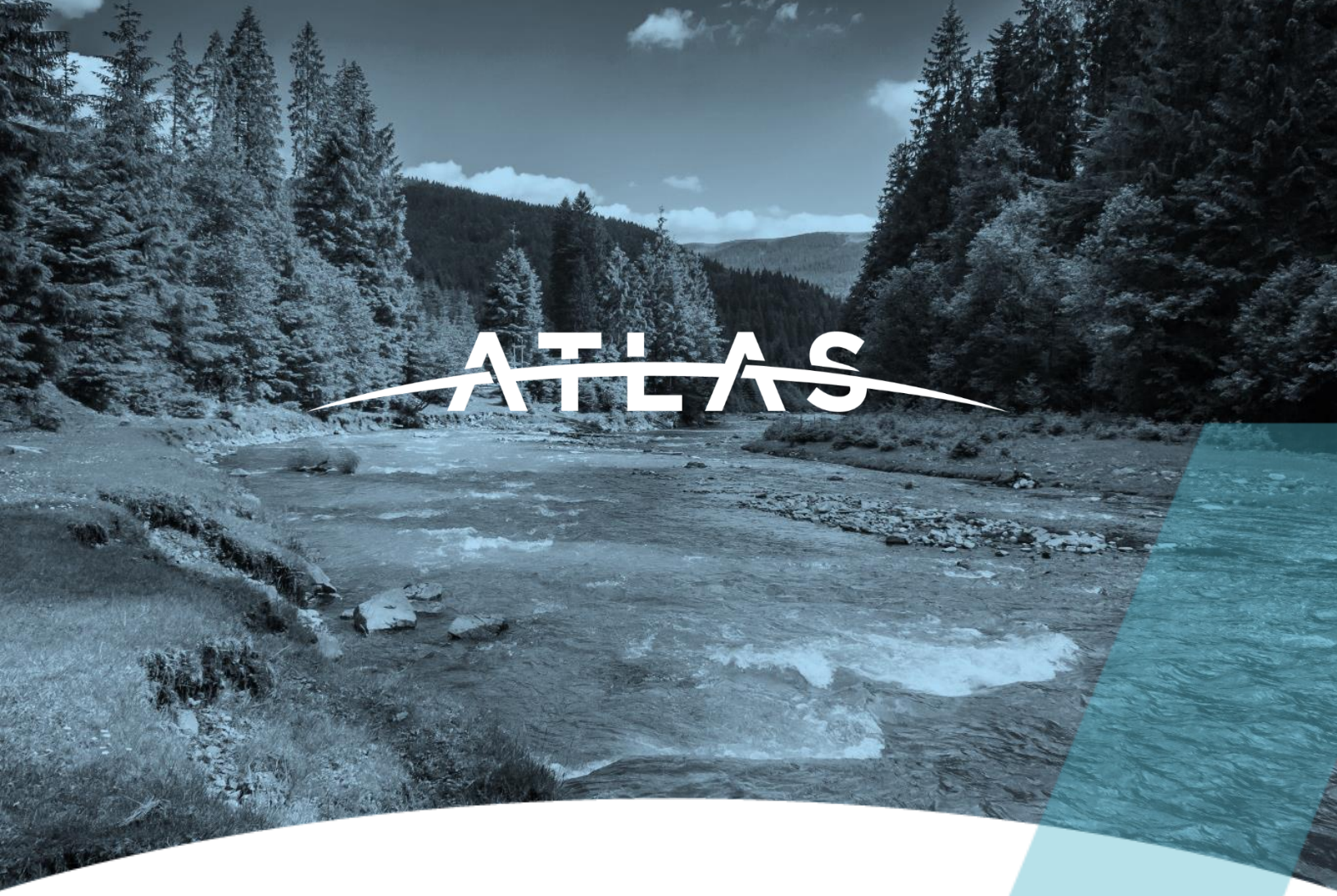
MONTROSE ENVIRONMENTAL
MONTROSE ENVIRONMENTAL SOLUTIONS, INC.
1140 VALLEY FORGE ROAD,
PHOENIXVILLE, PENNSYLVANIA 19460-2658
T: 610.840.9100 F: 610.840.9199 montrose-env.com

Scale:	AS NOTED
Drawn By:	MCB
Checked By:	KDI
Project Mgr.:	KDI
Originated By:	MCB
Project No.:	13854
Drawing Date:	1/16/24
Sheet No.:	16 OF 16
Revision Number:	0

FIGURE 10

O:\projects\Town of St. Johnsbury-13854\13854-01\Field Data and Supporting Documents\Atlas Files_June 2023\30% CONVERTED\Fig 9 St- J Public Safety_A1-01 - FLOOR PLAN - BASEMENT (12-04-2023).dwg

Appendix D – Site Investigation Report, 2022



SITE INVESTIGATION REPORT

FORMER ST. JOHNSBURY ARMORY

1249 Main Street St. Johnsbury, Vermont

SMS Site # 2012-4326

PREPARED FOR:

Mr. Joseph Kasprzak
Town of St. Johnsbury
51 Depot Square, Suite 3
St. Johnsbury, VT 05819

PREPARED BY:

Atlas Technical Consultants LLC
51 Knight Lane
Williston, VT 05495

October 11, 2022

October 11, 2022

Atlas No. 280EM00860

Mr. Joseph Kasprzak
Town of St. Johnsbury
51 Depot Square, Suite 3
St. Johnsbury, VT 05819

Subject: **Revised Site Investigation Report**
Former St. Johnsbury Armory
1249 Main Street St. Johnsbury, VT
SMS# 2012-4326

Dear Mr. Kasprzak:

Atlas Technical Consultants LLC, on behalf of the Town of St. Johnsbury, Vermont (STJ) presents this Revised Site Investigation (SI) Report for the former St. Johnsbury Armory located at 1249 Main Street, St. Johnsbury, Vermont (the Site). This revised report version includes the results of additional vertical soil delineation of polycyclic aromatic hydrocarbons (PAHs) and lead and updating sections of the report that were requested by Kassandra Kimmey of the Vermont Department of Environmental Conservation (VTDEC) in a letter dated August 30, 2022. The work was completed by Atlas in accordance with the Site Investigation Work Plan prepared by Stantec Consulting Services Inc. (dated March 22, 2022) and approved by Ms. Christine Beling of the U.S. Environmental Protection Agency (EPA) and Ms. Kassandra Kimmey of VTDEC via electronic mail dated April 6, 2022. The objective of the work was to further develop and refine the conceptual site model (CSM) generated from previous site data, which was performed to evaluate environmental management requirements for a future redevelopment project, and to meet SI objectives outlined in Subchapter 3 of VTDEC's *Investigation and Remediation of Contaminated Properties Rule* (IRule), July 6, 2019.

Several prior environmental investigations were completed at the Site and documented in various reports, including a Limited Asbestos Inspection dated November 2008, a Phase I Environmental Site Assessment (ESA) dated May 2012, an Environmental Survey dated March 28, 2013, a Targeted Brownfields Assessment Report dated March 9, 2021, and a Phase I ESA dated January 20, 2022. Based on the results of these investigations, Atlas identified three (3) areas of concern (AOCs) relating to contaminant source(s) and release(s) at the Site. These AOCs included 1) potential polychlorinated biphenyls (PCBs) in exterior soils due to discharges of particulates from PCB-containing building materials; 2) the presence of PAHs and metals in exterior soils due to the presence of urban fill; and 3) the potential presence of groundwater impacts from releases from two off-site upgradient underground storage tanks (USTs) shown on historical maps.

The following summarizes the AOCs and associated conclusions for these AOCs derived from this investigation:

- **AOC #1:** Extensive sampling of building materials has been conducted to date. Delineation of possible soil contamination has not been conducted with regard to surficial soils at the former armory. Given the presence of PCBs identified in exterior building materials the possibility exists for impact to soils surrounding the building. However, no PCBs were identified in any of the shallow soils across the Site (see Section 3.0).
- **AOC #2:** The potential presence of PAHs and metals in surficial soils at the Site was evaluated due to the likelihood of impacts resulting from the urban location of the Site. PAHs were identified in multiple areas across the site that exceeded Urban Background (UB) and Vermont Soil Standards-Non-Resident (VSS-NR) (see Section 3.0) on the east and south sides of the building. Lead was encountered in one sample (SB-9) on the south side of the building above VSS-Resident (VSS-R) but below VSS-NR.
- **AOC #3:** The potential for the presence of two (2) USTs approximately 200 feet to the west and upgradient of the Site was identified. If present these USTs would present a threat to the groundwater and soil of the Site and would pose a risk of vapor intrusion. No groundwater was encountered to a depth of 20 feet on the former St. Johnsbury Armory site. Results for soil vapor samples (collected in lieu of groundwater samples) were either non-detect or values were below Vapor Intrusion Standard (VIS)-Resident (see Section 3.0).

Based on these conclusions, Atlas recommends the following:

1. Submit this report to Kassandra Kimmey of the VTDEC.

2. Prepare a Corrective Action Plan (CAP) that addresses regulated soil and building materials that require corrective action.

TABLE OF CONTENTS

1. INTRODUCTION 1
   1.1 Site Information 1
2. CONCEPTUAL SITE MODEL 1
   2.1 Site Description and History 1
   2.2 Site Geology and Hydrogeology 2
   2.3 Source(s), Release(s) & Prior Investigations 2
   2.4 Sensitive Receptors and Exposure Pathways 2
3. INVESTIGATIVE PROCEDURES AND RESULTS 3
   3.1 Soil Borings & Soil Sampling 3
      3.1.1 AOCs #1 & 2 3
      3.1.2 AOC #3 5
   3.2 Quality Assurance/Quality Control 5
   3.3 Standard Operating Procedures 6
   3.4 Work Plan Deviations and Data Gaps 6
4. CONCLUSIONS & RECOMMENDATIONS 6
5. SIGNATURES & CERTIFICATION 7

FIGURES

Figure 1 Vicinity Map
Figure 2 Site Plan
Figure 3 Contaminant Distribution Map – PAHs in Soils
Figure 4 Contaminant Distribution Map – Lead in Soils

TABLES

Table 1 Soil PAH Results
Table 2 Soil PCB Results
Table 3 Soil Metals Results
Table 4 Soil Vapor Quality Results

APPENDICES

Appendix A Field Notes, Photo Log & Boring Logs
Appendix B Soil Laboratory Analytical Reports
Appendix C Soil Vapor Laboratory Analytical Report
Appendix D Standard Operating Procedures

1. INTRODUCTION

Atlas Technical Consultants, LLC, on behalf of the town of St. Johnsbury, Vermont (Client), presents this Site Investigation (SI) Report for the former St. Johnsbury Armory located at 1249 Main Street, St. Johnsbury, Vermont. The work was completed by Atlas in accordance with the Site Investigation Work Plan prepared by Stantec Consulting Services Inc. (dated March 22, 2022) and approved by Ms. Christine Beling of the U.S. Environmental Protection Agency (EPA) and Ms. Kassandra Kimmey of the Vermont Department of Environmental Conservation (VTDEC) via electronic mail dated April 6, 2022. Additional vertical soil delineation of polycyclic aromatic hydrocarbons (PAHs) and lead was also completed in accordance with a request by VTDEC in an email dated September 6, 2022. The objective of the work was to further develop and refine the conceptual site model (CSM) generated from previous site data, which was performed to evaluate environmental management requirements for a future redevelopment project, and to meet SI objectives outlined in Subchapter 3 of VT DEC's *Investigation and Remediation of Contaminated Properties Rule* (IRule), July 6, 2019.

1.1 Site Information

The Site latitude and longitude is 44.41962, -72.02099. Refer to **Figure 1** for a Vicinity Map and **Figure 2** for Site Plan that depicts pertinent Site and surrounding area features. Site ownership is provided in the table below.

Property Owner	Owner Mailing Address	Owner Email	Owner Phone #
Town of St. Johnsbury	51 Depot Square St. Johnsbury, VT 05819	jkasprzak@stvt.com	802-748-3926

2. CONCEPTUAL SITE MODEL

The following CSM is formulated in accordance with the IRule which outlines infrastructure considerations, historical land use, geology, hydrogeology, potential source(s) of release(s), contaminant fate and transport, sensitive receptors and potential exposure pathways.

2.1 Site Description and History

The Site encompasses 0.44 acres and developed with a 17,720 square-foot two-story building with a basement previously used as an armory. Original construction of occurred between 1916 and 1917. The building is currently unoccupied, being vacated in 2006. Exterior areas consist of a mix of paved, concrete, and landscaped surfaces. Site topography is generally flat with a slight

slope toward the east. Prior to its current development, the property was developed with four smaller structures between 1882 and 1912.

Currently abutting property uses includes St. Andrew's Episcopal Church to the north; vacant lots, Passumpsic Financial Advisors, and Fashion Fair Beauty Salon across Main Street to the east; Kozlowski Dentistry to the south; and Grace United Methodist Church to the west. Historical surrounding property use has been house of worship, commercial, and residential.

2.2 Site Geology and Hydrogeology

According to the Agency of Natural Resources (ANR) Natural Resources Atlas (NRA), native surficial soils at the Site include well sorted sand, with no pebbles or boulders. Soil boring observations generally indicate fill materials consisting of topsoil, sand, silt, and gravel of varying percentages. Native soils were encountered in all borings and generally consisted of well sorted fine to medium sands and were generally encountered at two feet below ground surface (ftbgs). Bedrock geology consists of phyllite of the Waits River formation. Groundwater was not encountered during drilling and is expected to be greater than 25 ftbgs. =[

2.3 Source(s), Release(s) & Prior Investigations

Several prior environmental investigations were completed at the Site with the findings provided in several reports, including a Limited Asbestos Inspection dated November 2008, a Phase I Environmental Site Assessment (ESA) dated May 2012, an Environmental Survey dated March 28, 2013, a Targeted Brownfields Assessment Report dated March 9, 2021, and a Phase I ESA dated January 20, 2022. Based on the results of these investigations and the SI outlined herein, Atlas concludes the following relating to contaminant source(s) and release(s) at the Site, which are identified as areas of concern (AOCs) as previously referenced in the work plan. Additional details regarding these conclusions are provided in Section 3.0.

- **AOC #1:** Given the presence of polychlorinated biphenyls (PCBs) identified in exterior building materials, the possibility exists for impact to soils surrounding the building due to the release of PCB-containing particulates from the exterior building materials.
- **AOC #2:** Given the Site is located within an Urban Soils Background Area (USBA) as defined by VTDEC, the potential presence of PAHs and metals in surficial soils at the Site is a concern.
- **AOC #3:** The potential for the presence of two (2) underground storage tanks (USTs) approximately 200 feet to the west and upgradient of the site was identified. If present, these USTs would present a threat to the groundwater and soil of the Site, as well as a threat of vapor intrusion into the site building.

In addition to PCBs in exterior building materials, hazardous materials including asbestos and lead-based paint (LBP) have been identified in Site building materials. These hazards are beyond the scope of this SI and have been discussed under separate cover.

2.4 Sensitive Receptors and Exposure Pathways

Contaminants of concern that have been evaluated at the Site include volatile organic compounds (VOCs) from potential offsite UST releases, PAHs, and metals associated with development soils, and PCBs and lead associated with releases from building materials. In general, PAHs, PCBs and metals are generally hydrophobic and will tend to adsorb to shallow soil particles under typical site conditions.

Media with the potential for impact at the site include soil, groundwater, soil vapor, and indoor air. Groundwater was not encountered during the investigation and the lack of any measurable soil vapor impacts at the site during the SI suggest that groundwater has not been affected by the off-site tanks. The direct contact exposure risk to shallow soils is high based on current site conditions; additionally, any workers conducting future excavations are at an increased risk of exposure to soil contaminants. The site and surrounding area are served by municipal drinking water and therefore the risk of ingestion of contaminated groundwater is low.

3. INVESTIGATIVE PROCEDURES AND RESULTS

Atlas completed a SI in accordance with the VTDEC approved work plan. The following sections outline investigative procedures and results.

3.1 Soil Borings & Soil Sampling

On April 25 and 26, 2022, Atlas oversaw the advancement of 11 soil borings (SB-1, SB-2, SB-3, SB-4, SB-6, SB-7, SB-9, SB-10, SB-12, SB-13, and SB-14) and 3 soil vapor points (MW-1, MW-2 and MW-3) that were originally planned to be completed as monitoring wells (discussed later) to evaluate subsurface soils associated with AOCs #1-3. Soil borings SB-5, SB-8, and SB-11 were not completed due to site access limitations (e.g., over-head utility restrictions). On September 20, 2022, an additional 3 soil borings (SB-4a, SB-6a, and SB-9a) were advanced adjacent to SB- 4, SB-6, and SB-9, respectively, to further define the vertical extent of contamination based on initial laboratory exceedances in the shallow soil samples. Refer to **Figure 3** for the boring and soil vapor point locations. The soil borings were advanced utilizing a combination of direct push technology (DPT) by Cascade Drilling Services (CDS) of Montpelier, Vermont and hand tools. The soil borings were advanced to a maximum depth of 3.5 ftbgs. The soil vapor points were advanced to a maximum depth of 20 ftbgs. Fieldnotes, photolog, and Boring logs are provided in **Appendix A**.

Soils were logged and field-screened for total organic vapors (TOVs) using a photoionization detector (PID) equipped with a 10.6 electron volt (eV) lamp. All TOVs were background (0.0 parts per million volume or ppmv) and no visual or olfactory indications of contamination (staining, odors, etc.) were observed.

Following sampling outlined below, all boring soils were returned to the subsurface.

3.1.1 AOCs #1 & 2

Eleven soil borings (SB-1, SB-2, SB-3, SB-4, SB-6, SB-7, SB-9, SB-10, SB-12, SB-13, and SB-14) were advanced to 3 ftbgs and three soil borings (SB-4a, SB-6a, and SB-9a)

were subsequently advanced to 3.5 ftbgs to evaluate COCs in soils (PAHs, metals, and PCBs) associated with AOC #1 and AOC #2 in areas not previously assessed.

Soil samples were collected in each boring in accordance with the following decision matrix for the initial 11 borings:

- Sample Set A: Shallow samples (0-1.5 ftbgs) were collected from each boring to evaluate fill materials.

- Sample Set B: Deeper samples (2-3 ftbgs) were also collected at each of the locations to target native soils beneath the fill materials. These samples were held at the laboratory and were to be analyzed only if the associated Sample Set A sample exceeded Vermont Soil Standards-Urban Background (VSS-UB) Standard. Due to an oversight, select deeper samples were not analyzed during the initial mobilization in April 2022: however, deeper samples were collected and analyzed for PAHs and lead on the second mobilization in September 2022.

During the first mobilization the samples were stored on ice and submitted to Pace Analytical of East Longmeadow, MA under chain of custody for analysis of PAHs, 8 RCRA metals, and PCBs. During the second mobilization the samples were stored on ice and submitted to Pace Analytical of East Longmeadow, MA under chain of custody for analysis of PAHs and lead.

The Soil laboratory reports are provided in **Appendix B** and summary tables are provided in **Tables 1, 2 and 3**. Results are summarized below:

- PAHs: the benzo(a)pyrene Toxic Equivalency (BaP-TEQ) exceeded the VSS-UB in SB-6 (0-1.5') and the Vermont Soil Standards-Non-Resident (VSS-NR) Standard in SB-4 (0-1.5') and SB-9 (0-1.5'). Deeper adjacent samples SB-4a (2-3.5'), SB-6a (2.5-3.5'), and SB-9a (2.5-3.5') that were subsequently collected to define the vertical extent of contamination were all below the applicable VSS-UB standard.

- Barium, chromium and lead were detected in all samples below Vermont Soil Standards-Resident (VSS-R) with the exception of lead in SB-9 (0-1.5'), which exceeded VSS-R. The lead concentration in the deeper adjacent sample SB-9a (2.5-3.5') was below VSS-R. Arsenic was detected in SB-9 (0-1.5') only, but was below the VSS-R. Mercury was detected in all samples except SB-7 (0-1.5'). All detected concentrations were below VSS-R.

- No PCBs were detected above method detection limits (MDLs) in any of the samples.

These data were utilized to generate contaminant distribution maps for PAHs and lead in soil as illustrated in **Figures 3 and 4**, respectively.

It should be noted that in addition to the VSS-R exceedance for lead in SB-9 (0-1.5'), several samples (SB-4 (0-1.5'), SB-6 (0-1.5'), SB-12 (0-1.5'), and SB-14 (0-1.5')) exceeded the "Rule of 20" toxicity value set forth in RCRA (100 mg/kg). As such, these

soils are unregulated if left in place but would require toxicity characteristic leaching procedure (TCLP) testing prior to offsite transport and disposal.

3.1.2 AOC #3

Three of the soil borings were proposed to be completed as groundwater monitoring wells (MW-1, MW-2 and MW-3); however, groundwater was not encountered to a depth of 20 ftbgs in these areas and, therefore, no monitoring wells were installed consistent with the work plan. In lieu of a monitoring well, in each proposed monitoring well location a soil vapor point was installed. Each sampling point consisted of a dedicated vapor point connected to polyethylene tubing and capped at the surface. The boring was then sealed from surface vapors utilizing a bentonite slurry. Prior to sampling, each point was helium leak tested to confirm the sealability of the point and screened for TOVs with a 10.6 eV lamp. The samples were collected into 3L Summa canisters with 200 milliliter per minute (ml/min) flow controllers over a 30-minute period and submitted to Contest (Pace Analytical Laboratory) of East Longmeadow, Massachusetts under chain of custody for quantitative analysis of VOCs according to US EPA Method TO-15. The soil vapor laboratory report is provided in **Appendix C** which includes additional sampling detail, and summary tables for results with detectable concentrations are provided in **Table 4**. Results are summarized below:

- VOCs were detected in the samples but none exceeded the applicable VIS.

These results indicate that contaminants of concern (COCs) associated with AOC #3 were not detected above applicable standards. However, it should be noted that tetrachloroethene (aka perchloroethene or PCE) was detected in soil vapors below VIS-SSSG-R (21 micrograms per cubic meter or µg/m^3) in all three soil vapor points at a depth of 20 ftbgs with the highest concentration (10 micrograms per cubic meter or µg/m^3) at MW-3. The source is unknown but could be related to impacts to groundwater (expected to be greater than 25 ftbgs) from offsite former dry cleaning releases. Additional investigation would be required to determine the source of these vapors. Although soil vapor conditions directly underneath the basement slab of the Site building (assumed to be 5 ftbgs) have not been evaluated, since PCE has a vapor density greater than air, in the absence of preferential pathways, one would expect higher concentrations with depth. As such, the risk to indoor air quality in the Site building appears to be low.

3.2 Quality Assurance/Quality Control

One duplicate soil sample for PAH analysis was submitted for quality assurance/quality control (QA/QC) purposes (see Table 1). The relative percent difference (RPD) between the duplicate sample and the parent samples were generally within the EPA-recommended 50% for non-aqueous samples with some exceptions as follows: fluorene at 52% and pyrene at 53%. These percentages are slightly outside the EPA-recommended values but neither of these compounds exceeded VT regulatory standards; therefore, Atlas considers these data to be usable.

3.3 Standard Operating Procedures

Atlas SOPs for this investigation are listed below and copies provided in Appendix D.

SOP 1.0 Drilling Equipment Standards
SOP 4.0 General Sampling Procedures for Aqueous & Solid Matrices
SOP 5.0 Subsurface Soil Sample Collection Procedures
SOP 10.0 Decontamination Procedures
SOP 11.0 Sample Custody Procedures
SOP 21.0 Installation & Sampling of Sub-slab Vapor Points

3.4 Work Plan Deviations and Data Gaps

Work plan deviations include the following:

- Monitoring wells were not installed and groundwater was not sampled as groundwater was not encountered to a depth of 20 ftbgs in the areas where wells were proposed; therefore, soil vapor samples were collected at each location in accordance with the work plan.

- Due to overhead power lines limiting drill rig access, only 11 soil borings were completed instead of the original 14 borings that were proposed. The lack of the 3 borings did not significantly change our conclusions or CSM because there was adequate subsurface data from the remaining borings.

- The vertical and horizontal extent of PAH and lead contaminated soils outside the areas represented by the existing soil borings is currently unknown and is therefore considered a data gap. However, the assumed extents based on the current dataset is provided in the figures and given the proposed remedial approach of soil excavation with off-site disposal, in concert with capping of any residual contamination as outlined in the CAP (submitted under separate cover), further delineation of the COCs in soil is not proposed.

4. CONCLUSIONS & RECOMMENDATIONS

On behalf of the Town of St. Johnsbury, Atlas presents this SI report to document subsurface investigations at the former St. Johnsbury Armory. In accordance with the approved work plan, Atlas oversaw the installation of soil borings and soil vapor points and the sampling/analyses of soil and soil vapor. Based on the results, Atlas concludes the following:

- No visual or olfactory evidence of contaminated soils was identified.Additionally, all PID readings were background (0.0 ppmv).

- Soil vapor results showed either non-detect or values below VISV-R.

- Soils tested for PCBs were non-detect in soil borings across the Site.

- For soils tested for PAHs, BaP-TEQ exceeded VSS-UB/NR at some locations in shallow soils (0-1.5'); however, corresponding deeper samples (2-3.5' or 2.5-3.5') were below the applicable VSS-UB.

- Generally, soils tested for metals were either non-detect or below VSS-UB/NR; however, lead in SB-09 (0-1.5') exceeded VSS-R, but not in the corresponding deeper sample (SB-9a (2.5-3.5'). Several other samples exceeded the "Rule of 20" limit of 100 mg/kg.

Based on these conclusions, Atlas recommends the following:

1. Submit a copy of this report to Kassandra Kimmey of the VTDEC.

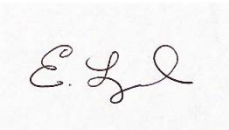
2. Prepare a Corrective Action Plan (CAP) that addresses regulated soil and regulated building materials (RBMs) that require corrective action.

5. SIGNATURES & CERTIFICATION

This report has been prepared by the employees of Atlas Technical Consultants, LLC whose signatures appear below. Requests for information on the contents of this report should be directed to these individuals.

I certify under penalty of perjury that I am an environmental professional and that all content contained within this deliverable is to the best of my knowledge true and correct.

Respectfully submitted,
Atlas Technical Consultants LLC



Emma Lyford
Staff Scientist



Joseph Hayes
Operations Manager

Attachments

FIGURES

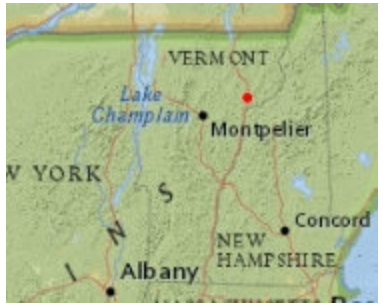
VERMONT

Figure 1 - Vicinity Map

Vermont Agency of Natural Resources

vermont.gov





LEGEND

- Rare Threatened Endangered
  - Threatened or Endangered
  - Rare
- Wetland - VSWI
  - Class 1 Wetland
  - Class 2 Wetland
  - Buffer
- Wetlands Advisory Layer
- Hazardous Site
- Hazardous Waste Generators
- Brownfields
- Salvage Yard
- Aboveground Storage Tank
- Underground Storage Tank (w
- Dry Cleaner
- Private Wells
  - GPS Located
  - Screen Digitized
  - E911 Address Matched
  - Welldriller/Clarion
  - Unknown Location Method
  - Incorrectly Located
- Public Water Sources
  - Active
  - Proposed
  - Inactive
- Ground Water SPA

NOTES

Former St. Johnsbury Armory
1249 Main St, St Johnsbury, VT
VTDEC Site #2012-4326

247.0 0 124.00 247.0 Meters

WGS_1984_Web_Mercator_Auxiliary_Sphere 1" = 406 Ft. 1cm = 49 Meters

© Vermont Agency of Natural Resources

THIS MAP IS NOT TO BE USED FOR NAVIGATION

DISCLAIMER: This map is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. ANR and the State of Vermont make no representations of any kind, including but not limited to, the warranties of merchantability, or fitness for a particular use, nor are any such warranties to be implied with respect to the data on this map.

LEGEND:

- MW-1 — MONITORING WELL (Well Identification)
- SB-13 — SOIL BORING (Boring Identification)
- SITE PROPERTY LINE
- PARCEL LINE
- FENCE
- STORM SEWER
- SANITARY SEWER
- OVERHEAD UTILITY
- WATER LINE
- MANHOLE
- SHUT OFF VALVE
- UTILITY POLE
- FIRE HYDRANT
- AIR CONDITIONER
- CATCH BASIN

NOTE: ALL LOCATIONS ARE APPROXIMATE

Grace United Methodist Church
36 Central Street

St. Andrew's Episcopal Church
1265 Main Street

Kozlowski Dentistry Building
1229 Main Street

Passumpsic Financial Advisors
1236 Main Street

Fashion Flair Beauty Salon
1230 Main Street

SITE

MW-1, MW-2, MW-3, SB-1, SB-2, SB-3, SB-4, SB-4a, SB-6, SB-6a, SB-7, SB-9, SB-9a, SB-10, SB-12, SB-13, SB-14

MAIN STREET

CENTRAL STREET

N

0 10 20 30

SCALE: 1" = 30'

SITE MAP

FORMER ST. JOHNSBURY ARMORY
1249 MAIN STREET
ST. JOHNSBURY, VERMONT

Project Number:	280EM00946
Date:	10/04/2022
Drn. By:	DH
Ckd. By:	EU
Scale:	AS SHOWN
Figure:	2

H:\2022\1 OTHER OFFICES\VERMONT\ST. JOHNSBURY\280EM00946-SITE.DWG, FIG2

LEGEND:

- MW-1 — MONITORING WELL (Well Identification)
- SB-13 — SOIL BORING (Boring Identification)
- SITE PROPERTY LINE
- PARCEL LINE
- FENCE
- STORM SEWER
- SANITARY SEWER
- OVERHEAD UTILITY
- WATER LINE
- MANHOLE
- SHUT OFF VALVE
- UTILITY POLE
- FIRE HYDRANT
- AIR CONDITIONER
- CATCH BASIN

214 = POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs) REPORTED AS BENZO(a)PYRENE (BaP) TOXICITY EQUIVALENCE QUOTIENT (TEQ) IN MILLIGRAMS PER KILOGRAM (mg/kg) IN SURFACE SOILS (0-18").
GREEN VALUES ARE BELOW VERMONT SOIL STANDARD (VVS) RESIDENT (0.70 mg/kg)
BLUE VALUES ARE ABOVE VSS RESIDENT (0.07 mg/kg)
ORANGE VALUES ARE ABOVE URBAN BACKGROUND (0.58 mg/kg)
RED VALUES ARE ABOVE VSS NON-RESIDENT (1.54 mg/kg)

St. Andrew's Episcopal Church
1265 Main Street

Grace United Methodist Church
36 Central Street

Site

MW-1
SB-13
ND<0.24(0-1.5')
SB-14
ND<0.24(0-1.5')
SB-1
ND<0.21(0-1.5')
SB-2
ND<0.21(0-1.5')
SB-12
ND<0.24(0-1.5')
SB-4a
SB-4
3.3(0-1.5')
0.138(2-3.5')
SB-10
ND<0.24(0-1.5')
MW-3
MW-2
SB-9a
SB-9
24(0-1.5')
0.023(2.5-3.5')
SB-3
0.40(0-1.5')
SB-6a
SB-6
0.60(0-1.5')
0.061(2.5-3.5')
SB-7
0.23(0-1.5')

MAIN STREET
CENTRAL STREET

Passumpsic Financial Advisors
1236 Main Street

Fashion Flair Beauty Salon
1230 Main Street

N

0 10 20 30
SCALE: 1" = 30'

CONTAMINANT DISTRUIBUTION MAP - PAHs IN SOIL

FORMER ST. JOHNSBURY ARMORY
1249 MAIN STREET
ST. JOHNSBURY, VERMONT

Project Number: 280EM00946	
Date: 10/06/2022	
Drn. By: DH	Ckd. By: EU
Scale: AS SHOWN	
Figure: 3	

H:\2022\1 OTHER OFFICES\VERMONT\ST. JOHNSBURY\280EM00946-PAH.DWG, FIG3

LEGEND:

- MW-1 — MONITORING WELL (Well Identification)
- SB-13 — SOIL BORING (Boring Identification)
- SITE PROPERTY LINE
- PARCEL LINE
- FENCE
- STORM SEWER
- SANITARY SEWER
- OVERHEAD UTILITY
- WATER LINE
- MANHOLE
- SHUT OFF VALVE
- UTILITY POLE
- FIRE HYDRANT
- AIR CONDITIONER
- CATCH BASIN

105 = LEAD CONCENTRATION IN SOIL IN MILLIGRAMS PER KILOGRAM (mg/kg).
GREEN VALUES ARE BELOW RCRA "RULE OF 20" (100 mg/kg)
BLUE VALUES EXCEED RCRA "RULE OF 20" (100 mg/kg)
ORANGE VALUES ARE ABOVE VERMONT SOIL STANDARDS FOR RESIDENT SOILS (VSS-R, 400 mgkg)
RED VALUES ARE ABOVE VSS FOR NON-RESIDENTIAL SOILS (VSS-NR, 800 mg/kg)
COMPOSITE SAMPLES WERE COLLECTED IN MAY 2021 BY EVERGREEN ON BEHALF OF VERMONT HOUSING AND CONSERVATION BOARD (VHCB). SOIL BORINGS COMPLETED BY ATC IN AUGUST 2021.

MW-1
SB-13
9.3(0-1.5')
SB-14
290(0-1.5')
SB-1
20(0-1.5')
SB-2
26(0-1.5')
SB-4a
SB-4
160(0-1.5')
SB-3
24(0-1.5')
SB-6a
SB-6
110(0-1.5')
SB-7
28(0-1.5')
SB-12
260(0-1.5')
SB-10
23(0-1.5')
MW-3
MW-2
SB-9a
SB-9
730(0-1.5')
20.5(2.5-3.5')
MAIN STREET
CENTRAL STREET

N
0 10 20 30
SCALE: 1" = 30'

CONTAMINANT DISTRIUBUTION MAP - LEAD IN SOIL

FORMER ST. JOHNSBURY ARMORY
1249 MAIN STREET
ST. JOHNSBURY, VERMONT

Project Number: 280EM00946	
Date: 10/06/2022	
Drn. By: DH	Ckd. By: EU
Scale: AS SHOWN	
Figure: 4	

H:\2022\1 OTHER OFFICES\VERMONT\ST. JOHNSBURY\280EM00946-PB.DWG, FIG4

TABLES

TABLE 1
SOIL QUALITY RESULTS - POLYCYCLIC AROMATIC HYDROCARBONS
FORMER ST JOHNSBURY ARMORY, ST JOHNSBURY, VT

Compound	BaP TEQ	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene (BaP)	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	2-Methylnaphthalene	Naphthalene	Phenanthrene	Pyrene
VSS Resident	0.07	NS	NS	NS	NS	TEQ	NS	NS	NS	NS	NS	2,301	2,301	NS	NS	2.7	NS	NS
Urban Background	0.58	NS	NS	NS	NS	TEQ	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
VSS Non-Resident	1.54	NS	NS	NS	NS	TEQ	NS	NS	NS	NS	NS	26,371	26,371	NS	NS	16	NS	NS
BaP TEF	--	--	--	--	0.1	1	0.1	--	0.01	0.01	1	--	--	0.1	--	--	--	--
Sample ID:	**Sample Depth (fbgs):**	**Sample Date:**																
SB-1	0-1.5	04/25/22	ND<0.21	ND<0.18	ND<0.18	ND<0.18	ND<0.18	ND<0.18	ND<0.18	ND<0.18	ND<0.18	ND<0.18	ND<0.18	ND<0.18	ND<0.18	ND<0.18	ND<0.18	ND<0.18	ND<0.18	ND<0.18
SB-2	0-1.5	04/25/22	ND<0.21	ND<0.18	ND<0.18	ND<0.18	ND<0.18	ND<0.18	ND<0.18	ND<0.18	ND<0.18	ND<0.18	ND<0.18	ND<0.18	ND<0.18	ND<0.18	ND<0.18	ND<0.18	ND<0.18	ND<0.18
SB-3	0-1.5	04/25/22	**0.40**	ND<0.18	ND<0.18	ND<0.18	**0.19**	**0.24**	**0.31**	ND<0.18	ND<0.18	**0.23**	ND<0.18	**0.37**	ND<0.18	ND<0.18	ND<0.18	ND<0.18	**0.20**	**0.38**
SB-4	0-1.5	04/25/22	**3.3**	ND<0.19	ND<0.19	**0.64**	**2.4**	**2.3**	**2.8**	**1.0**	**1.1**	**2.3**	**0.36**	**4.8**	ND<0.19	**1.3**	ND<0.19	ND<0.19	**2.8**	**3.6**
SB-4a	2-3.5	09/20/22	**0.138**	ND<0.012	ND<0.018	ND<0.022	**0.075**	**0.0737**	**0.0854**	**0.0387**	**0.0339 J**	**0.0756**	**0.0393**	**0.149**	ND<0.016	**0.077**	NA	ND<0.010	**0.0758**	**0.123**
SB-6	0-1.5	04/25/22	**0.60**	ND<0.20	ND<0.20	ND<0.20	**0.34**	**0.38**	**0.49**	**0.23**	ND<0.20	**0.38**	ND<0.20	**0.77**	ND<0.20	**0.34**	ND<0.20	ND<0.20	**0.53**	**0.63**
SB-6a	2.5-3.5	09/20/22	**0.061**	ND<0.012	ND<0.018	ND<0.022	**0.0342 J**	**0.039**	**0.0506**	**0.0289 J**	**0.0169 J**	**0.0356**	ND<0.015	**0.0621**	ND<0.016	**0.0598**	NA	ND<0.0098	**0.0247 J**	**0.0539**
SB-7	0-1.5	04/25/22	**0.23**	ND<0.18	ND<0.18	ND<0.18	ND<0.18	ND<0.18	**0.21**	ND<0.18	ND<0.18	ND<0.18	ND<0.18	**0.28**	ND<0.18	**0.20**	ND<0.18	ND<0.18	ND<0.18	**0.23**
SB-9	0-1.5	04/25/22	**24**	**6.8**	**0.21**	**15**	**19**	**16**	**19**	**7.2**	**7.0**	**17**	**2.7**	**49**	**7.1**	**9.9**	**2.9**	**4.4**	**58**	**38**
SB-9a	2.5-3.5	09/20/22	**0.023**	ND<0.012	ND<0.018	ND<0.021	**0.0126 J**	ND<0.016	**0.0150 J**	ND<0.017	ND<0.016	**0.0127 J**	ND<0.015	**0.0208 J**	ND<0.016	**0.0416**	NA	ND<0.0098	ND<0.012	**0.0177 J**
SB-10	0-1.5	04/25/22	ND<0.24	ND<0.21	ND<0.21	ND<0.21	ND<0.21	ND<0.21	ND<0.21	ND<0.21	ND<0.21	ND<0.21	ND<0.21	ND<0.21	ND<0.21	ND<0.21	ND<0.21	ND<0.21	ND<0.21	ND<0.21
SB-12	0-1.5	04/25/22	ND<0.24	ND<0.21	ND<0.21	ND<0.21	ND<0.21	ND<0.21	ND<0.21	ND<0.21	ND<0.21	ND<0.21	ND<0.21	ND<0.21	ND<0.21	ND<0.21	ND<0.21	ND<0.21	ND<0.21	ND<0.21
SB-13	0-1.5	04/25/22	ND<0.23	ND<0.20	ND<0.20	ND<0.20	ND<0.20	ND<0.20	ND<0.20	ND<0.20	ND<0.20	ND<0.20	ND<0.20	ND<0.20	ND<0.20	ND<0.20	ND<0.20	ND<0.20	ND<0.20	ND<0.20
SB-14	0-1.5	04/25/22	ND<0.23	ND<0.20	ND<0.20	ND<0.20	ND<0.20	ND<0.20	ND<0.20	ND<0.20	ND<0.20	ND<0.20	ND<0.20	ND<0.20	ND<0.20	ND<0.20	ND<0.20	ND<0.20	ND<0.20	ND<0.20
QA/QC Samples:																				
Duplicate (SB-9)	2.5-3.5	09/20/22	**0.024**	ND<0.014	ND<0.021	ND<0.025	**0.0200 J**	ND<0.018	**0.0244 J**	ND<0.020	ND<0.019	**0.0183 J**	ND<0.018	**0.0353 J**	ND<0.019	ND<0.019	ND<0.018	ND<0.011	**0.0286 J**	**0.0306 J**
		RPD	4%	--	--	--	45%	--	48%	--	--	36%	--	52%	--	--		--	--	53%

NOTES:
All results provided in milligrams per kilogram (mg/kg) or parts per million (ppm), analyzed by EPA Method 8270
Bold values indicate detections
NE = not encountered
VSS = Vermont Soil Standards (IRULE, July 2019)
TEF = Toxicity Equivalency Factor, TEQ = Toxicity Equivalency Quotient
BaP TEQ values were calculated from select PAH analyical concentrations as shown multiplied by the corresponding TEF and summed
TEF compounds that are non-detect were estimated based on half of the provided laboratory limit
BaP TEQ values are compared to VSS for Resident Soils, Non-Resident Soils and Urban Background Values
Green shaded values are below Resident Values
Blue shaded values indicate exceedance of Resident Values
Orange shaded values indicate exceedance of Urban Background Values
Red shaded values indicate exceedance of Non-Resident Values
ND = not detected above stated method detection limit (MDL)
NS = no standard available
NA = not analyzed
J = estimated value below laboratory reporting limit (RL)
fbgs = feet below ground surface
RPD = relative percent difference

TABLE 2
SOIL QUALITY RESULTS - PCBs
FORMER ST JOHNSBURY ARMORY, ST JOHNSBURY, VT

Analyte			Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	Arochlor 1262	Arochlor 1268
Sample ID:	**Depth (fbgs):**	**Date:**									
SB-1	0-1.5	04/25/22	ND<0.081	ND<0.081	ND<0.081	ND<0.081	ND<0.081	ND<0.081	ND<0.081	ND<0.081	ND<0.081
SB-2	0-1.5	04/25/22	ND<0.082	ND<0.082	ND<0.082	ND<0.082	ND<0.082	ND<0.082	ND<0.082	ND<0.082	ND<0.082
SB-3	0-1.5	04/25/22	ND<0.084	ND<0.084	ND<0.084	ND<0.084	ND<0.084	ND<0.084	ND<0.084	ND<0.084	ND<0.084
SB-4	0-1.5	04/25/22	ND<0.092	ND<0.092	ND<0.092	ND<0.092	ND<0.092	ND<0.092	ND<0.092	ND<0.092	ND<0.092
SB-6	0-1.5	04/25/22	ND<0.094	ND<0.094	ND<0.094	ND<0.094	ND<0.094	ND<0.094	ND<0.094	ND<0.094	ND<0.094
SB-7	0-1.5	04/25/22	ND<0.083	ND<0.083	ND<0.083	ND<0.083	ND<0.083	ND<0.083	ND<0.083	ND<0.083	ND<0.083
SB-9	0-1.5	04/25/22	ND<0.087	ND<0.087	ND<0.087	ND<0.087	ND<0.087	ND<0.087	ND<0.087	ND<0.087	ND<0.087
SB-10	0-1.5	04/25/22	ND<0.095	ND<0.095	ND<0.095	ND<0.095	ND<0.095	ND<0.095	ND<0.095	ND<0.095	ND<0.095
SB-12	0-1.5	04/25/22	ND<0.096	ND<0.096	ND<0.096	ND<0.096	ND<0.096	ND<0.096	ND<0.096	ND<0.096	ND<0.096
SB-13	0-1.5	04/25/22	ND<0.092	ND<0.092	ND<0.092	ND<0.092	ND<0.092	ND<0.092	ND<0.092	ND<0.092	ND<0.092
SB-14	0-1.5	04/25/22	ND<0.090	ND<0.090	ND<0.090	ND<0.090	ND<0.090	ND<0.090	ND<0.090	ND<0.090	ND<0.090

NOTES:
Polychlorinated biphenyls (PCBs) soil quality results, provided in mg/kg = milligrams per kilogram, analyzed by EPA Method 8082 w/soxhlet extractio
Bold values indicate detections
VSS = Vermont Soil Standards (IRULE, July 2019)
Blue shaded values indicate exceedance of VSS Resident Values (VSS-R) = 0.144 mg/kg
Orange shaded values indicate exceedance of VSS Non-Resident Values (VSS-NR) = 0.68 mg/kg
Red shaded values indicate exceedance of EPA High Occupancy Cleanup Standards (EPA-HOCS) = 1.0 mg/kg
ND = not detected above provided detection limit
fbgs = feet below ground surface

TABLE 3
SOIL QUALITY RESULTS - METALS
FORMER ST JOHNSBURY ARMORY, ST JOHNSBURY, VT

			Analyte	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver
			VSS Resident	16	11,247	6.9	40,223	400	3.1	366	237
			VSS Non-Resident	16	127,382	87	360,223	800	3.1	4,900	2,483
Sample ID:	**Depth (fbgs):**	**Date:**									
SB-1	0-1.5	04/25/22		ND<3.3	**45**	ND<0.33	**15**	**20**	**0.043**	ND<3.3	ND<0.33
SB-2	0-1.5	04/25/22		ND<3.3	**39**	ND<0.33	**17**	**26**	**0.079**	ND<3.3	ND<0.33
SB-3	0-1.5	04/25/22		ND<3.6	**24**	ND<0.36	**17**	**24**	**0.097**	ND<3.6	ND<0.36
SB-4	0-1.5	04/25/22		ND<3.7	**64**	ND<0.37	**12**	**160**	**0.54**	ND<3.7	ND<0.37
SB-6	0-1.5	04/25/22		ND<3.8	**60**	ND<0.38	**17**	**110**	**0.18**	ND<3.8	ND<0.38
SB-7	0-1.5	04/25/22		ND<3.4	**30**	ND<0.34	**13**	**28**	ND<0.027	ND<3.4	ND<0.34
SB-9	0-1.5	04/25/22		**4.7**	**35**	ND<0.36	**13**	**730**	**0.36**	ND<3.6	ND<0.36
SB-9a	2.5-3.5	09/20/22		NA	NA	NA	NA	**20.5**	NA	NA	NA
SB-10	0-1.5	04/25/22		ND<4.0	**58**	**1.0**	**11**	**23**	**0.099**	ND<4.0	ND<0.40
SB-12	0-1.5	04/25/22		ND<3.9	**48**	ND<0.39	**12**	**260**	**0.33**	ND<3.9	ND<0.39
SB-13	0-1.5	04/25/22		ND<3.9	**38**	ND<0.39	**21**	**9.3**	**0.048**	ND<3.9	ND<0.39
SB-14	0-1.5	04/25/22		ND<3.7	**120**	**0.50**	**14**	**290**	**0.98**	ND<3.7	**0.93**

NOTES:
All results provided in milligrams per kilogram (mg/kg) or parts per million (ppm)
All samples analyzed by EPA Methods 6010/7470
Bold values indicate detections
VSS = Vermont Soil Standards (IRULE, July 2019)
Blue shaded values indicate exceedance of Resident Values
Red shaded values indicate exceedance of Non-Resident Values
ND = not detected above provided detection limit
NA = not analyzed
fbgs = feet below ground surface
RPD = relative percent difference

Table 4
Soil Vapor Analytical Results
Former St Johnsbury Armory

		Sample Location	MW-1	MW-2	MW-3
		Sample date:	5/4/2022	5/4/2022	5/4/2022
		Sample method:	Vapor Implant	Vapor Implant	Vapor Implant
		PID:	0.1	0.2	0.6
		Sample elevation:	198	201.5	192.6
Compound	**VIS Resident**	**VIS Non-resident**			
Tetrachloroethene (PCE)	**21**	**170**	9.20	6.6	9.5
Trichloroethene (TCE)	**6.7**	**23**	ND<1.1	ND<1.1	ND<1.1
cis-1,2-Dichloroethene	**NS**	**NS**	ND<0.79	ND<0.79	ND<0.79
trans-1,2-Dichloroethene	**NS**	**NS**	ND<0.79	ND<0.79	ND<0.79
Vinyl chloride	**3.7**	**62**	ND<0.51	ND<0.51	ND<0.51
Carbon tetrachloride	**5.7**	**45**	ND<1.3	ND<1.3	ND<1.3
Chloroform	**1.3**	**12**	ND<0.98	ND<0.98	ND<0.98
Benzene	**4.3**	**35**	1.0	1.9	1.5
Chloroethane	**330,000**	**1,200,000**	ND<0.53	ND<0.53	ND<0.53
Methylene chloride	**3,400**	**41,000**	7.3	ND<6.9	ND<6.9

Notes:

All samples analyzed by EPA method TO-15, reported in micrograms per cubic meter (ug/m3)

2019 Vermont Vapor Intrusion Standards (VIS) are from Appendix A of

the Investigation and Remediation of Contaminated Properties Rule, July 2019; residential and industrial subslab soil gas

Green shaded values exceed VIS resident and red shaded values exceed VIS Non-resident

BRL = Not detect at or above stated laboratory reporting limit samples in ug/m3

Italicized values indicate report limit exceeds VIS

ND=Not detected at or above reportinglimit (RL)

APPENDIX A
PHOTO LOG
FIELDNOTES/BORING LOGS

Atlas Technical Consultants, LLC 51 Knight Lane Williston, VT 04595	**PHOTOGRAPHS**	ATLAS
Client Name: Stantec	**Site Location:** *Saint Johnsbury Armory* *1249 Main Street,* *Saint Johnsbury, Vermont*	**Atlas Project #:** *280EM00860*

Photograph #1	
Description: *Drill rig set up on MW-1.*	

Photograph #2	
Description: *Native sand located approximately 2 to 3 fbgs.*	

Atlas Technical Consultants, LLC
51 Knight Lane
Williston, VT 04595

PHOTOGRAPHS

Client Name:	Site Location:	Atlas Project #:
Stantec	*Saint Johnsbury Armory* *1249 Main Street,* *Saint Johnsbury, Vermont*	*280EM00860*

Photograph #3	
Description: *Completed MW-3.*	

Photograph #4	
Description: *Front of the site, near SB-4.*	

280BS00

E.L. on site 805am
40° cloudy
Soil boring & mw oversight
4.25.22

800am - E.L. looked over site utilities marked by Tyler Button, and adjusted SBs & MWs accordingly.
825am - CASCADE on site
830 am - ~~ber~~ tailgate mtg w/ NICK & Chris from CASCADE.
900 am - begin SB (Calibrate PID photocheck TIGER#2)
↳ only enough material for 2 SVPs.

	depth	time
SB-13	3.0	915
SB-12		930
SB-14		945
SB-1		1000
SB 2		1015
SB-4		1035
SB-3		1045
SB 6		1110
SB-7		1120
SB-9		1130
SB-10		1145
SVP-1	20.0	
SVP-2	20.0	
SVP-3	20.0	

EL off Site 4pm

Scale: 1 square = _____

ATLAS

51 KNIGHT LANE
WILLISTON, VERMONT 05495
(802) 862-1980
(737) 207-8272 - FAX

BORING / WELL IDENTIFICATION: SVP-1

SITE NAME:	St. J. Armory
SITE LOCATION:	1249 Main St St. J. VT
INSTALLATION DATE:	4.26.22
JOB NUMBER:	280 EM00860
ATLAS REPRESENTATIVE:	Emma L.
DRILLING COMPANY:	CASCADE
SAMPLING METHOD:	DPT
REFERENCE POINT (RP):	
ELEVATION OF RP:	

WELL DEPTH:		BORING DEPTH:	20.0'
DEPTH TO WATER (DURING DRILLING):			
SCREEN DIAMETER:		DEPTH:	
SCREEN TYPE/SIZE:			
RISER DIAMETER:		DEPTH:	
RISER TYPE/SIZE:			
REMARKS:			

DEPTH (IN FEET)	RECOVERY (FT)	SAMPLE DESCRIPTION AND NOTES	STRATA CHANGE	PID (PPM)	WELL PROFILE
0		6" gravel base		0.0	
1		d. br. silty sand w/ trace gravel		0.0	
2	2/5			0.0	
3				0.0	
4				0.0	
5				0.0	
6		br. med sand trace silt		0.0	
7	4/5	br. silt (wet)		0.0	
8				0.0	
9				0.0	
10		l. br-grey fine sand (DRY)		0.0	
11		br. med. sand, trace fine sand		0.0	
12	3.5/5			0.0	
13				0.0	
14				0.0	
15				0.0	
16				0.0	
17	4/5			0.0	
18		br. fine sand, trace silt		0.0	
19				0.0	
20					

LEGEND: Concrete; Native; Bentonite; Filter Sand; Riser; Screen; Water level

PROPORTIONS USED		BLOW COUNT (COHESIVE SOILS)		BLOW COUNT (GRANULAR SOILS)	
AND	33-50%	<2	VERY SOFT	0-4	VERY LOOSE
SOME	20-33%	2-4	SOFT	4-10	LOOSE
LITTLE	10-20%	4-8	MEDIUM STIFF	10-30	MEDIUM DENSE
TRACE	0-10%	8-15	STIFF	30-50	DENSE
		15-30	VERY STIFF	>50	VERY DENSE
		>30	HARD		

Notes

PID used IonScience Tiger

SHC - KOGIISOUS SOUS SOIL

ATLAS

51 KNIGHT LANE
WILLISTON, VERMONT 05495
(802) 862-1980
(737) 207-8272 - FAX

BORING / WELL IDENTIFICATION: SVP - 2

SITE NAME:	St. J. Armory
SITE LOCATION:	1249 Main St St. J VT
INSTALLATION DATE:	4.25.22
JOB NUMBER:	280EM00860

WELL DEPTH:		BORING DEPTH:	20.0	ATLAS REPRESENTATIVE:	Emma L.
DEPTH TO WATER (DURING DRILLING):				DRILLING COMPANY:	CASCADE
SCREEN DIAMETER:		DEPTH:		SAMPLING METHOD:	DPT
SCREEN TYPE/SIZE:				REFERENCE POINT (RP):	
RISER DIAMETER:		DEPTH:		ELEVATION OF RP:	
RISER TYPE/SIZE:					
REMARKS:					

DEPTH (IN FEET)	RECOVERY (FT)	SAMPLE DESCRIPTION AND NOTES	STRATA CHANGE	PID (PPM)	WELL PROFILE
0		d. br. silty sand w/gravel		0.0	
1		med. br med. sand w/ coarse sand		0.0	
2	3/5	and trace fine sand		0.0	
3				0.0	
4				0.0	
5				0.0	
6				0.0	
7	4/5	l. br. fine sand w/ trace med sand		0.0	
8				0.0	
9				0.0	
10				0.0	
11				0.0	
12	3/5			0.0	
13		d. br. silt layer (wet) ~4"		0.0	
14		l. grey fine sand (DRY)		0.0	
15				0.0	
16				0.0	
17	4.5/5			0.0	
18				0.0	
19				0.0	
20					

LEGEND: Concrete; Native; Bentonite; Filter Sand; Riser; Screen; Water level

PROPORTIONS USED		BLOW COUNT (COHESIVE SOILS)		BLOW COUNT (GRANULAR SOILS)		Notes
AND	33-50%	<2	VERY SOFT	0-4	VERY LOOSE	PID used IonScience Tiger
SOME	20-33%	2-4	SOFT	4-10	LOOSE	
LITTLE	10-20%	4-8	MEDIUM STIFF	10-30	MEDIUM DENSE	
TRACE	0-10%	8-15	STIFF	30-50	DENSE	
		15-30	VERY STIFF	>50	VERY DENSE	
		>30	HARD			

BORING / WELL IDENTIFICATION:

ATLAS

51 KNIGHT LANE
WILLISTON, VERMONT 05495
(802) 862-1980
(737) 207-8272 - FAX

BORING / WELL IDENTIFICATION: SVP-3

SITE NAME:	St. J Armory
SITE LOCATION:	1249 Main St St J VT
INSTALLATION DATE:	4.25.22
JOB NUMBER:	280EM00860
ATLAS REPRESENTATIVE:	Emma L.
DRILLING COMPANY:	CASCADE
SAMPLING METHOD:	DPT
REFERENCE POINT (RP):	
ELEVATION OF RP:	

WELL DEPTH:		BORING DEPTH:	20.0'
DEPTH TO WATER (DURING DRILLING):			
SCREEN DIAMETER:		DEPTH:	
SCREEN TYPE/SIZE:			
RISER DIAMETER:		DEPTH:	
RISER TYPE/SIZE:			
REMARKS:			

DEPTH (IN FEET)	RECOVERY (FT)	SAMPLE DESCRIPTION AND NOTES	STRATA CHANGE	PID (PPM)	SVP WELL PROFILE	LEGEND
0		d. br. silty sand w/gravel		0.0		Concrete
1		br. coarse sand, trace fine gravel		0.0		Native
2	5/5	l. br. fine sand		0.0		Bentonite
3				0.0		
4				0.0		Filter Sand
5				0.0		
6				0.0		Riser
7	4.5/5			0.0		Screen
8				0.0		
9				0.0		Water level
10				0.0		
11				0.0		
12	3.5/5	d. br. wet silt		0.0		hydrated bentonite
13		very light br/grey fine sand (DRY)		0.0		
14				0.0		
15				0.0		
16				0.0		
17	4.5/5			0.0		
18				0.0		
19				0.0		
20				0.0		6" of media

PROPORTIONS USED		BLOW COUNT (COHESIVE SOILS)		BLOW COUNT (GRANULAR SOILS)		Notes
AND	33-50%	<2	VERY SOFT	0-4	VERY LOOSE	PID used IonScience Tiger
SOME	20-33%	2-4	SOFT	4-10	LOOSE	
LITTLE	10-20%	4-8	MEDIUM STIFF	10-30	MEDIUM DENSE	
TRACE	0-10%	8-15	STIFF	30-50	DENSE	
		15-30	VERY STIFF	>50	VERY DENSE	
		>30	HARD			

ATLAS

51 KNIGHT LANE
WILLISTON, VERMONT 05495
(802) 862-1980
(737) 207-8272 - FAX

BORING / WELL IDENTIFICATION: SB-1

SITE NAME:	St. J Armory
SITE LOCATION:	1249 main st St J VT
INSTALLATION DATE:	4.25.22 / 1000
JOB NUMBER:	280 BS

WELL DEPTH:	/	BORING DEPTH:	3.0'	ATLAS REPRESENTATIVE:	Emma L
DEPTH TO WATER (DURING DRILLING):				DRILLING COMPANY:	CASCADE
SCREEN DIAMETER:	/	DEPTH:	/		
SCREEN TYPE/SIZE:	/			SAMPLING METHOD:	DPT
RISER DIAMETER:	/	DEPTH:	/	REFERENCE POINT (RP):	
RISER TYPE/SIZE:	/			ELEVATION OF RP:	
REMARKS:	/				

DEPTH (IN FEET)	RECOVERY (FT)	SAMPLE DESCRIPTION AND NOTES	STRATA CHANGE	PID (PPM)	WELL PROFILE
0		6" grey gravel base		0.0	
1	3/3	d. br silty sand w/ trace fine gravel		0.0	
2		↓		0.0	
3				0.0	
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

LEGEND
- Concrete
- Native
- Bentonite
- Filter Sand
- Riser
- Screen
- Water level

PROPORTIONS USED
- AND 33-50%
- SOME 20-33%
- LITTLE 10-20%
- TRACE 0-10%

BLOW COUNT (COHESIVE SOILS)

<2	VERY SOFT
2-4	SOFT
4-8	MEDIUM STIFF
8-15	STIFF
15-30	VERY STIFF
>30	HARD

BLOW COUNT (GRANULAR SOILS)

0-4	VERY LOOSE
4-10	LOOSE
10-30	MEDIUM DENSE
30-50	DENSE
>50	VERY DENSE

Notes:

PID used: IonScience Tiger

ATLAS

51 KNIGHT LANE
WILLISTON, VERMONT 05495
(802) 862-1980
(737) 207-8272 - FAX

BORING / WELL IDENTIFICATION: SB-2

SITE NAME:	St. J. Armory
SITE LOCATION:	1249 Main st. St. J. VT
INSTALLATION DATE:	4.25.22
JOB NUMBER:	280 EM00860
ATLAS REPRESENTATIVE:	Emma L.
DRILLING COMPANY:	CASCADE
SAMPLING METHOD:	DPT
REFERENCE POINT (RP):	
ELEVATION OF RP:	

WELL DEPTH:		BORING DEPTH:	30'
DEPTH TO WATER (DURING DRILLING):			
SCREEN DIAMETER:		DEPTH:	
SCREEN TYPE/SIZE:			
RISER DIAMETER:		DEPTH:	
RISER TYPE/SIZE:			
REMARKS:			

DEPTH (IN FEET)	RECOVERY (FT)	SAMPLE DESCRIPTION AND NOTES	STRATA CHANGE	PID (PPM)	WELL PROFILE	LEGEND
0		6" l. grey gravel base		0.0		Concrete
1	3/3	d. br silty sand w/ trace gravel ↓		0.0		Native
2		l. br - orange fine - medium sand		0.0		Bentonite
3						Filter Sand
4						Riser
5						Screen
6						Water level
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

PROPORTIONS USED	
AND	33-50%
SOME	20-33%
LITTLE	10-20%
TRACE	0-10%

BLOW COUNT (COHESIVE SOILS)	
<2	VERY SOFT
2-4	SOFT
4-8	MEDIUM STIFF
8-15	STIFF
15-30	VERY STIFF
>30	HARD

BLOW COUNT (GRANULAR SOILS)	
0-4	VERY LOOSE
4-10	LOOSE
10-30	MEDIUM DENSE
30-50	DENSE
>50	VERY DENSE

Notes

PID used IonScience Tiger

ATLAS

51 KNIGHT LANE
WILLISTON, VERMONT 05495
(802) 862-1980
(737) 207-8272 - FAX

BORING / WELL IDENTIFICATION: SB-3

SITE NAME:	St. J. Armory
SITE LOCATION:	1249 Main St St. J. VT
INSTALLATION DATE:	4.25.22
JOB NUMBER:	280EM00060
ATLAS REPRESENTATIVE:	Emma L
DRILLING COMPANY:	CASCADE
SAMPLING METHOD:	DPT
REFERENCE POINT (RP):	
ELEVATION OF RP:	

WELL DEPTH:	N/A	BORING DEPTH:	3.0'
DEPTH TO WATER (DURING DRILLING):			
SCREEN DIAMETER:		DEPTH:	
SCREEN TYPE/SIZE:			
RISER DIAMETER:		DEPTH:	
RISER TYPE/SIZE:			
REMARKS:			

DEPTH (IN FEET)	RECOVERY (FT)	SAMPLE DESCRIPTION AND NOTES	STRATA CHANGE	PID (PPM)	WELL PROFILE
0		d. br. Topsoil, brick pieces		0.0	
1	3/3	L br fine - medium sand		0.0	
2		d. br fine dense sand		0.0	
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

LEGEND
- Concrete
- Native
- Bentonite
- Filter Sand
- Riser
- Screen
- Water level

PROPORTIONS USED
- AND 33-50%
- SOME 20-33%
- LITTLE 10-20%
- TRACE 0-10%

BLOW COUNT (COHESIVE SOILS)
- <2 VERY SOFT
- 2-4 SOFT
- 4-8 MEDIUM STIFF
- 8-15 STIFF
- 15-30 VERY STIFF
- >30 HARD

BLOW COUNT (GRANULAR SOILS)
- 0-4 VERY LOOSE
- 4-10 LOOSE
- 10-30 MEDIUM DENSE
- 30-50 DENSE
- >50 VERY DENSE

Notes
PID used IonScience Tiger

Quick Stop 2022

BORING / WELL IDENTIFICATION: SB-4

ATLAS
51 KNIGHT LANE
WILLISTON, VERMONT 05495
(802) 862-1980
(737) 207-8272 - FAX

SITE NAME:	St. J. Armory
SITE LOCATION:	1249 Main St St. J VT
INSTALLATION DATE:	4.25.22
JOB NUMBER:	280 EM00860
ATLAS REPRESENTATIVE:	Emma L.
DRILLING COMPANY:	CASCADE
SAMPLING METHOD:	DPT
REFERENCE POINT (RP):	
ELEVATION OF RP:	

WELL DEPTH:		BORING DEPTH:	3.0'
DEPTH TO WATER (DURING DRILLING):		DEPTH:	
SCREEN DIAMETER:			
SCREEN TYPE/SIZE:		DEPTH:	
RISER DIAMETER:			
RISER TYPE/SIZE:			
REMARKS:			

DEPTH (IN FEET)	RECOVERY (FT)	SAMPLE DESCRIPTION AND NOTES	STRATA CHANGE	PID (PPM)	WELL PROFILE
0		d. br Topsoil w/ gravel		0.0	
1		d. br silty sand w/ gravel (brick pieces)		0.0	
2		l. br fine sand trace med. sand ▼		0.0	
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

LEGEND
- Concrete
- Native
- Bentonite
- Filter Sand
- Riser
- Screen
- Water level ▼

PROPORTIONS USED
- AND 33-50%
- SOME 20-33%
- LITTLE 10-20%
- TRACE 0-10%

BLOW COUNT (COHESIVE SOILS)
- <2 VERY SOFT
- 2-4 SOFT
- 4-8 MEDIUM STIFF
- 8-15 STIFF
- 15-30 VERY STIFF
- >30 HARD

BLOW COUNT (GRANULAR SOILS)
- 0-4 VERY LOOSE
- 4-10 LOOSE
- 10-30 MEDIUM DENSE
- 30-50 DENSE
- >50 VERY DENSE

Notes
PID used IonScience Tiger

BORING / WELL IDENTIFICATION: SB-13

SITE NAME: St. J. Armory

SITE LOCATION: 1249 main St St J VT

ATLAS

51 KNIGHT LANE
WILLISTON, VERMONT 05495
(802) 862-1980
(737) 207-8272 - FAX

BORING / WELL IDENTIFICATION: SB-6

WELL DEPTH:	
DEPTH TO WATER (DURING DRILLING):	
BORING DEPTH:	3.0'
SCREEN DIAMETER:	
SCREEN TYPE/SIZE:	None
DEPTH:	
RISER DIAMETER:	
RISER TYPE/SIZE:	
DEPTH:	
REMARKS:	

SITE NAME:	St J Armory
SITE LOCATION:	1249 main St St.J VT
INSTALLATION DATE:	4.25.22
JOB NUMBER:	250 EM00560
ATLAS REPRESENTATIVE:	Emma L.
DRILLING COMPANY:	CASCADE
SAMPLING METHOD:	DPT
REFERENCE POINT (RP):	
ELEVATION OF RP:	

DEPTH (IN FEET)	RECOVERY (FT)	SAMPLE DESCRIPTION AND NOTES	STRATA CHANGE	PID (PPM)	WELL PROFILE	LEGEND
0		7" d. br Topsoil w/ organics		0.0		Concrete
1	3/3	L. br fine sand w/ med. sand		0.0		Native
2		"some pavement / brick pieces"		0.0		Bentonite
3						Filter Sand
4						Riser
5						Screen
6						Water level
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

PROPORTIONS USED		BLOW COUNT (COHESIVE SOILS)		BLOW COUNT (GRANULAR SOILS)		Notes
AND	33-50%	<2	VERY SOFT	0-4	VERY LOOSE	PID used: IonScience Tiger
SOME	20-33%	2-4	SOFT	4-10	LOOSE	
LITTLE	10-20%	4-8	MEDIUM STIFF	10-30	MEDIUM DENSE	
TRACE	0-10%	8-15	STIFF	30-50	DENSE	
		15-30	VERY STIFF	>50	VERY DENSE	
		>30	HARD			

www.lakemoreyresort.com

ATLAS

51 KNIGHT LANE
WILLISTON, VERMONT 05495
(802) 862-1980
(737) 207-8272 - FAX

BORING / WELL IDENTIFICATION: SB-7

SITE NAME:	St. J Armory
SITE LOCATION:	1249 Main St St. J VT
INSTALLATION DATE:	4 25. 22
JOB NUMBER:	280 EM00860
ATLAS REPRESENTATIVE:	Emma L.
DRILLING COMPANY:	CASCADE
SAMPLING METHOD:	DPT
REFERENCE POINT (RP):	
ELEVATION OF RP:	

WELL DEPTH:		BORING DEPTH:	3.0'
DEPTH TO WATER (DURING DRILLING):			
SCREEN DIAMETER:		DEPTH:	
SCREEN TYPE/SIZE:			
RISER DIAMETER:		DEPTH:	
RISER TYPE/SIZE:			
REMARKS:			

DEPTH (IN FEET)	RECOVERY (FT)	SAMPLE DESCRIPTION AND NOTES	STRATA CHANGE	PID (PPM)	WELL PROFILE
0		6" d. br. Topsoil		0.0	
1	3/3	d. br. silty sand w/ gravel		0.0	
2		↓		0.0	
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

LEGEND
- Concrete
- Native
- Bentonite
- Filter Sand
- Riser
- Screen
- Water level

PROPORTIONS USED
- AND 33-50%
- SOME 20-33%
- LITTLE 10-20%
- TRACE 0-10%

BLOW COUNT (COHESIVE SOILS)

<2	VERY SOFT
2-4	SOFT
4-8	MEDIUM STIFF
8-15	STIFF
15-30	VERY STIFF
>30	HARD

BLOW COUNT (GRANULAR SOILS)

0-4	VERY LOOSE
4-10	LOOSE
10-30	MEDIUM DENSE
30-50	DENSE
>50	VERY DENSE

Notes

PID used IonScience Tiger

BORING / WELL IDENTIFICATION

ATLAS

51 KNIGHT LANE
WILLISTON, VERMONT 05495
(802) 862-1980
(737) 207-8272 - FAX

BORING / WELL IDENTIFICATION: SB-9

SITE NAME:	St. J Armory
SITE LOCATION:	1249 main st St. J VT
INSTALLATION DATE:	4.25.22
JOB NUMBER:	280Em00860
ATLAS REPRESENTATIVE:	Emma L.
DRILLING COMPANY:	CASCADE
SAMPLING METHOD:	DPT
REFERENCE POINT (RP):	
ELEVATION OF RP:	

WELL DEPTH:		BORING DEPTH:	3.0'		
DEPTH TO WATER (DURING DRILLING):					
SCREEN DIAMETER:		DEPTH:			
SCREEN TYPE/SIZE:					
RISER DIAMETER:		DEPTH:			
RISER TYPE/SIZE:					
REMARKS:					

DEPTH (IN FEET)	RECOVERY (FT)	SAMPLE DESCRIPTION AND NOTES	STRATA CHANGE	PID (PPM)	WELL PROFILE	LEGEND
0		Grey fine sand w/ trace silt		0.0		Concrete
1	3/3	d. br silty sand w/ 1" layer of l. br		0.0		Native
2		fine sand @ 2.0' bgs		0.0		
3						Bentonite
4						
5						Filter Sand
6						Riser
7						
8						Screen
9						
10						Water level
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

PROPORTIONS USED		BLOW COUNT (COHESIVE SOILS)		BLOW COUNT (GRANULAR SOILS)		Notes
AND	33-50%	<2	VERY SOFT	0-4	VERY LOOSE	PID used IonScience Tiger
SOME	20-33%	2-4	SOFT	4-10	LOOSE	
LITTLE	10-20%	4-8	MEDIUM STIFF	10-30	MEDIUM DENSE	
TRACE	0-10%	8-15	STIFF	30-50	DENSE	
		15-30	VERY STIFF	>50	VERY DENSE	
		>30	HARD			

ATLAS | BORING / WELL IDENTIFICATION: CA-12

ATLAS

51 KNIGHT LANE
WILLISTON, VERMONT 05495
(802) 862-1980
(737) 207-8272 - FAX

BORING / WELL IDENTIFICATION: SB-10

SITE NAME:	St. J Armory
SITE LOCATION:	1249 Main St. St. J VT
INSTALLATION DATE:	4.25.22
JOB NUMBER:	280EM00860

WELL DEPTH:		BORING DEPTH:	3.0'	ATLAS REPRESENTATIVE:	Emma L.
DEPTH TO WATER (DURING DRILLING):				DRILLING COMPANY:	CASCADE
SCREEN DIAMETER:		DEPTH:			
SCREEN TYPE/SIZE:				SAMPLING METHOD:	DPT
RISER DIAMETER:		DEPTH:		REFERENCE POINT (RP):	
RISER TYPE/SIZE:				ELEVATION OF RP:	
REMARKS:					

DEPTH (IN FEET)	RECOVERY (FT)	SAMPLE DESCRIPTION AND NOTES	STRATA CHANGE	PID (PPM)	WELL PROFILE	LEGEND
0		d. br. silty sand w/ gravel		0.0		Concrete
1	3/3			0.0		Native
2				0.0		
3				~~0~~ E.L.		Bentonite
4						Filter Sand
5						
6						Riser
7						
8						Screen
9						
10						Water level
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

PROPORTIONS USED		BLOW COUNT (COHESIVE SOILS)		BLOW COUNT (GRANULAR SOILS)		Notes
AND	33-50%	<2	VERY SOFT	0-4	VERY LOOSE	PID used: IonScience Tiger
SOME	20-33%	2-4	SOFT	4-10	LOOSE	
LITTLE	10-20%	4-8	MEDIUM STIFF	10-30	MEDIUM DENSE	
TRACE	0-10%	8-15	STIFF	30-50	DENSE	
		15-30	VERY STIFF	>50	VERY DENSE	
		>30	HARD			

ATLAS

51 KNIGHT LANE
WILLISTON, VERMONT 05495
(802) 862-1980
(737) 207-8272 - FAX

BORING / WELL IDENTIFICATION: SB-12

SITE NAME:	St J. Armory
SITE LOCATION:	1249 Main St J. VT
INSTALLATION DATE:	4.25.22
JOB NUMBER:	28085

WELL DEPTH:	/	BORING DEPTH:	3.0'	ATLAS REPRESENTATIVE:	Emma L.
DEPTH TO WATER (DURING DRILLING):				DRILLING COMPANY:	CASCADE
SCREEN DIAMETER:	/	DEPTH:	/		
SCREEN TYPE/SIZE:	/			SAMPLING METHOD:	DPT
RISER DIAMETER:	/	DEPTH:	/	REFERENCE POINT (RP):	
RISER TYPE/SIZE:	/			ELEVATION OF RP:	
REMARKS:					

DEPTH (IN FEET)	RECOVERY (FT)	SAMPLE DESCRIPTION AND NOTES	STRATA CHANGE	PID (PPM)	WELL PROFILE
0		Topsoil: d. br. ss w/ rootlets		0.0	
1		l. br - orange fine - med sand		0.0	
2		↓		0.0	
3		↓		0.0	
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

LEGEND: Concrete; Native; Bentonite; Filter Sand; Riser; Screen; Water level

PROPORTIONS USED		BLOW COUNT (COHESIVE SOILS)		BLOW COUNT (GRANULAR SOILS)	
AND	33-50%	<2	VERY SOFT	0-4	VERY LOOSE
SOME	20-33%	2-4	SOFT	4-10	LOOSE
LITTLE	10-20%	4-8	MEDIUM STIFF	10-30	MEDIUM DENSE
TRACE	0-10%	8-15	STIFF	30-50	DENSE
		15-30	VERY STIFF	>50	VERY DENSE
		>30	HARD		

Notes:

PID used: IonScience Tiger

BORING / WELL IDENTIFICATION:

ATLAS

51 KNIGHT LANE
WILLISTON, VERMONT 05495
(802) 862-1980
(737) 207-8272 - FAX

BORING / WELL IDENTIFICATION: SB-13

SITE NAME:	St. J. Armory
SITE LOCATION:	1249 main St St J VT
INSTALLATION DATE:	4.25.22
JOB NUMBER:	280 BS
ATLAS REPRESENTATIVE:	Emma L
DRILLING COMPANY:	CASCADE
SAMPLING METHOD:	DPT
REFERENCE POINT (RP):	
ELEVATION OF RP:	

WELL DEPTH:	N/A	BORING DEPTH:	3.0'
DEPTH TO WATER (DURING DRILLING):	none		
SCREEN DIAMETER:	N/A	DEPTH:	0
SCREEN TYPE/SIZE:	N/A		
RISER DIAMETER:	N/A	DEPTH:	0
RISER TYPE/SIZE:	N/A		
REMARKS:			

DEPTH (IN FEET)	RECOVERY (FT)	SAMPLE DESCRIPTION AND NOTES	STRATA CHANGE	PID (PPM)
0		L. grey gravel base 22"		0.2
1		L. br medium sand		0.0
2				0.0
3		3" brown silty sand seam	x	0.0
4				0.0
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

WELL PROFILE

LEGEND

- Concrete
- Native
- Bentonite
- Filter Sand
- Riser
- Screen
- Water level

PROPORTIONS USED	
AND	33-50%
SOME	20-33%
LITTLE	10-20%
TRACE	0-10%

BLOW COUNT (COHESIVE SOILS)	
<2	VERY SOFT
2-4	SOFT
4-8	MEDIUM STIFF
8-15	STIFF
15-30	VERY STIFF
>30	HARD

BLOW COUNT (GRANULAR SOILS)	
0-4	VERY LOOSE
4-10	LOOSE
10-30	MEDIUM DENSE
30-50	DENSE
>50	VERY DENSE

Notes:

PID used: IonScience Tiger

CALL BEFORE YOU DIG: 800-223-1211 - www.lakemoreyresort.com

ATC

ATLAS

51 KNIGHT LANE
WILLISTON, VERMONT 05495

(802) 862-1980
(737) 207-8272 - FAX

BORING / WELL IDENTIFICATION: SB-14

SITE NAME:	St J. Armory
SITE LOCATION:	1249 Main St St. J VT
INSTALLATION DATE:	4.25.22 / 945
JOB NUMBER:	
ATLAS REPRESENTATIVE:	Emma L.
DRILLING COMPANY:	CASCADE
SAMPLING METHOD:	DPT
REFERENCE POINT (RP):	
ELEVATION OF RP:	

WELL DEPTH:	/	BORING DEPTH:	3.0'
DEPTH TO WATER (DURING DRILLING):			
SCREEN DIAMETER:	/	DEPTH:	/
SCREEN TYPE/SIZE:	/		
RISER DIAMETER:	/	DEPTH:	/
RISER TYPE/SIZE:	/		
REMARKS:			

DEPTH (IN FEET)	RECOVERY (FT)	SAMPLE DESCRIPTION AND NOTES	STRATA CHANGE	PID (PPM)	WELL PROFILE
0		d. brown silty sand w/ trace gravel		0.0	
1		l. br - orange fine - medium sand		0.0	
2		↓		0.0	
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

LEGEND
- Concrete
- Native
- Bentonite
- Filter Sand
- Riser
- Screen
- Water level

PROPORTIONS USED	
AND	33-50%
SOME	20-33%
LITTLE	10-20%
TRACE	0-10%

BLOW COUNT (COHESIVE SOILS)	
<2	VERY SOFT
2-4	SOFT
4-8	MEDIUM STIFF
8-15	STIFF
15-30	VERY STIFF
>30	HARD

BLOW COUNT (GRANULAR SOILS)	
0-4	VERY LOOSE
4-10	LOOSE
10-30	MEDIUM DENSE
30-50	DENSE
>50	VERY DENSE

Notes:

PID used: IonScience Tiger

800-423-7211 • www.lakemoreyresort.com

ATC

Appendix 07-04: Tailgate Safety Meeting Form

Site Name & Number: St. J Armory
Date & Time of Meeting: 4/25/22 830am
Work Being Performed: Soil borings
ATC Project Number:
Name of Presenter: Emma

NOTE: On the initial day of the project, the Project Manager or designee should conduct a visual inspection of the project site prior to the Tailgate Safety Meeting. This inspection should include a review of project site equipment, hazards, specific job tasks, activities or operations to be performed for that day. These specific items must be covered during the Tailgate Safety Meeting. For subsequent days, any changes to the site or operations must be covered in the Tailgate Safety Meeting. In addition, "Task-Specific" Job Safety Analysis (JSA) for the tasks/activities at the project site must be integrated into the HASP and Tailgate discussions. Tailgate Meetings should be performed each day. Employees, client representatives and subcontractors must review the Tailgate Safety Meeting, be briefed on the topics and acknowledge the HSE topics by signing this form.

- ☒ Are all employees physically able to perform their job duties?
- ☒ Emergency evacuation area identified?
- ☒ Subcontractor interactions or questions?
- ☒ Any "Shared Learning" items?
- ☒ Has PPE been checked?

Itemize the Specific Topics Discussed (if more space is needed use the back of this page):

Slips trips falls		
utilities		
Traffic		

☒ **Client Requirements** - By checking the box to the left, the presenter of the Tailgate Meeting acknowledges that all client-specific requirements have been completed for both ATC and Subcontractor employees.

By signing this Tailgate Safety Meeting form, you are acknowledging that you have read, reviewed and understand the health and safety topics discussed on this form.

Print Name	Signature	Company	Date
Emma Lyford		Atlas	4.25.22
Chris Aldrich		Cascade	4.25.22
Nick Picciuto		Cascade	4.25.22

Rev. Date: 12-9-2016

APPENDIX B

SOIL LABORATORY ANALYTICAL REPORT

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

May 16, 2022

Jesse Stratton
ATC Group Services LLC - Vermont
51 Knight Lane, PO Box 1486
Williston, VT 05495

Project Location: 1249 Main St, St. J., VT
Client Job Number:
Project Number: [none]
Laboratory Work Order Number: 22D2009

Enclosed are results of analyses for samples as received by the laboratory on April 27, 2022. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Kaitlyn A. Feliciano
Project Manager

Table of Contents

Sample Summary 3

Case Narrative 4

Sample Results 5

22D2009-01 5

22D2009-02 7

22D2009-03 9

22D2009-04 11

22D2009-05 13

22D2009-06 15

22D2009-07 17

22D2009-08 19

22D2009-09 21

22D2009-10 23

22D2009-11 25

Sample Preparation Information 27

QC Data 28

Semivolatile Organic Compounds by GC/MS 28

B307842 28

B308077 29

Flag/Qualifier Summary 31

Certifications 32

Chain of Custody/Sample Receipt 34

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

ATC Group Services LLC - Vermont
51 Knight Lane, PO Box 1486
Williston, VT 05495
ATTN: Jesse Stratton

REPORT DATE: 5/16/2022

PURCHASE ORDER NUMBER: 2204382

PROJECT NUMBER: [none]

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 22D2009

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: 1249 Main St, St. J., VT

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
SB-1 (0-1.5)	22D2009-01	Soil		SM 2540G	
				SW-846 8270E	
SB-2 (0-1.5)	22D2009-02	Soil		SM 2540G	
				SW-846 8270E	
SB-3 (0-1.5)	22D2009-03	Soil		SM 2540G	
				SW-846 8270E	
SB-4 (0-1.5)	22D2009-04	Soil		SM 2540G	
				SW-846 8270E	
SB-6 (0-1.5)	22D2009-05	Soil		SM 2540G	
				SW-846 8270E	
SB-7 (0-1.5)	22D2009-06	Soil		SM 2540G	
				SW-846 8270E	
SB-9 (0-1.5)	22D2009-07	Soil		SM 2540G	
				SW-846 8270E	
SB-10 (0-1.5)	22D2009-08	Soil		SM 2540G	
				SW-846 8270E	
SB-12 (0-1.5)	22D2009-09	Soil		SM 2540G	
				SW-846 8270E	
SB-13 (0-1.5)	22D2009-10	Soil		SM 2540G	
				SW-846 8270E	
SB-14 (0-1.5)	22D2009-11	Soil		SM 2540G	
				SW-846 8270E	

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

For method 8270E, only PAHs were requested and reported.

SW-846 8270E

Qualifications:

H-13

Sample analysis performed past the recommended holding time due to a laboratory error.

Analyte & Samples(s) Qualified:

22D2009-10[SB-13 (0-1.5)]

V-06

Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side for this compound.

Analyte & Samples(s) Qualified:

Dibenz(a,h)anthracene
22D2009-04[SB-4 (0-1.5)], 22D2009-05[SB-6 (0-1.5)], 22D2009-06[SB-7 (0-1.5)], 22D2009-07[SB-9 (0-1.5)], 22D2009-08[SB-10 (0-1.5)], 22D2009-09[SB-12 (0-1.5)], 22D2009-11[SB-14 (0-1.5)], B307842-BLK1, B307842-BS1, B307842-BSD1, B308077-BS1, B308077-BSD1, S071350-CCV1, S071411-CCV1, S071434-CCV1, S071499-CCV1, S071502-CCV1, S071503-CCV1, S071533-CCV1

Indeno(1,2,3-cd)pyrene
S071434-CCV1

V-20

Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

Analyte & Samples(s) Qualified:

Dibenz(a,h)anthracene
22D2009-10[SB-13 (0-1.5)], B308077-BLK1

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Tod E. Kopyscinski
Laboratory Director

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 1249 Main St, St. J., VT | Sample Description: | Work Order: 22D2009

Date Received: 4/27/2022

Field Sample #: SB-1 (0-1.5) | Sampled: 4/25/2022 10:00

Sample ID: 22D2009-01

Sample Matrix: Soil

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 2:21	IMR
Acenaphthylene	ND	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 2:21	IMR
Anthracene	ND	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 2:21	IMR
Benzo(a)anthracene	ND	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 2:21	IMR
Benzo(a)pyrene	ND	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 2:21	IMR
Benzo(b)fluoranthene	ND	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 2:21	IMR
Benzo(g,h,i)perylene	ND	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 2:21	IMR
Benzo(k)fluoranthene	ND	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 2:21	IMR
Chrysene	ND	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 2:21	IMR
Dibenz(a,h)anthracene	ND	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 2:21	IMR
Fluoranthene	ND	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 2:21	IMR
Fluorene	ND	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 2:21	IMR
Indeno(1,2,3-cd)pyrene	ND	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 2:21	IMR
2-Methylnaphthalene	ND	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 2:21	IMR
Naphthalene	ND	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 2:21	IMR
Phenanthrene	ND	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 2:21	IMR
Pyrene	ND	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 2:21	IMR

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Nitrobenzene-d5	69.4	30-130		5/12/22 2:21
2-Fluorobiphenyl	88.5	30-130		5/12/22 2:21
p-Terphenyl-d14	92.5	30-130		5/12/22 2:21

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 1249 Main St, St. J., VT | Sample Description: | Work Order: 22D2009

Date Received: 4/27/2022

Field Sample #: SB-1 (0-1.5) | Sampled: 4/25/2022 10:00

Sample ID: 22D2009-01

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	96.5		% Wt	1		SM 2540G	5/10/22	5/10/22 21:28	HYF

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 1249 Main St, St. J., VT | Sample Description: | Work Order: 22D2009

Date Received: 4/27/2022

Field Sample #: SB-2 (0-1.5) | Sampled: 4/25/2022 10:15

Sample ID: 22D2009-02

Sample Matrix: Soil

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 2:46	IMR
Acenaphthylene	ND	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 2:46	IMR
Anthracene	ND	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 2:46	IMR
Benzo(a)anthracene	ND	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 2:46	IMR
Benzo(a)pyrene	ND	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 2:46	IMR
Benzo(b)fluoranthene	ND	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 2:46	IMR
Benzo(g,h,i)perylene	ND	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 2:46	IMR
Benzo(k)fluoranthene	ND	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 2:46	IMR
Chrysene	ND	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 2:46	IMR
Dibenz(a,h)anthracene	ND	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 2:46	IMR
Fluoranthene	ND	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 2:46	IMR
Fluorene	ND	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 2:46	IMR
Indeno(1,2,3-cd)pyrene	ND	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 2:46	IMR
2-Methylnaphthalene	ND	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 2:46	IMR
Naphthalene	ND	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 2:46	IMR
Phenanthrene	ND	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 2:46	IMR
Pyrene	ND	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 2:46	IMR

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Nitrobenzene-d5	59.2	30-130		5/12/22 2:46
2-Fluorobiphenyl	83.0	30-130		5/12/22 2:46
p-Terphenyl-d14	86.1	30-130		5/12/22 2:46

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 1249 Main St, St. J., VT | Sample Description: | Work Order: 22D2009

Date Received: 4/27/2022

Field Sample #: SB-2 (0-1.5) | Sampled: 4/25/2022 10:15

Sample ID: 22D2009-02

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	96.7		% Wt	1		SM 2540G	5/10/22	5/10/22 21:28	HYF

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 1249 Main St, St. J., VT | Sample Description: | Work Order: 22D2009

Date Received: 4/27/2022

Field Sample #: SB-3 (0-1.5) | Sampled: 4/25/2022 10:45

Sample ID: 22D2009-03

Sample Matrix: Soil

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 3:13	IMR
Acenaphthylene	ND	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 3:13	IMR
Anthracene	ND	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 3:13	IMR
Benzo(a)anthracene	0.19	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 3:13	IMR
Benzo(a)pyrene	0.24	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 3:13	IMR
Benzo(b)fluoranthene	0.31	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 3:13	IMR
Benzo(g,h,i)perylene	ND	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 3:13	IMR
Benzo(k)fluoranthene	ND	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 3:13	IMR
Chrysene	0.23	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 3:13	IMR
Dibenz(a,h)anthracene	ND	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 3:13	IMR
Fluoranthene	0.37	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 3:13	IMR
Fluorene	ND	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 3:13	IMR
Indeno(1,2,3-cd)pyrene	ND	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 3:13	IMR
2-Methylnaphthalene	ND	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 3:13	IMR
Naphthalene	ND	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 3:13	IMR
Phenanthrene	0.20	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 3:13	IMR
Pyrene	0.38	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 3:13	IMR

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Nitrobenzene-d5	58.5	30-130		5/12/22 3:13
2-Fluorobiphenyl	79.0	30-130		5/12/22 3:13
p-Terphenyl-d14	83.8	30-130		5/12/22 3:13

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 1249 Main St, St. J., VT | Sample Description: | Work Order: 22D2009

Date Received: 4/27/2022

Field Sample #: SB-3 (0-1.5) | Sampled: 4/25/2022 10:45

Sample ID: 22D2009-03

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	92.0		% Wt	1		SM 2540G	5/10/22	5/10/22 21:28	HYF

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 1249 Main St, St. J., VT | Sample Description: | Work Order: 22D2009

Date Received: 4/27/2022

Field Sample #: SB-4 (0-1.5) | Sampled: 4/25/2022 10:35

Sample ID: 22D2009-04

Sample Matrix: Soil

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	0.19	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 10:40	BGL
Acenaphthylene	ND	0.19	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 10:40	BGL
Anthracene	0.64	0.19	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 10:40	BGL
Benzo(a)anthracene	2.4	0.19	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 10:40	BGL
Benzo(a)pyrene	2.3	0.19	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 10:40	BGL
Benzo(b)fluoranthene	2.8	0.19	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 10:40	BGL
Benzo(g,h,i)perylene	1.0	0.19	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 10:40	BGL
Benzo(k)fluoranthene	1.1	0.19	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 10:40	BGL
Chrysene	2.3	0.19	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 10:40	BGL
Dibenz(a,h)anthracene	0.36	0.19	mg/Kg dry	1	V-06	SW-846 8270E	5/6/22	5/12/22 10:40	BGL
Fluoranthene	4.8	0.38	mg/Kg dry	2		SW-846 8270E	5/6/22	5/12/22 17:51	BGL
Fluorene	ND	0.19	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 10:40	BGL
Indeno(1,2,3-cd)pyrene	1.3	0.19	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 10:40	BGL
2-Methylnaphthalene	ND	0.19	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 10:40	BGL
Naphthalene	ND	0.19	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 10:40	BGL
Phenanthrene	2.8	0.19	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 10:40	BGL
Pyrene	3.6	0.19	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 10:40	BGL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Nitrobenzene-d5	42.9	30-130		5/12/22 10:40
Nitrobenzene-d5	39.4	30-130		5/12/22 17:51
2-Fluorobiphenyl	45.6	30-130		5/12/22 10:40
2-Fluorobiphenyl	39.8	30-130		5/12/22 17:51
p-Terphenyl-d14	43.1	30-130		5/12/22 10:40
p-Terphenyl-d14	39.6	30-130		5/12/22 17:51

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 1249 Main St, St. J., VT | Sample Description: | Work Order: 22D2009

Date Received: 4/27/2022

Field Sample #: SB-4 (0-1.5) | Sampled: 4/25/2022 10:35

Sample ID: 22D2009-04

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	87.3		% Wt	1		SM 2540G	5/10/22	5/10/22 21:28	HYF

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 1249 Main St, St. J., VT | Sample Description: | Work Order: 22D2009

Date Received: 4/27/2022

Field Sample #: SB-6 (0-1.5) | Sampled: 4/25/2022 11:10

Sample ID: 22D2009-05

Sample Matrix: Soil

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	0.20	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 11:06	BGL
Acenaphthylene	ND	0.20	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 11:06	BGL
Anthracene	ND	0.20	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 11:06	BGL
Benzo(a)anthracene	0.34	0.20	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 11:06	BGL
Benzo(a)pyrene	0.38	0.20	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 11:06	BGL
Benzo(b)fluoranthene	0.49	0.20	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 11:06	BGL
Benzo(g,h,i)perylene	0.23	0.20	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 11:06	BGL
Benzo(k)fluoranthene	ND	0.20	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 11:06	BGL
Chrysene	0.38	0.20	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 11:06	BGL
Dibenz(a,h)anthracene	ND	0.20	mg/Kg dry	1	V-06	SW-846 8270E	5/6/22	5/12/22 11:06	BGL
Fluoranthene	0.77	0.20	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 11:06	BGL
Fluorene	ND	0.20	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 11:06	BGL
Indeno(1,2,3-cd)pyrene	0.34	0.20	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 11:06	BGL
2-Methylnaphthalene	ND	0.20	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 11:06	BGL
Naphthalene	ND	0.20	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 11:06	BGL
Phenanthrene	0.53	0.20	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 11:06	BGL
Pyrene	0.63	0.20	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 11:06	BGL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Nitrobenzene-d5	67.3	30-130		5/12/22 11:06
2-Fluorobiphenyl	70.1	30-130		5/12/22 11:06
p-Terphenyl-d14	69.8	30-130		5/12/22 11:06

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 1249 Main St, St. J., VT | Sample Description: | Work Order: 22D2009

Date Received: 4/27/2022

Field Sample #: SB-6 (0-1.5) | Sampled: 4/25/2022 11:10

Sample ID: 22D2009-05

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	83.3		% Wt	1		SM 2540G	5/10/22	5/10/22 21:28	HYF

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 1249 Main St, St. J., VT | Sample Description: | Work Order: 22D2009

Date Received: 4/27/2022

Field Sample #: SB-7 (0-1.5) | Sampled: 4/25/2022 11:20

Sample ID: 22D2009-06

Sample Matrix: Soil

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 11:32	BGL
Acenaphthylene	ND	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 11:32	BGL
Anthracene	ND	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 11:32	BGL
Benzo(a)anthracene	ND	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 11:32	BGL
Benzo(a)pyrene	ND	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 11:32	BGL
Benzo(b)fluoranthene	0.21	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 11:32	BGL
Benzo(g,h,i)perylene	ND	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 11:32	BGL
Benzo(k)fluoranthene	ND	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 11:32	BGL
Chrysene	ND	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 11:32	BGL
Dibenz(a,h)anthracene	ND	0.18	mg/Kg dry	1	V-06	SW-846 8270E	5/6/22	5/12/22 11:32	BGL
Fluoranthene	0.28	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 11:32	BGL
Fluorene	ND	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 11:32	BGL
Indeno(1,2,3-cd)pyrene	0.20	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 11:32	BGL
2-Methylnaphthalene	ND	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 11:32	BGL
Naphthalene	ND	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 11:32	BGL
Phenanthrene	ND	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 11:32	BGL
Pyrene	0.23	0.18	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 11:32	BGL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Nitrobenzene-d5	67.0	30-130		5/12/22 11:32
2-Fluorobiphenyl	70.8	30-130		5/12/22 11:32
p-Terphenyl-d14	74.5	30-130		5/12/22 11:32

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 1249 Main St, St. J., VT | Sample Description: | Work Order: 22D2009

Date Received: 4/27/2022

Field Sample #: SB-7 (0-1.5) | Sampled: 4/25/2022 11:20

Sample ID: 22D2009-06

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	95.3		% Wt	1		SM 2540G	5/10/22	5/10/22 21:29	HYF

con-test® A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 1249 Main St, St. J., VT | Sample Description: | Work Order: 22D2009

Date Received: 4/27/2022

Field Sample #: SB-9 (0-1.5) | Sampled: 4/25/2022 11:30

Sample ID: 22D2009-07

Sample Matrix: Soil

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	6.8	3.8	mg/Kg dry	20		SW-846 8270E	5/6/22	5/13/22 19:53	BGL
Acenaphthylene	0.21	0.19	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 11:58	BGL
Anthracene	15	3.8	mg/Kg dry	20		SW-846 8270E	5/6/22	5/13/22 19:53	BGL
Benzo(a)anthracene	19	3.8	mg/Kg dry	20		SW-846 8270E	5/6/22	5/13/22 19:53	BGL
Benzo(a)pyrene	16	3.8	mg/Kg dry	20		SW-846 8270E	5/6/22	5/13/22 19:53	BGL
Benzo(b)fluoranthene	19	3.8	mg/Kg dry	20		SW-846 8270E	5/6/22	5/13/22 19:53	BGL
Benzo(g,h,i)perylene	7.2	3.8	mg/Kg dry	20		SW-846 8270E	5/6/22	5/13/22 19:53	BGL
Benzo(k)fluoranthene	7.0	3.8	mg/Kg dry	20		SW-846 8270E	5/6/22	5/13/22 19:53	BGL
Chrysene	17	3.8	mg/Kg dry	20		SW-846 8270E	5/6/22	5/13/22 19:53	BGL
Dibenz(a,h)anthracene	2.7	0.19	mg/Kg dry	1	V-06	SW-846 8270E	5/6/22	5/12/22 11:58	BGL
Fluoranthene	49	3.8	mg/Kg dry	20		SW-846 8270E	5/6/22	5/13/22 19:53	BGL
Fluorene	7.1	3.8	mg/Kg dry	20		SW-846 8270E	5/6/22	5/13/22 19:53	BGL
Indeno(1,2,3-cd)pyrene	9.9	3.8	mg/Kg dry	20		SW-846 8270E	5/6/22	5/13/22 19:53	BGL
2-Methylnaphthalene	2.9	0.19	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 11:58	BGL
Naphthalene	4.4	0.19	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 11:58	BGL
Phenanthrene	58	3.8	mg/Kg dry	20		SW-846 8270E	5/6/22	5/13/22 19:53	BGL
Pyrene	38	3.8	mg/Kg dry	20		SW-846 8270E	5/6/22	5/13/22 19:53	BGL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Nitrobenzene-d5	66.7	30-130		5/12/22 11:58
Nitrobenzene-d5	67.2	30-130		5/13/22 19:53
2-Fluorobiphenyl	67.4	30-130		5/12/22 11:58
2-Fluorobiphenyl	78.4	30-130		5/13/22 19:53
p-Terphenyl-d14	82.2	30-130		5/12/22 11:58
p-Terphenyl-d14	87.8	30-130		5/13/22 19:53

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 1249 Main St, St. J., VT | Sample Description: | Work Order: 22D2009

Date Received: 4/27/2022

Field Sample #: SB-9 (0-1.5) | Sampled: 4/25/2022 11:30

Sample ID: 22D2009-07

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	88.7		% Wt	1		SM 2540G	5/10/22	5/10/22 21:29	HYF

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 1249 Main St, St. J., VT | Sample Description: | Work Order: 22D2009

Date Received: 4/27/2022

Field Sample #: SB-10 (0-1.5) | Sampled: 4/25/2022 11:45

Sample ID: 22D2009-08

Sample Matrix: Soil

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	0.21	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 12:24	BGL
Acenaphthylene	ND	0.21	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 12:24	BGL
Anthracene	ND	0.21	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 12:24	BGL
Benzo(a)anthracene	ND	0.21	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 12:24	BGL
Benzo(a)pyrene	ND	0.21	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 12:24	BGL
Benzo(b)fluoranthene	ND	0.21	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 12:24	BGL
Benzo(g,h,i)perylene	ND	0.21	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 12:24	BGL
Benzo(k)fluoranthene	ND	0.21	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 12:24	BGL
Chrysene	ND	0.21	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 12:24	BGL
Dibenz(a,h)anthracene	ND	0.21	mg/Kg dry	1	V-06	SW-846 8270E	5/6/22	5/12/22 12:24	BGL
Fluoranthene	ND	0.21	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 12:24	BGL
Fluorene	ND	0.21	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 12:24	BGL
Indeno(1,2,3-cd)pyrene	ND	0.21	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 12:24	BGL
2-Methylnaphthalene	ND	0.21	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 12:24	BGL
Naphthalene	ND	0.21	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 12:24	BGL
Phenanthrene	ND	0.21	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 12:24	BGL
Pyrene	ND	0.21	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 12:24	BGL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Nitrobenzene-d5	58.4	30-130		5/12/22 12:24
2-Fluorobiphenyl	59.0	30-130		5/12/22 12:24
p-Terphenyl-d14	66.1	30-130		5/12/22 12:24

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 1249 Main St, St. J., VT | Sample Description: | Work Order: 22D2009

Date Received: 4/27/2022

Field Sample #: SB-10 (0-1.5) | Sampled: 4/25/2022 11:45

Sample ID: 22D2009-08

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	81.3		% Wt	1		SM 2540G	5/10/22	5/10/22 21:29	HYF

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 1249 Main St, St. J., VT | Sample Description: | Work Order: 22D2009

Date Received: 4/27/2022

Field Sample #: SB-12 (0-1.5) | Sampled: 4/25/2022 09:30

Sample ID: 22D2009-09

Sample Matrix: Soil

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	0.21	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 12:50	BGL
Acenaphthylene	ND	0.21	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 12:50	BGL
Anthracene	ND	0.21	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 12:50	BGL
Benzo(a)anthracene	ND	0.21	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 12:50	BGL
Benzo(a)pyrene	ND	0.21	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 12:50	BGL
Benzo(b)fluoranthene	ND	0.21	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 12:50	BGL
Benzo(g,h,i)perylene	ND	0.21	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 12:50	BGL
Benzo(k)fluoranthene	ND	0.21	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 12:50	BGL
Chrysene	ND	0.21	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 12:50	BGL
Dibenz(a,h)anthracene	ND	0.21	mg/Kg dry	1	V-06	SW-846 8270E	5/6/22	5/12/22 12:50	BGL
Fluoranthene	ND	0.21	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 12:50	BGL
Fluorene	ND	0.21	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 12:50	BGL
Indeno(1,2,3-cd)pyrene	ND	0.21	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 12:50	BGL
2-Methylnaphthalene	ND	0.21	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 12:50	BGL
Naphthalene	ND	0.21	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 12:50	BGL
Phenanthrene	ND	0.21	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 12:50	BGL
Pyrene	ND	0.21	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 12:50	BGL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Nitrobenzene-d5	33.1	30-130		5/12/22 12:50
2-Fluorobiphenyl	34.5	30-130		5/12/22 12:50
p-Terphenyl-d14	36.0	30-130		5/12/22 12:50

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 1249 Main St, St. J., VT | Sample Description: | Work Order: 22D2009

Date Received: 4/27/2022

Field Sample #: SB-12 (0-1.5) | Sampled: 4/25/2022 09:30

Sample ID: 22D2009-09

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	80.5		% Wt	1		SM 2540G	5/10/22	5/10/22 21:29	HYF

con-test® A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 1249 Main St, St. J., VT | Sample Description: | Work Order: 22D2009

Date Received: 4/27/2022

Field Sample #: SB-13 (0-1.5) | Sampled: 4/25/2022 09:15

Sample ID: 22D2009-10

Sample Matrix: Soil

Sample Flags: H-13

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	0.20	mg/Kg dry	1		SW-846 8270E	5/10/22	5/11/22 19:39	BGL
Acenaphthylene	ND	0.20	mg/Kg dry	1		SW-846 8270E	5/10/22	5/11/22 19:39	BGL
Anthracene	ND	0.20	mg/Kg dry	1		SW-846 8270E	5/10/22	5/11/22 19:39	BGL
Benzo(a)anthracene	ND	0.20	mg/Kg dry	1		SW-846 8270E	5/10/22	5/11/22 19:39	BGL
Benzo(a)pyrene	ND	0.20	mg/Kg dry	1		SW-846 8270E	5/10/22	5/11/22 19:39	BGL
Benzo(b)fluoranthene	ND	0.20	mg/Kg dry	1		SW-846 8270E	5/10/22	5/11/22 19:39	BGL
Benzo(g,h,i)perylene	ND	0.20	mg/Kg dry	1		SW-846 8270E	5/10/22	5/11/22 19:39	BGL
Benzo(k)fluoranthene	ND	0.20	mg/Kg dry	1		SW-846 8270E	5/10/22	5/11/22 19:39	BGL
Chrysene	ND	0.20	mg/Kg dry	1		SW-846 8270E	5/10/22	5/11/22 19:39	BGL
Dibenz(a,h)anthracene	ND	0.20	mg/Kg dry	1	V-20	SW-846 8270E	5/10/22	5/11/22 19:39	BGL
Fluoranthene	ND	0.20	mg/Kg dry	1		SW-846 8270E	5/10/22	5/11/22 19:39	BGL
Fluorene	ND	0.20	mg/Kg dry	1		SW-846 8270E	5/10/22	5/11/22 19:39	BGL
Indeno(1,2,3-cd)pyrene	ND	0.20	mg/Kg dry	1		SW-846 8270E	5/10/22	5/11/22 19:39	BGL
2-Methylnaphthalene	ND	0.20	mg/Kg dry	1		SW-846 8270E	5/10/22	5/11/22 19:39	BGL
Naphthalene	ND	0.20	mg/Kg dry	1		SW-846 8270E	5/10/22	5/11/22 19:39	BGL
Phenanthrene	ND	0.20	mg/Kg dry	1		SW-846 8270E	5/10/22	5/11/22 19:39	BGL
Pyrene	ND	0.20	mg/Kg dry	1		SW-846 8270E	5/10/22	5/11/22 19:39	BGL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Nitrobenzene-d5	60.8	30-130		5/11/22 19:39
2-Fluorobiphenyl	62.4	30-130		5/11/22 19:39
p-Terphenyl-d14	67.8	30-130		5/11/22 19:39

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 1249 Main St, St. J., VT | Sample Description: | Work Order: 22D2009

Date Received: 4/27/2022

Field Sample #: SB-13 (0-1.5) | Sampled: 4/25/2022 09:15

Sample ID: 22D2009-10

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	85.6		% Wt	1		SM 2540G	5/10/22	5/10/22 21:29	HYF

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 1249 Main St, St. J., VT | Sample Description: | Work Order: 22D2009

Date Received: 4/27/2022

Field Sample #: SB-14 (0-1.5) | Sampled: 4/25/2022 09:45

Sample ID: 22D2009-11

Sample Matrix: Soil

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	0.20	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 18:43	BGL
Acenaphthylene	ND	0.20	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 18:43	BGL
Anthracene	ND	0.20	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 18:43	BGL
Benzo(a)anthracene	ND	0.20	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 18:43	BGL
Benzo(a)pyrene	ND	0.20	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 18:43	BGL
Benzo(b)fluoranthene	ND	0.20	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 18:43	BGL
Benzo(g,h,i)perylene	ND	0.20	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 18:43	BGL
Benzo(k)fluoranthene	ND	0.20	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 18:43	BGL
Chrysene	ND	0.20	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 18:43	BGL
Dibenz(a,h)anthracene	ND	0.20	mg/Kg dry	1	V-06	SW-846 8270E	5/6/22	5/12/22 18:43	BGL
Fluoranthene	ND	0.20	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 18:43	BGL
Fluorene	ND	0.20	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 18:43	BGL
Indeno(1,2,3-cd)pyrene	ND	0.20	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 18:43	BGL
2-Methylnaphthalene	ND	0.20	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 18:43	BGL
Naphthalene	ND	0.20	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 18:43	BGL
Phenanthrene	ND	0.20	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 18:43	BGL
Pyrene	ND	0.20	mg/Kg dry	1		SW-846 8270E	5/6/22	5/12/22 18:43	BGL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Nitrobenzene-d5	66.9	30-130		5/12/22 18:43
2-Fluorobiphenyl	69.3	30-130		5/12/22 18:43
p-Terphenyl-d14	70.6	30-130		5/12/22 18:43

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 1249 Main St, St. J., VT | Sample Description: | Work Order: 22D2009

Date Received: 4/27/2022

Field Sample #: SB-14 (0-1.5) | Sampled: 4/25/2022 09:45

Sample ID: 22D2009-11

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	85.5		% Wt	1		SM 2540G	5/10/22	5/10/22 21:29	HYF

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method: % Solids **Analytical Method: SM 2540G**

Lab Number [Field ID]	Batch	Date
22D2009-01 [SB-1 (0-1.5)]	B308061	05/10/22
22D2009-02 [SB-2 (0-1.5)]	B308061	05/10/22
22D2009-03 [SB-3 (0-1.5)]	B308061	05/10/22
22D2009-04 [SB-4 (0-1.5)]	B308061	05/10/22
22D2009-05 [SB-6 (0-1.5)]	B308061	05/10/22
22D2009-06 [SB-7 (0-1.5)]	B308061	05/10/22
22D2009-07 [SB-9 (0-1.5)]	B308061	05/10/22
22D2009-08 [SB-10 (0-1.5)]	B308061	05/10/22
22D2009-09 [SB-12 (0-1.5)]	B308061	05/10/22
22D2009-10 [SB-13 (0-1.5)]	B308061	05/10/22
22D2009-11 [SB-14 (0-1.5)]	B308061	05/10/22

Prep Method: SW-846 3546 **Analytical Method: SW-846 8270E**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
22D2009-01 [SB-1 (0-1.5)]	B307842	30.0	1.00	05/06/22
22D2009-02 [SB-2 (0-1.5)]	B307842	30.0	1.00	05/06/22
22D2009-03 [SB-3 (0-1.5)]	B307842	30.3	1.00	05/06/22
22D2009-04 [SB-4 (0-1.5)]	B307842	30.5	1.00	05/06/22
22D2009-04RE1 [SB-4 (0-1.5)]	B307842	30.5	1.00	05/06/22
22D2009-05 [SB-6 (0-1.5)]	B307842	30.2	1.00	05/06/22
22D2009-06 [SB-7 (0-1.5)]	B307842	30.4	1.00	05/06/22
22D2009-07 [SB-9 (0-1.5)]	B307842	30.1	1.00	05/06/22
22D2009-07RE1 [SB-9 (0-1.5)]	B307842	30.1	1.00	05/06/22
22D2009-08 [SB-10 (0-1.5)]	B307842	30.4	1.00	05/06/22
22D2009-09 [SB-12 (0-1.5)]	B307842	30.3	1.00	05/06/22
22D2009-11 [SB-14 (0-1.5)]	B307842	30.4	1.00	05/06/22

Prep Method: SW-846 3546 **Analytical Method: SW-846 8270E**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
22D2009-10 [SB-13 (0-1.5)]	B308077	30.0	1.00	05/10/22

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B307842 - SW-846 3546										
Blank (B307842-BLK1)				Prepared: 05/06/22 Analyzed: 05/09/22						
Acenaphthene	ND	0.17	mg/Kg wet							
Acenaphthylene	ND	0.17	mg/Kg wet							
Anthracene	ND	0.17	mg/Kg wet							
Benzo(a)anthracene	ND	0.17	mg/Kg wet							
Benzo(a)pyrene	ND	0.17	mg/Kg wet							
Benzo(b)fluoranthene	ND	0.17	mg/Kg wet							
Benzo(g,h,i)perylene	ND	0.17	mg/Kg wet							
Benzo(k)fluoranthene	ND	0.17	mg/Kg wet							
Chrysene	ND	0.17	mg/Kg wet							
Dibenz(a,h)anthracene	ND	0.17	mg/Kg wet							V-06
Fluoranthene	ND	0.17	mg/Kg wet							
Fluorene	ND	0.17	mg/Kg wet							
Indeno(1,2,3-cd)pyrene	ND	0.17	mg/Kg wet							
2-Methylnaphthalene	ND	0.17	mg/Kg wet							
Naphthalene	ND	0.17	mg/Kg wet							
Phenanthrene	ND	0.17	mg/Kg wet							
Pyrene	ND	0.17	mg/Kg wet							
Surrogate: Nitrobenzene-d5	*2.63*		mg/Kg wet	3.32		79.3	30-130			
Surrogate: 2-Fluorobiphenyl	*2.65*		mg/Kg wet	3.32		79.7	30-130			
Surrogate: p-Terphenyl-d14	*2.94*		mg/Kg wet	3.32		88.6	30-130			
LCS (B307842-BS1)				Prepared: 05/06/22 Analyzed: 05/09/22						
Acenaphthene	1.24	0.17	mg/Kg wet	1.64		75.1	40-140			
Acenaphthylene	1.27	0.17	mg/Kg wet	1.64		77.0	40-140			
Anthracene	1.31	0.17	mg/Kg wet	1.64		79.6	40-140			
Benzo(a)anthracene	1.32	0.17	mg/Kg wet	1.64		80.0	40-140			
Benzo(a)pyrene	1.40	0.17	mg/Kg wet	1.64		85.0	40-140			
Benzo(b)fluoranthene	1.54	0.17	mg/Kg wet	1.64		93.8	40-140			
Benzo(g,h,i)perylene	1.17	0.17	mg/Kg wet	1.64		70.9	40-140			
Benzo(k)fluoranthene	1.47	0.17	mg/Kg wet	1.64		89.7	40-140			
Chrysene	1.28	0.17	mg/Kg wet	1.64		77.6	40-140			
Dibenz(a,h)anthracene	1.31	0.17	mg/Kg wet	1.64		79.8	40-140			V-06
Fluoranthene	1.36	0.17	mg/Kg wet	1.64		82.5	40-140			
Fluorene	1.32	0.17	mg/Kg wet	1.64		80.3	40-140			
Indeno(1,2,3-cd)pyrene	1.25	0.17	mg/Kg wet	1.64		76.0	40-140			
2-Methylnaphthalene	1.30	0.17	mg/Kg wet	1.64		79.0	40-140			
Naphthalene	1.20	0.17	mg/Kg wet	1.64		73.2	40-140			
Phenanthrene	1.31	0.17	mg/Kg wet	1.64		79.8	40-140			
Pyrene	1.25	0.17	mg/Kg wet	1.64		76.3	40-140			
Surrogate: Nitrobenzene-d5	*2.62*		mg/Kg wet	3.29		79.5	30-130			
Surrogate: 2-Fluorobiphenyl	*2.76*		mg/Kg wet	3.29		84.0	30-130			
Surrogate: p-Terphenyl-d14	*2.94*		mg/Kg wet	3.29		89.5	30-130			

con-test® A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B307842 - SW-846 3546										
LCS Dup (B307842-BSD1)				Prepared: 05/06/22 Analyzed: 05/09/22						
Acenaphthene	1.20	0.17	mg/Kg wet	1.66		72.1	40-140	3.08	30	
Acenaphthylene	1.22	0.17	mg/Kg wet	1.66		73.5	40-140	3.74	30	
Anthracene	1.24	0.17	mg/Kg wet	1.66		74.4	40-140	5.73	30	
Benzo(a)anthracene	1.26	0.17	mg/Kg wet	1.66		75.8	40-140	4.37	30	
Benzo(a)pyrene	1.32	0.17	mg/Kg wet	1.66		79.6	40-140	5.62	30	
Benzo(b)fluoranthene	1.45	0.17	mg/Kg wet	1.66		87.5	40-140	5.92	30	
Benzo(g,h,i)perylene	1.17	0.17	mg/Kg wet	1.66		70.3	40-140	0.142	30	
Benzo(k)fluoranthene	1.39	0.17	mg/Kg wet	1.66		83.7	40-140	5.86	30	
Chrysene	1.23	0.17	mg/Kg wet	1.66		73.9	40-140	3.92	30	
Dibenz(a,h)anthracene	1.30	0.17	mg/Kg wet	1.66		78.5	40-140	0.625	30	V-06
Fluoranthene	1.29	0.17	mg/Kg wet	1.66		77.8	40-140	4.82	30	
Fluorene	1.28	0.17	mg/Kg wet	1.66		77.2	40-140	3.02	30	
Indeno(1,2,3-cd)pyrene	1.24	0.17	mg/Kg wet	1.66		74.9	40-140	0.465	30	
2-Methylnaphthalene	1.25	0.17	mg/Kg wet	1.66		75.0	40-140	4.20	30	
Naphthalene	1.15	0.17	mg/Kg wet	1.66		69.1	40-140	4.69	30	
Phenanthrene	1.24	0.17	mg/Kg wet	1.66		74.4	40-140	6.04	30	
Pyrene	1.22	0.17	mg/Kg wet	1.66		73.3	40-140	2.99	30	
Surrogate: Nitrobenzene-d5	*2.56*		mg/Kg wet	3.32		77.0	30-130			
Surrogate: 2-Fluorobiphenyl	*2.68*		mg/Kg wet	3.32		80.6	30-130			
Surrogate: p-Terphenyl-d14	*2.83*		mg/Kg wet	3.32		85.0	30-130			
Batch B308077 - SW-846 3546										
Blank (B308077-BLK1)				Prepared: 05/10/22 Analyzed: 05/11/22						
Acenaphthene	ND	0.17	mg/Kg wet							
Acenaphthylene	ND	0.17	mg/Kg wet							
Anthracene	ND	0.17	mg/Kg wet							
Benzo(a)anthracene	ND	0.17	mg/Kg wet							
Benzo(a)pyrene	ND	0.17	mg/Kg wet							
Benzo(b)fluoranthene	ND	0.17	mg/Kg wet							
Benzo(g,h,i)perylene	ND	0.17	mg/Kg wet							
Benzo(k)fluoranthene	ND	0.17	mg/Kg wet							
Chrysene	ND	0.17	mg/Kg wet							
Dibenz(a,h)anthracene	ND	0.17	mg/Kg wet							V-20
Fluoranthene	ND	0.17	mg/Kg wet							
Fluorene	ND	0.17	mg/Kg wet							
Indeno(1,2,3-cd)pyrene	ND	0.17	mg/Kg wet							
2-Methylnaphthalene	ND	0.17	mg/Kg wet							
Naphthalene	ND	0.17	mg/Kg wet							
Phenanthrene	ND	0.17	mg/Kg wet							
Pyrene	ND	0.17	mg/Kg wet							
Surrogate: Nitrobenzene-d5	*3.18*		mg/Kg wet	3.33		95.5	30-130			
Surrogate: 2-Fluorobiphenyl	*3.28*		mg/Kg wet	3.33		98.5	30-130			
Surrogate: p-Terphenyl-d14	*3.62*		mg/Kg wet	3.33		108	30-130			

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B308077 - SW-846 3546										
LCS (B308077-BS1)				Prepared: 05/10/22 Analyzed: 05/11/22						
Acenaphthene	1.22	0.17	mg/Kg wet	1.67		73.2	40-140			
Acenaphthylene	1.27	0.17	mg/Kg wet	1.67		76.3	40-140			
Anthracene	1.33	0.17	mg/Kg wet	1.67		79.9	40-140			
Benzo(a)anthracene	1.36	0.17	mg/Kg wet	1.67		81.8	40-140			
Benzo(a)pyrene	1.41	0.17	mg/Kg wet	1.67		84.8	40-140			
Benzo(b)fluoranthene	1.44	0.17	mg/Kg wet	1.67		86.4	40-140			
Benzo(g,h,i)perylene	1.64	0.17	mg/Kg wet	1.67		98.7	40-140			
Benzo(k)fluoranthene	1.37	0.17	mg/Kg wet	1.67		82.0	40-140			
Chrysene	1.30	0.17	mg/Kg wet	1.67		78.2	40-140			
Dibenz(a,h)anthracene	1.84	0.17	mg/Kg wet	1.67		111	40-140			V-06
Fluoranthene	1.38	0.17	mg/Kg wet	1.67		83.0	40-140			
Fluorene	1.35	0.17	mg/Kg wet	1.67		80.9	40-140			
Indeno(1,2,3-cd)pyrene	1.71	0.17	mg/Kg wet	1.67		103	40-140			
2-Methylnaphthalene	1.26	0.17	mg/Kg wet	1.67		75.4	40-140			
Naphthalene	1.12	0.17	mg/Kg wet	1.67		67.3	40-140			
Phenanthrene	1.33	0.17	mg/Kg wet	1.67		80.0	40-140			
Pyrene	1.29	0.17	mg/Kg wet	1.67		77.6	40-140			
Surrogate: Nitrobenzene-d5	*2.44*		mg/Kg wet	3.33		73.2	30-130			
Surrogate: 2-Fluorobiphenyl	*2.73*		mg/Kg wet	3.33		81.8	30-130			
Surrogate: p-Terphenyl-d14	*2.95*		mg/Kg wet	3.33		88.6	30-130			
LCS Dup (B308077-BSD1)				Prepared: 05/10/22 Analyzed: 05/11/22						
Acenaphthene	1.24	0.17	mg/Kg wet	1.67		74.4	40-140	1.60	30	
Acenaphthylene	1.28	0.17	mg/Kg wet	1.67		76.8	40-140	0.575	30	
Anthracene	1.31	0.17	mg/Kg wet	1.67		78.3	40-140	2.02	30	
Benzo(a)anthracene	1.33	0.17	mg/Kg wet	1.67		79.9	40-140	2.35	30	
Benzo(a)pyrene	1.41	0.17	mg/Kg wet	1.67		84.4	40-140	0.473	30	
Benzo(b)fluoranthene	1.44	0.17	mg/Kg wet	1.67		86.5	40-140	0.162	30	
Benzo(g,h,i)perylene	1.62	0.17	mg/Kg wet	1.67		97.3	40-140	1.43	30	
Benzo(k)fluoranthene	1.40	0.17	mg/Kg wet	1.67		83.7	40-140	2.12	30	
Chrysene	1.26	0.17	mg/Kg wet	1.67		75.6	40-140	3.46	30	
Dibenz(a,h)anthracene	1.83	0.17	mg/Kg wet	1.67		110	40-140	0.472	30	V-06
Fluoranthene	1.38	0.17	mg/Kg wet	1.67		82.8	40-140	0.217	30	
Fluorene	1.36	0.17	mg/Kg wet	1.67		81.5	40-140	0.739	30	
Indeno(1,2,3-cd)pyrene	1.71	0.17	mg/Kg wet	1.67		102	40-140	0.215	30	
2-Methylnaphthalene	1.32	0.17	mg/Kg wet	1.67		79.4	40-140	5.19	30	
Naphthalene	1.21	0.17	mg/Kg wet	1.67		72.7	40-140	7.72	30	
Phenanthrene	1.32	0.17	mg/Kg wet	1.67		79.1	40-140	1.06	30	
Pyrene	1.27	0.17	mg/Kg wet	1.67		76.2	40-140	1.85	30	
Surrogate: Nitrobenzene-d5	*2.67*		mg/Kg wet	3.33		80.2	30-130			
Surrogate: 2-Fluorobiphenyl	*2.74*		mg/Kg wet	3.33		82.1	30-130			
Surrogate: p-Terphenyl-d14	*2.85*		mg/Kg wet	3.33		85.4	30-130			

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
H-13	Sample analysis performed past the recommended holding time due to a laboratory error.
V-06	Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side for this compound.
V-20	Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8270E in Soil	
Acenaphthene	CT,NY,NH,ME,NC,VA
Acenaphthylene	CT,NY,NH,ME,NC,VA
Anthracene	CT,NY,NH,ME,NC,VA
Benzo(a)anthracene	CT,NY,NH,ME,NC,VA
Benzo(a)pyrene	CT,NY,NH,ME,NC,VA
Benzo(b)fluoranthene	CT,NY,NH,ME,NC,VA
Benzo(g,h,i)perylene	CT,NY,NH,ME,NC,VA
Benzo(k)fluoranthene	CT,NY,NH,ME,NC,VA
Chrysene	CT,NY,NH,ME,NC,VA
Dibenz(a,h)anthracene	CT,NY,NH,ME,NC,VA
Fluoranthene	CT,NY,NH,ME,NC,VA
Fluorene	CT,NY,NH,ME,NC,VA
Indeno(1,2,3-cd)pyrene	CT,NY,NH,ME,NC,VA
2-Methylnaphthalene	CT,NY,NH,ME,NC,VA
Naphthalene	CT,NY,NH,ME,NC,VA
Phenanthrene	CT,NY,NH,ME,NC,VA
Pyrene	CT,NY,NH,ME,NC,VA
SW-846 8270E in Water	
Acenaphthene	CT,NY,NH,ME,NC,VA
Acenaphthylene	CT,NY,NH,ME,NC,VA
Anthracene	CT,NY,NH,ME,NC,VA
Benzo(a)anthracene	CT,NY,NH,ME,NC,VA
Benzo(a)pyrene	CT,NY,NH,ME,NC,VA
Benzo(b)fluoranthene	CT,NY,NH,ME,NC,VA
Benzo(g,h,i)perylene	CT,NY,NH,ME,NC,VA
Benzo(k)fluoranthene	CT,NY,NH,ME,NC,VA
Chrysene	CT,NY,NH,ME,NC,VA
Dibenz(a,h)anthracene	CT,NY,NH,ME,NC,VA
Fluoranthene	CT,NY,NH,ME,NC,VA
Fluorene	CT,NY,NH,ME,NC,VA
Indeno(1,2,3-cd)pyrene	CT,NY,NH,ME,NC,VA
2-Methylnaphthalene	CT,NY,NH,ME,NC,VA
Naphthalene	CT,NY,NH,ME,NC,VA
Phenanthrene	CT,NY,NH,ME,NC,VA
Pyrene	CT,NY,NH,ME,NC,VA

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2017	100033	03/1/2024
MA	Massachusetts DEP	M-MA100	06/30/2022
CT	Connecticut Department of Publilc Health	PH-0165	12/31/2022
NY	New York State Department of Health	10899 NELAP	04/1/2023
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2023
RI	Rhode Island Department of Health	LAO00373	12/30/2022
NC	North Carolina Div. of Water Quality	652	12/31/2022
NJ	New Jersey DEP	MA007 NELAP	06/30/2022
FL	Florida Department of Health	E871027 NELAP	06/30/2022
VT	Vermont Department of Health Lead Laboratory	LL720741	07/30/2022
ME	State of Maine	MA00100	06/9/2023
VA	Commonwealth of Virginia	460217	12/14/2022
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2022
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2022
NC-DW	North Carolina Department of Health	25703	07/31/2022
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2022
MI	Dept. of Env, Great Lakes, and Energy	9100	09/6/2022

2/22/2022

Pace Analytical®

Phone: 413-525-2332
Fax: 413-525-6405
Access COC's and Support Requests

http://www.pacelabs.com

CHAIN OF CUSTODY RECORD

39 Spruce Street
East Longmeadow, MA 01028

Doc # 381 Rev 5_07/13/2021

Company Name: Atlas
Address: 51 Knight Ln. Williston, VT
Phone: 802 - 862-1950
Project Name: St. J Armory
Project Location: 1249 Main St St. J, VT
Project Number:
Project Manager: Jesse Stratton
Pace Quote Name/Number: 2204382
Invoice Recipient:
Sampled By: Emma Lyford

Requested Turnaround Time:
7-Day ☐ 10-Day ☒
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required:
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery:
Format: PDF ☒ EXCEL ☐
Other:
CLP Like Data Pkg Required: ☐
Email To:
Fax To #:

Dissolved Metals Samples:
○ Field Filtered
○ Lab to Filter

Other Dissolved Samples:
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☐
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PAH	Extract & Hold
1	SB-1 0-1.5'	4.25.22	1000	GRAB	S	Uiw		X				X	
	SB-1 2-3'		1000	GRAB	S	Uiw		X					X
2	SB-2 0-1.5'		1015	GRAB	S	Uiw		X				X	
	SB-2 2-3'		1015	GRAB	S	Uiw		X					X
3	SB-3 0-1.5'		1045	GRAB	S	Uiw		X				X	
	SB-3 2-3'		1045	GRAB	S	Uiw		X					X
4	SB-4 0-1.5'		1035	GRAB	S	Uiw		X				X	
	SB-4 2-3'		1035	GRAB	S	Uiw		X					X
5	SB-6 0-1.5'		1110	GRAB	S	Uiw		X				X	
	SB-6 2-3'		1110	GRAB	S	Uiw		X					X

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS
GLASS
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time:
	4.26.22
Received by: (signature)	Date/Time:
RVM	4-27-2022
Relinquished by: (signature)	Date/Time:
RVM	4-27-2022
Received by: (signature)	Date/Time:
Dan Bielith	4/27 1035
Relinquished by: (signature)	Date/Time:
Dan Bielith	4/27 1100
Received by: (signature)	Date/Time:
	2.04.22 700
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments:
10:25 am

Data Deliverable Level Requirements:
MA
CT
RI

Special Requirements:
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ AIHA-LAP,LLC

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine wha analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pac Analytical values your partnership on each project and will try to assist with missing information, but wi not be held accountable.

Table of Contents

Pace Analytical®

Phone: 413-525-2332
Fax: 413-525-6405
Access COC's and Support Requests

http://www.pacelabs.com

CHAIN OF CUSTODY RECORD

39 Spruce Street
East Longmeadow, MA 01028

Doc # 381 Rev 5_07/13/2021

Company Name:	Atlas
Address:	51 Knight Ln Williston, VT
Phone:	802-862-1980
Project Name:	St. J. Armory
Project Location:	1249 main St St. J VT
Project Number:	
Project Manager:	Jesse Stratton
Pace Quote Name/Number:	2204382
Invoice Recipient:	
Sampled By:	Emma Lyford

Requested Turnaround Time
7-Day ☐ 10-Day ☒
PFAS 10-Day (std) ☐ Due Date:

Rush Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☒ EXCEL ☐
Other:
CLP Like Data Pkg Required: ☐
Email To:
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Dissolved Phosphorus Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☐
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PAH	Extract & Hold										
6	SB-7 0-1.5'	4.25.22	1120	GRAB	S	UNK		X				X											
	SB-7 2-3 / 1.5		1120		S			X					X										
7	SB-9 0-1.5'		1130		S			X				X											
	SB-9 2-3'		1130		S			X					X										
8	SB-10 0-1.5'		1145		S			X				X											
	SB-10 2-3'		1145		S			X					X										
9	SB-12 0-1.5'		930		S			X				X											
	SB-12 2-3'		930		S			X					X										
10	SB-13 0-1.5'		915		S			X				X											
	SB-13 2-3'		915		S			X					X										

Relinquished by: (signature)	Date/Time: 4.26.22
Received by: (signature)	Date/Time: 4-27-22
Relinquished by: (signature)	Date/Time: 4-27-22
Received by: (signature)	Date/Time: 1025 4/27
Relinquished by: (signature)	Date/Time: 7 30 4/27
Received by: (signature)	Date/Time: 4/27/22 1700
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments:
10:25 am

Detection Limit Requirements
MA
CT
Other

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

[2] Preservation Code
Courier Use Only
Total Number Of:
VIALS
GLASS
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N
*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Table of Contents

22D2009

Pace Analytical®

Phone: 413-525-2332
Fax: 413-525-6405
Access COC's and Support Requests

http://www.pacelabs.com

CHAIN OF CUSTODY RECORD

39 Spruce Street
East Longmeadow, MA 01028

Doc # 381 Rev 5_07/13/2021

Company Name:	Atlas
Address:	51 Knight lane Williston, VT
Phone:	802-862-1950
Project Name:	St J. Armory
Project Location:	1249 Main St St. J. VT
Project Number:	
Project Manager:	Jesse Straiton
Pace Quote Name/Number:	3204382
Invoice Recipient:	
Sampled By:	Emma Lyford

Turnaround Time Requested (TAT)
7-Day ☐ 10-Day ☒
PFAS 10-Day (std) ☐ Due Date:

Rush - Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☒ EXCEL ☐
Other:
CLP Like Data Pkg Required: ☐
Email To:
Fax To #:

Nitrate / Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☐
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1] Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PAH Extract & Hold
K	SB-14 0-1.5'	4.25.22	945	GRAB	S	MLE		X				X
	SB-14 2-3'	↓	945	GRAB	S	MLE		X				X

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS
GLASS
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? (Y) N
*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time: 4.26.22
Received by: (signature)	Date/Time: 4-27-22
Relinquished by: (signature)	Date/Time: 4-27-22
Received by: (signature)	Date/Time: 1025
Relinquished by: (signature)	Date/Time: 11 30
Received by: (signature)	Date/Time: 20 4/27/22 1200
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments:
10:25 am

Data Deliverable Requirements
QC: 10:25 am
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

I Have Not Confirmed Sample Container Numbers With Lab Staff Before Relinquishing Over Samples_____

con-test® ANALYTICAL LABORATORY

Doc# 277 Rev 5 2017

Login Sample Receipt Checklist - (Rejection Criteria Listing - Using Acceptance Policy) Any False Statement will be brought to the attention of the Client - State True or False

Client Atlas

Received By _____ Date 4/27/22 Time 1700

How were the samples received? In Cooler T No Cooler _____ On Ice T No Ice _____

Direct from Sampling _____ Ambient _____ Melted Ice _____

By Gun # 3 Actual Temp - 2.0

Were samples within Temperature? 2-6°C T By Blank # _____ Actual Temp - _____

Was Custody Seal Intact? n/a Were Samples Tampered with? n/a

Was COC Relinquished ? T Does Chain Agree With Samples? T

Are there broken/leaking/loose caps on any samples? F

Is COC in ink/ Legible? T Were samples received within holding time? T

Did COC include all pertinent Information? Client T Analysis T Sampler Name T

Project T ID's T Collection Dates/Times T

Are Sample labels filled out and legible? T

Are there Lab to Filters? F Who was notified? _____

Are there Rushes? F Who was notified? _____

Are there Short Holds? F Who was notified? _____

Is there enough Volume? T

Is there Headspace where applicable? n/a MS/MSD? F

Proper Media/Containers Used? T Is splitting samples required? F

Were trip blanks received? F On COC? F

Do all samples have the proper pH? Acid n/a Base n/a

Vials	#	Containers:	#		#		#
Unp-		1 Liter Amb.		1 Liter Plastic		16 oz Amb.	
HCL-		500 mL Amb.		500 mL Plastic		8oz Amb/Clear	1
Meoh-		250 mL Amb.		250 mL Plastic		4oz Amb/Clear	
Bisulfate-		Flashpoint		Col./Bacteria		2oz Amb/Clear	
DI-		Other Glass		Other Plastic		Encore	
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:	
Sulfuric-		Perchlorate		Ziplock			

Unused Media

Vials	#	Containers:	#		#		#
Unp-		1 Liter Amb.		1 Liter Plastic		16 oz Amb.	
HCL-		500 mL Amb.		500 mL Plastic		8oz Amb/Clear	
Meoh-		250 mL Amb.		250 mL Plastic		4oz Amb/Clear	
Bisulfate-		Col./Bacteria		Flashpoint		2oz Amb/Clear	
DI-		Other Plastic		Other Glass		Encore	
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:	
Sulfuric-		Perchlorate		Ziplock			

Comments:

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

May 24, 2022

Jesse Stratton
ATC Group Services LLC - Vermont
51 Knight Lane, PO Box 1486
Williston, VT 05495

Project Location: 1249 Main St, St. J., VT
Client Job Number:
Project Number: [none]
Laboratory Work Order Number: 22E0872

Enclosed are results of analyses for samples as received by the laboratory on May 13, 2022. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Kaitlyn A. Feliciano
Project Manager

Table of Contents

Sample Summary 4

Case Narrative 6

Sample Results 7

22E0872-01 7

22E0872-02 10

22E0872-03 13

22E0872-04 16

22E0872-05 19

22E0872-06 22

22E0872-07 25

22E0872-08 28

22E0872-09 31

22E0872-10 34

22E0872-11 37

Sample Preparation Information 40

QC Data 42

Polychlorinated Biphenyls with 3540 Soxhlet Extraction 42

B308413 42

Metals Analyses (Total) 43

B308384 43

B308402 43

B308444 44

B308717 44

Dual Column RPD Report 45

Flag/Qualifier Summary 47

Table of Contents (continued)

Certifications 48

Chain of Custody/Sample Receipt 50

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

ATC Group Services LLC - Vermont
51 Knight Lane, PO Box 1486
Williston, VT 05495
ATTN: Jesse Stratton

REPORT DATE: 5/24/2022

PURCHASE ORDER NUMBER:

PROJECT NUMBER: [none]

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 22E0872

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: 1249 Main St, St. J., VT

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
SB-1 (0-1.5)	22E0872-01	Soil		SM 2540G	
				SW-846 6010D	
				SW-846 7471B	
				SW-846 8082A	
SB-2 (0-1.5)	22E0872-02	Soil		SM 2540G	
				SW-846 6010D	
				SW-846 7471B	
				SW-846 8082A	
SB-3 (0-1.5)	22E0872-03	Soil		SM 2540G	
				SW-846 6010D	
				SW-846 7471B	
				SW-846 8082A	
SB-4 (0-1.5)	22E0872-04	Soil		SM 2540G	
				SW-846 6010D	
				SW-846 7471B	
				SW-846 8082A	
SB-6 (0-1.5)	22E0872-05	Soil		SM 2540G	
				SW-846 6010D	
				SW-846 7471B	
				SW-846 8082A	
SB-7 (0-1.5)	22E0872-06	Soil		SM 2540G	
				SW-846 6010D	
				SW-846 7471B	
				SW-846 8082A	
SB-9 (0-1.5)	22E0872-07	Soil		SM 2540G	
				SW-846 6010D	
				SW-846 7471B	
				SW-846 8082A	
SB-10 (0-1.5)	22E0872-08	Soil		SM 2540G	
				SW-846 6010D	
				SW-846 7471B	
				SW-846 8082A	
SB-12 (0-1.5)	22E0872-09	Soil		SM 2540G	
				SW-846 6010D	
				SW-846 7471B	
				SW-846 8082A	
SB-13 (0-1.5)	22E0872-10	Soil		SM 2540G	
				SW-846 6010D	
				SW-846 7471B	
				SW-846 8082A	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

ATC Group Services LLC - Vermont
51 Knight Lane, PO Box 1486
Williston, VT 05495
ATTN: Jesse Stratton

REPORT DATE: 5/24/2022

PURCHASE ORDER NUMBER:

PROJECT NUMBER: [none]

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 22E0872

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: 1249 Main St, St. J., VT

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
SB-14 (0-1.5)	22E0872-11	Soil		SM 2540G	
				SW-846 6010D	
				SW-846 7471B	
				SW-846 8082A	

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

SW-846 6010D

Qualifications:

M-10

The reporting limit verification for the AIHA lead program is outside of control limits for this element. Any reported result at or near the detection limit may be biased on the high side.

Analyte & Samples(s) Qualified:

Lead

22E0872-01[SB-1 (0-1.5)], 22E0872-02[SB-2 (0-1.5)], 22E0872-03[SB-3 (0-1.5)], 22E0872-04[SB-4 (0-1.5)], 22E0872-05[SB-6 (0-1.5)], 22E0872-06[SB-7 (0-1.5)], 22E0872-07[SB-9 (0-1.5)], 22E0872-08[SB-10 (0-1.5)], 22E0872-09[SB-12 (0-1.5)], 22E0872-10[SB-13 (0-1.5)], 22E0872- 11[SB-14 (0-1.5)], B308384-SRM1, B308402-SRM1

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Lisa A. Worthington
Technical Representative

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 1249 Main St, St. J., VT | Sample Description: | Work Order: 22E0872

Date Received: 5/13/2022

Field Sample #: SB-1 (0-1.5) | Sampled: 4/25/2022 10:00

Sample ID: 22E0872-01

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.081	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 17:10	TG
Aroclor-1221 [1]	ND	0.081	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 17:10	TG
Aroclor-1232 [1]	ND	0.081	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 17:10	TG
Aroclor-1242 [1]	ND	0.081	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 17:10	TG
Aroclor-1248 [1]	ND	0.081	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 17:10	TG
Aroclor-1254 [1]	ND	0.081	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 17:10	TG
Aroclor-1260 [1]	ND	0.081	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 17:10	TG
Aroclor-1262 [1]	ND	0.081	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 17:10	TG
Aroclor-1268 [1]	ND	0.081	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 17:10	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	98.5	30-150		5/16/22 17:10
Decachlorobiphenyl [2]	87.7	30-150		5/16/22 17:10
Tetrachloro-m-xylene [1]	82.3	30-150		5/16/22 17:10
Tetrachloro-m-xylene [2]	81.0	30-150		5/16/22 17:10

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 1249 Main St, St. J., VT Sample Description: Work Order: 22E0872

Date Received: 5/13/2022

Field Sample #: SB-1 (0-1.5) Sampled: 4/25/2022 10:00

Sample ID: 22E0872-01

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	ND	3.3	mg/Kg dry	1		SW-846 6010D	5/13/22	5/16/22 22:49	QNW
Barium	45	1.6	mg/Kg dry	1		SW-846 6010D	5/13/22	5/16/22 22:49	QNW
Cadmium	ND	0.33	mg/Kg dry	1		SW-846 6010D	5/13/22	5/16/22 22:49	QNW
Chromium	15	0.65	mg/Kg dry	1		SW-846 6010D	5/13/22	5/16/22 22:49	QNW
Lead	20	0.49	mg/Kg dry	1	M-10	SW-846 6010D	5/13/22	5/16/22 22:49	QNW
Mercury	0.043	0.025	mg/Kg dry	1		SW-846 7471B	5/18/22	5/19/22 13:07	MJH
Selenium	ND	3.3	mg/Kg dry	1		SW-846 6010D	5/13/22	5/16/22 22:49	QNW
Silver	ND	0.33	mg/Kg dry	1		SW-846 6010D	5/13/22	5/23/22 16:43	QNW

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 1249 Main St, St. J., VT | Sample Description: | Work Order: 22E0872

Date Received: 5/13/2022

Field Sample #: SB-1 (0-1.5) | Sampled: 4/25/2022 10:00

Sample ID: 22E0872-01

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	96.5		% Wt	1		SM 2540G	5/10/22	5/10/22 21:09	AMM2

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 1249 Main St, St. J., VT | Sample Description: | Work Order: 22E0872

Date Received: 5/13/2022

Field Sample #: SB-2 (0-1.5) | Sampled: 4/25/2022 10:15

Sample ID: 22E0872-02

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.082	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 17:28	TG
Aroclor-1221 [1]	ND	0.082	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 17:28	TG
Aroclor-1232 [1]	ND	0.082	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 17:28	TG
Aroclor-1242 [1]	ND	0.082	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 17:28	TG
Aroclor-1248 [1]	ND	0.082	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 17:28	TG
Aroclor-1254 [1]	ND	0.082	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 17:28	TG
Aroclor-1260 [1]	ND	0.082	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 17:28	TG
Aroclor-1262 [1]	ND	0.082	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 17:28	TG
Aroclor-1268 [1]	ND	0.082	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 17:28	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	99.7	30-150		5/16/22 17:28
Decachlorobiphenyl [2]	87.8	30-150		5/16/22 17:28
Tetrachloro-m-xylene [1]	84.8	30-150		5/16/22 17:28
Tetrachloro-m-xylene [2]	81.7	30-150		5/16/22 17:28

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 1249 Main St, St. J., VT Sample Description: Work Order: 22E0872

Date Received: 5/13/2022

Field Sample #: SB-2 (0-1.5) Sampled: 4/25/2022 10:15

Sample ID: 22E0872-02

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	ND	3.3	mg/Kg dry	1		SW-846 6010D	5/13/22	5/16/22 22:55	QNW
Barium	39	1.6	mg/Kg dry	1		SW-846 6010D	5/13/22	5/16/22 22:55	QNW
Cadmium	ND	0.33	mg/Kg dry	1		SW-846 6010D	5/13/22	5/16/22 22:55	QNW
Chromium	17	0.65	mg/Kg dry	1		SW-846 6010D	5/13/22	5/16/22 22:55	QNW
Lead	26	0.49	mg/Kg dry	1	M-10	SW-846 6010D	5/13/22	5/16/22 22:55	QNW
Mercury	0.079	0.025	mg/Kg dry	1		SW-846 7471B	5/18/22	5/19/22 13:10	MJH
Selenium	ND	3.3	mg/Kg dry	1		SW-846 6010D	5/13/22	5/16/22 22:55	QNW
Silver	ND	0.33	mg/Kg dry	1		SW-846 6010D	5/13/22	5/23/22 16:50	QNW

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 1249 Main St, St. J., VT | Sample Description: | Work Order: 22E0872

Date Received: 5/13/2022

Field Sample #: SB-2 (0-1.5) | Sampled: 4/25/2022 10:15

Sample ID: 22E0872-02

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	96.7		% Wt	1		SM 2540G	5/10/22	5/10/22 21:09	AMM2

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 1249 Main St, St. J., VT | Sample Description: | Work Order: 22E0872

Date Received: 5/13/2022

Field Sample #: SB-3 (0-1.5) | Sampled: 4/25/2022 10:45

Sample ID: 22E0872-03

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 17:45	TG
Aroclor-1221 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 17:45	TG
Aroclor-1232 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 17:45	TG
Aroclor-1242 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 17:45	TG
Aroclor-1248 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 17:45	TG
Aroclor-1254 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 17:45	TG
Aroclor-1260 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 17:45	TG
Aroclor-1262 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 17:45	TG
Aroclor-1268 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 17:45	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	100	30-150		5/16/22 17:45
Decachlorobiphenyl [2]	88.2	30-150		5/16/22 17:45
Tetrachloro-m-xylene [1]	80.1	30-150		5/16/22 17:45
Tetrachloro-m-xylene [2]	77.7	30-150		5/16/22 17:45

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 1249 Main St, St. J., VT | Sample Description: | Work Order: 22E0872

Date Received: 5/13/2022

Field Sample #: SB-3 (0-1.5) | Sampled: 4/25/2022 10:45

Sample ID: 22E0872-03

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	ND	3.6	mg/Kg dry	1		SW-846 6010D	5/13/22	5/16/22 23:02	QNW
Barium	24	1.8	mg/Kg dry	1		SW-846 6010D	5/13/22	5/16/22 23:02	QNW
Cadmium	ND	0.36	mg/Kg dry	1		SW-846 6010D	5/13/22	5/16/22 23:02	QNW
Chromium	17	0.72	mg/Kg dry	1		SW-846 6010D	5/13/22	5/16/22 23:02	QNW
Lead	24	0.54	mg/Kg dry	1	M-10	SW-846 6010D	5/13/22	5/16/22 23:02	QNW
Mercury	0.097	0.026	mg/Kg dry	1		SW-846 7471B	5/18/22	5/19/22 13:12	MJH
Selenium	ND	3.6	mg/Kg dry	1		SW-846 6010D	5/13/22	5/16/22 23:02	QNW
Silver	ND	0.36	mg/Kg dry	1		SW-846 6010D	5/13/22	5/23/22 16:57	QNW

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 1249 Main St, St. J., VT | Sample Description: | Work Order: 22E0872

Date Received: 5/13/2022

Field Sample #: SB-3 (0-1.5) | Sampled: 4/25/2022 10:45

Sample ID: 22E0872-03

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	92.0		% Wt	1		SM 2540G	5/10/22	5/10/22 21:09	AMM2

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 1249 Main St, St. J., VT | Sample Description: | Work Order: 22E0872

Date Received: 5/13/2022

Field Sample #: SB-4 (0-1.5) | Sampled: 4/25/2022 10:35

Sample ID: 22E0872-04

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.092	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 18:03	TG
Aroclor-1221 [1]	ND	0.092	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 18:03	TG
Aroclor-1232 [1]	ND	0.092	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 18:03	TG
Aroclor-1242 [1]	ND	0.092	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 18:03	TG
Aroclor-1248 [1]	ND	0.092	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 18:03	TG
Aroclor-1254 [1]	ND	0.092	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 18:03	TG
Aroclor-1260 [1]	ND	0.092	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 18:03	TG
Aroclor-1262 [1]	ND	0.092	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 18:03	TG
Aroclor-1268 [1]	ND	0.092	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 18:03	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	88.4	30-150		5/16/22 18:03
Decachlorobiphenyl [2]	87.3	30-150		5/16/22 18:03
Tetrachloro-m-xylene [1]	82.4	30-150		5/16/22 18:03
Tetrachloro-m-xylene [2]	81.0	30-150		5/16/22 18:03

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 1249 Main St, St. J., VT | Sample Description: | Work Order: 22E0872

Date Received: 5/13/2022

Field Sample #: SB-4 (0-1.5) | Sampled: 4/25/2022 10:35

Sample ID: 22E0872-04

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	ND	3.7	mg/Kg dry	1		SW-846 6010D	5/13/22	5/16/22 23:09	QNW
Barium	64	1.8	mg/Kg dry	1		SW-846 6010D	5/13/22	5/16/22 23:09	QNW
Cadmium	ND	0.37	mg/Kg dry	1		SW-846 6010D	5/13/22	5/16/22 23:09	QNW
Chromium	12	0.73	mg/Kg dry	1		SW-846 6010D	5/13/22	5/16/22 23:09	QNW
Lead	160	0.55	mg/Kg dry	1	M-10	SW-846 6010D	5/13/22	5/16/22 23:09	QNW
Mercury	0.54	0.032	mg/Kg dry	1		SW-846 7471B	5/15/22	5/17/22 14:46	MJH
Selenium	ND	3.7	mg/Kg dry	1		SW-846 6010D	5/13/22	5/16/22 23:09	QNW
Silver	ND	0.37	mg/Kg dry	1		SW-846 6010D	5/13/22	5/23/22 17:04	QNW

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 1249 Main St, St. J., VT | Sample Description: | Work Order: 22E0872

Date Received: 5/13/2022

Field Sample #: SB-4 (0-1.5) | Sampled: 4/25/2022 10:35

Sample ID: 22E0872-04

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	87.3		% Wt	1		SM 2540G	5/10/22	5/10/22 21:09	AMM2

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 1249 Main St, St. J., VT | Sample Description: | Work Order: 22E0872

Date Received: 5/13/2022

Field Sample #: SB-6 (0-1.5) | Sampled: 4/25/2022 11:10

Sample ID: 22E0872-05

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.094	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 18:21	TG
Aroclor-1221 [1]	ND	0.094	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 18:21	TG
Aroclor-1232 [1]	ND	0.094	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 18:21	TG
Aroclor-1242 [1]	ND	0.094	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 18:21	TG
Aroclor-1248 [1]	ND	0.094	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 18:21	TG
Aroclor-1254 [2]	ND	0.094	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 18:21	TG
Aroclor-1260 [1]	ND	0.094	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 18:21	TG
Aroclor-1262 [1]	ND	0.094	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 18:21	TG
Aroclor-1268 [1]	ND	0.094	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 18:21	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	105	30-150		5/16/22 18:21
Decachlorobiphenyl [2]	92.4	30-150		5/16/22 18:21
Tetrachloro-m-xylene [1]	83.4	30-150		5/16/22 18:21
Tetrachloro-m-xylene [2]	81.1	30-150		5/16/22 18:21

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 1249 Main St, St. J., VT | Sample Description: | Work Order: 22E0872

Date Received: 5/13/2022

Field Sample #: SB-6 (0-1.5) | Sampled: 4/25/2022 11:10

Sample ID: 22E0872-05

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	ND	3.8	mg/Kg dry	1		SW-846 6010D	5/13/22	5/16/22 23:16	QNW
Barium	60	1.9	mg/Kg dry	1		SW-846 6010D	5/13/22	5/16/22 23:16	QNW
Cadmium	ND	0.38	mg/Kg dry	1		SW-846 6010D	5/13/22	5/16/22 23:16	QNW
Chromium	17	0.75	mg/Kg dry	1		SW-846 6010D	5/13/22	5/16/22 23:16	QNW
Lead	110	0.56	mg/Kg dry	1	M-10	SW-846 6010D	5/13/22	5/16/22 23:16	QNW
Mercury	0.18	0.032	mg/Kg dry	1		SW-846 7471B	5/15/22	5/17/22 14:47	MJH
Selenium	ND	3.8	mg/Kg dry	1		SW-846 6010D	5/13/22	5/16/22 23:16	QNW
Silver	ND	0.38	mg/Kg dry	1		SW-846 6010D	5/13/22	5/23/22 17:11	QNW

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 1249 Main St, St. J., VT | Sample Description: | Work Order: 22E0872

Date Received: 5/13/2022

Field Sample #: SB-6 (0-1.5) | Sampled: 4/25/2022 11:10

Sample ID: 22E0872-05

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	83.3		% Wt	1		SM 2540G	5/10/22	5/10/22 21:09	AMM2

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 1249 Main St, St. J., VT | Sample Description: | Work Order: 22E0872

Date Received: 5/13/2022

Field Sample #: SB-7 (0-1.5) | Sampled: 4/25/2022 11:20

Sample ID: 22E0872-06

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 18:38	TG
Aroclor-1221 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 18:38	TG
Aroclor-1232 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 18:38	TG
Aroclor-1242 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 18:38	TG
Aroclor-1248 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 18:38	TG
Aroclor-1254 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 18:38	TG
Aroclor-1260 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 18:38	TG
Aroclor-1262 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 18:38	TG
Aroclor-1268 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 18:38	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	102	30-150		5/16/22 18:38
Decachlorobiphenyl [2]	90.9	30-150		5/16/22 18:38
Tetrachloro-m-xylene [1]	88.7	30-150		5/16/22 18:38
Tetrachloro-m-xylene [2]	86.4	30-150		5/16/22 18:38

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 1249 Main St, St. J., VT | Sample Description: | Work Order: 22E0872

Date Received: 5/13/2022

Field Sample #: SB-7 (0-1.5) | Sampled: 4/25/2022 11:20

Sample ID: 22E0872-06

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	ND	3.4	mg/Kg dry	1		SW-846 6010D	5/13/22	5/16/22 18:49	QNW
Barium	30	1.7	mg/Kg dry	1		SW-846 6010D	5/13/22	5/16/22 18:49	QNW
Cadmium	ND	0.34	mg/Kg dry	1		SW-846 6010D	5/13/22	5/16/22 18:49	QNW
Chromium	13	0.68	mg/Kg dry	1		SW-846 6010D	5/13/22	5/16/22 18:49	QNW
Lead	28	0.51	mg/Kg dry	1	M-10	SW-846 6010D	5/13/22	5/16/22 18:49	QNW
Mercury	ND	0.027	mg/Kg dry	1		SW-846 7471B	5/15/22	5/17/22 14:49	MJH
Selenium	ND	3.4	mg/Kg dry	1		SW-846 6010D	5/13/22	5/16/22 18:49	QNW
Silver	ND	0.34	mg/Kg dry	1		SW-846 6010D	5/13/22	5/19/22 17:09	ATP

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 1249 Main St, St. J., VT | Sample Description: | Work Order: 22E0872

Date Received: 5/13/2022

Field Sample #: SB-7 (0-1.5) | Sampled: 4/25/2022 11:20

Sample ID: 22E0872-06

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	95.3		% Wt	1		SM 2540G	5/10/22	5/10/22 21:09	AMM2

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 1249 Main St, St. J., VT | Sample Description: | Work Order: 22E0872

Date Received: 5/13/2022

Field Sample #: SB-9 (0-1.5) | Sampled: 4/25/2022 11:30

Sample ID: 22E0872-07

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.087	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 18:56	TG
Aroclor-1221 [1]	ND	0.087	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 18:56	TG
Aroclor-1232 [1]	ND	0.087	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 18:56	TG
Aroclor-1242 [1]	ND	0.087	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 18:56	TG
Aroclor-1248 [1]	ND	0.087	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 18:56	TG
Aroclor-1254 [1]	ND	0.087	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 18:56	TG
Aroclor-1260 [1]	ND	0.087	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 18:56	TG
Aroclor-1262 [1]	ND	0.087	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 18:56	TG
Aroclor-1268 [1]	ND	0.087	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 18:56	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	92.5	30-150		5/16/22 18:56
Decachlorobiphenyl [2]	84.5	30-150		5/16/22 18:56
Tetrachloro-m-xylene [1]	82.5	30-150		5/16/22 18:56
Tetrachloro-m-xylene [2]	80.2	30-150		5/16/22 18:56

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 1249 Main St, St. J., VT | Sample Description: | Work Order: 22E0872

Date Received: 5/13/2022

Field Sample #: SB-9 (0-1.5) | Sampled: 4/25/2022 11:30

Sample ID: 22E0872-07

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	4.7	3.6	mg/Kg dry	1		SW-846 6010D	5/13/22	5/16/22 18:56	QNW
Barium	35	1.8	mg/Kg dry	1		SW-846 6010D	5/13/22	5/16/22 18:56	QNW
Cadmium	ND	0.36	mg/Kg dry	1		SW-846 6010D	5/13/22	5/16/22 18:56	QNW
Chromium	13	0.71	mg/Kg dry	1		SW-846 6010D	5/13/22	5/16/22 18:56	QNW
Lead	730	0.53	mg/Kg dry	1	M-10	SW-846 6010D	5/13/22	5/16/22 18:56	QNW
Mercury	0.36	0.029	mg/Kg dry	1		SW-846 7471B	5/15/22	5/17/22 14:51	MJH
Selenium	ND	3.6	mg/Kg dry	1		SW-846 6010D	5/13/22	5/16/22 18:56	QNW
Silver	ND	0.36	mg/Kg dry	1		SW-846 6010D	5/13/22	5/19/22 17:16	ATP

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 1249 Main St, St. J., VT | Sample Description: | Work Order: 22E0872

Date Received: 5/13/2022

Field Sample #: SB-9 (0-1.5) | Sampled: 4/25/2022 11:30

Sample ID: 22E0872-07

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	88.7		% Wt	1		SM 2540G	5/10/22	5/10/22 21:09	AMM2

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 1249 Main St, St. J., VT | Sample Description: | Work Order: 22E0872

Date Received: 5/13/2022

Field Sample #: SB-10 (0-1.5) | Sampled: 4/25/2022 11:45

Sample ID: 22E0872-08

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.095	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 19:14	TG
Aroclor-1221 [1]	ND	0.095	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 19:14	TG
Aroclor-1232 [1]	ND	0.095	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 19:14	TG
Aroclor-1242 [1]	ND	0.095	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 19:14	TG
Aroclor-1248 [1]	ND	0.095	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 19:14	TG
Aroclor-1254 [1]	ND	0.095	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 19:14	TG
Aroclor-1260 [1]	ND	0.095	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 19:14	TG
Aroclor-1262 [1]	ND	0.095	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 19:14	TG
Aroclor-1268 [1]	ND	0.095	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 19:14	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	100	30-150		5/16/22 19:14
Decachlorobiphenyl [2]	88.4	30-150		5/16/22 19:14
Tetrachloro-m-xylene [1]	78.7	30-150		5/16/22 19:14
Tetrachloro-m-xylene [2]	76.4	30-150		5/16/22 19:14

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 1249 Main St, St. J., VT Sample Description: Work Order: 22E0872

Date Received: 5/13/2022

Field Sample #: SB-10 (0-1.5) Sampled: 4/25/2022 11:45

Sample ID: 22E0872-08

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	ND	4.0	mg/Kg dry	1		SW-846 6010D	5/13/22	5/16/22 19:03	QNW
Barium	58	2.0	mg/Kg dry	1		SW-846 6010D	5/13/22	5/16/22 19:03	QNW
Cadmium	1.0	0.40	mg/Kg dry	1		SW-846 6010D	5/13/22	5/16/22 19:03	QNW
Chromium	11	0.80	mg/Kg dry	1		SW-846 6010D	5/13/22	5/16/22 19:03	QNW
Lead	23	0.60	mg/Kg dry	1	M-10	SW-846 6010D	5/13/22	5/16/22 19:03	QNW
Mercury	0.099	0.033	mg/Kg dry	1		SW-846 7471B	5/15/22	5/17/22 14:53	MJH
Selenium	ND	4.0	mg/Kg dry	1		SW-846 6010D	5/13/22	5/16/22 19:03	QNW
Silver	ND	0.40	mg/Kg dry	1		SW-846 6010D	5/13/22	5/19/22 17:23	ATP

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 1249 Main St, St. J., VT | Sample Description: | Work Order: 22E0872

Date Received: 5/13/2022

Field Sample #: SB-10 (0-1.5) | Sampled: 4/25/2022 11:45

Sample ID: 22E0872-08

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	81.3		% Wt	1		SM 2540G	5/10/22	5/10/22 21:09	AMM2

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 1249 Main St, St. J., VT | Sample Description: | Work Order: 22E0872

Date Received: 5/13/2022

Field Sample #: SB-12 (0-1.5) | Sampled: 4/25/2022 09:30

Sample ID: 22E0872-09

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.096	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 19:31	TG
Aroclor-1221 [1]	ND	0.096	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 19:31	TG
Aroclor-1232 [1]	ND	0.096	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 19:31	TG
Aroclor-1242 [1]	ND	0.096	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 19:31	TG
Aroclor-1248 [1]	ND	0.096	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 19:31	TG
Aroclor-1254 [1]	ND	0.096	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 19:31	TG
Aroclor-1260 [1]	ND	0.096	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 19:31	TG
Aroclor-1262 [1]	ND	0.096	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 19:31	TG
Aroclor-1268 [1]	ND	0.096	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 19:31	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	102	30-150		5/16/22 19:31
Decachlorobiphenyl [2]	90.2	30-150		5/16/22 19:31
Tetrachloro-m-xylene [1]	81.0	30-150		5/16/22 19:31
Tetrachloro-m-xylene [2]	79.1	30-150		5/16/22 19:31

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 1249 Main St, St. J., VT | Sample Description: | Work Order: 22E0872

Date Received: 5/13/2022

Field Sample #: SB-12 (0-1.5) | Sampled: 4/25/2022 09:30

Sample ID: 22E0872-09

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	ND	3.9	mg/Kg dry	1		SW-846 6010D	5/13/22	5/16/22 19:10	QNW
Barium	48	1.9	mg/Kg dry	1		SW-846 6010D	5/13/22	5/16/22 19:10	QNW
Cadmium	ND	0.39	mg/Kg dry	1		SW-846 6010D	5/13/22	5/16/22 19:10	QNW
Chromium	12	0.78	mg/Kg dry	1		SW-846 6010D	5/13/22	5/16/22 19:10	QNW
Lead	260	0.58	mg/Kg dry	1	M-10	SW-846 6010D	5/13/22	5/16/22 19:10	QNW
Mercury	0.33	0.034	mg/Kg dry	1		SW-846 7471B	5/15/22	5/17/22 14:54	MJH
Selenium	ND	3.9	mg/Kg dry	1		SW-846 6010D	5/13/22	5/16/22 19:10	QNW
Silver	ND	0.39	mg/Kg dry	1		SW-846 6010D	5/13/22	5/19/22 17:30	ATP

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 1249 Main St, St. J., VT | Sample Description: | Work Order: 22E0872

Date Received: 5/13/2022

Field Sample #: SB-12 (0-1.5) | Sampled: 4/25/2022 09:30

Sample ID: 22E0872-09

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	80.5		% Wt	1		SM 2540G	5/10/22	5/10/22 21:09	AMM2

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 1249 Main St, St. J., VT | Sample Description: | Work Order: 22E0872

Date Received: 5/13/2022

Field Sample #: SB-13 (0-1.5) | Sampled: 4/25/2022 09:15

Sample ID: 22E0872-10

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.092	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 19:49	TG
Aroclor-1221 [1]	ND	0.092	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 19:49	TG
Aroclor-1232 [1]	ND	0.092	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 19:49	TG
Aroclor-1242 [1]	ND	0.092	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 19:49	TG
Aroclor-1248 [1]	ND	0.092	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 19:49	TG
Aroclor-1254 [1]	ND	0.092	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 19:49	TG
Aroclor-1260 [1]	ND	0.092	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 19:49	TG
Aroclor-1262 [1]	ND	0.092	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 19:49	TG
Aroclor-1268 [1]	ND	0.092	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 19:49	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	103	30-150		5/16/22 19:49
Decachlorobiphenyl [2]	91.4	30-150		5/16/22 19:49
Tetrachloro-m-xylene [1]	83.6	30-150		5/16/22 19:49
Tetrachloro-m-xylene [2]	81.7	30-150		5/16/22 19:49

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 1249 Main St, St. J., VT Sample Description: Work Order: 22E0872

Date Received: 5/13/2022

Field Sample #: SB-13 (0-1.5) Sampled: 4/25/2022 09:15

Sample ID: 22E0872-10

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	ND	3.9	mg/Kg dry	1		SW-846 6010D	5/13/22	5/16/22 19:17	QNW
Barium	38	1.9	mg/Kg dry	1		SW-846 6010D	5/13/22	5/16/22 19:17	QNW
Cadmium	ND	0.39	mg/Kg dry	1		SW-846 6010D	5/13/22	5/16/22 19:17	QNW
Chromium	21	0.78	mg/Kg dry	1		SW-846 6010D	5/13/22	5/16/22 19:17	QNW
Lead	9.3	0.58	mg/Kg dry	1	M-10	SW-846 6010D	5/13/22	5/16/22 19:17	QNW
Mercury	0.048	0.034	mg/Kg dry	1		SW-846 7471B	5/15/22	5/17/22 14:56	MJH
Selenium	ND	3.9	mg/Kg dry	1		SW-846 6010D	5/13/22	5/16/22 19:17	QNW
Silver	ND	0.39	mg/Kg dry	1		SW-846 6010D	5/13/22	5/19/22 17:38	ATP

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 1249 Main St, St. J., VT | Sample Description: | Work Order: 22E0872

Date Received: 5/13/2022

Field Sample #: SB-13 (0-1.5) | Sampled: 4/25/2022 09:15

Sample ID: 22E0872-10

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	85.6		% Wt	1		SM 2540G	5/10/22	5/10/22 21:09	AMM2

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 1249 Main St, St. J., VT | Sample Description: | Work Order: 22E0872

Date Received: 5/13/2022

Field Sample #: SB-14 (0-1.5) | Sampled: 4/25/2022 09:45

Sample ID: 22E0872-11

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.090	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 20:07	TG
Aroclor-1221 [1]	ND	0.090	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 20:07	TG
Aroclor-1232 [1]	ND	0.090	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 20:07	TG
Aroclor-1242 [1]	ND	0.090	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 20:07	TG
Aroclor-1248 [1]	ND	0.090	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 20:07	TG
Aroclor-1254 [1]	ND	0.090	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 20:07	TG
Aroclor-1260 [1]	ND	0.090	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 20:07	TG
Aroclor-1262 [1]	ND	0.090	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 20:07	TG
Aroclor-1268 [1]	ND	0.090	mg/Kg dry	4		SW-846 8082A	5/13/22	5/16/22 20:07	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	99.0	30-150		5/16/22 20:07
Decachlorobiphenyl [2]	87.7	30-150		5/16/22 20:07
Tetrachloro-m-xylene [1]	84.0	30-150		5/16/22 20:07
Tetrachloro-m-xylene [2]	81.4	30-150		5/16/22 20:07

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 1249 Main St, St. J., VT | Sample Description: | Work Order: 22E0872

Date Received: 5/13/2022

Field Sample #: SB-14 (0-1.5) | Sampled: 4/25/2022 09:45

Sample ID: 22E0872-11

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	ND	3.7	mg/Kg dry	1		SW-846 6010D	5/13/22	5/16/22 19:24	QNW
Barium	120	1.8	mg/Kg dry	1		SW-846 6010D	5/13/22	5/16/22 19:24	QNW
Cadmium	0.50	0.37	mg/Kg dry	1		SW-846 6010D	5/13/22	5/16/22 19:24	QNW
Chromium	14	0.74	mg/Kg dry	1		SW-846 6010D	5/13/22	5/16/22 19:24	QNW
Lead	290	0.55	mg/Kg dry	1	M-10	SW-846 6010D	5/13/22	5/16/22 19:24	QNW
Mercury	0.98	0.030	mg/Kg dry	1		SW-846 7471B	5/15/22	5/17/22 14:58	MJH
Selenium	ND	3.7	mg/Kg dry	1		SW-846 6010D	5/13/22	5/16/22 19:24	QNW
Silver	0.93	0.37	mg/Kg dry	1		SW-846 6010D	5/13/22	5/19/22 17:45	ATP

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 1249 Main St, St. J., VT | Sample Description: | Work Order: 22E0872

Date Received: 5/13/2022

Field Sample #: SB-14 (0-1.5) | Sampled: 4/25/2022 09:45

Sample ID: 22E0872-11

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	85.5		% Wt	1		SM 2540G	5/10/22	5/10/22 21:09	AMM2

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method: % Solids **Analytical Method: SM 2540G**

Lab Number [Field ID]	Batch	Date
22E0872-01 [SB-1 (0-1.5)]	B308061	05/10/22
22E0872-02 [SB-2 (0-1.5)]	B308061	05/10/22
22E0872-03 [SB-3 (0-1.5)]	B308061	05/10/22
22E0872-04 [SB-4 (0-1.5)]	B308061	05/10/22
22E0872-05 [SB-6 (0-1.5)]	B308061	05/10/22
22E0872-06 [SB-7 (0-1.5)]	B308061	05/10/22
22E0872-07 [SB-9 (0-1.5)]	B308061	05/10/22
22E0872-08 [SB-10 (0-1.5)]	B308061	05/10/22
22E0872-09 [SB-12 (0-1.5)]	B308061	05/10/22
22E0872-10 [SB-13 (0-1.5)]	B308061	05/10/22
22E0872-11 [SB-14 (0-1.5)]	B308061	05/10/22

Prep Method: SW-846 3050B **Analytical Method: SW-846 6010D**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
22E0872-06 [SB-7 (0-1.5)]	B308384	1.54	50.0	05/13/22
22E0872-07 [SB-9 (0-1.5)]	B308384	1.58	50.0	05/13/22
22E0872-08 [SB-10 (0-1.5)]	B308384	1.54	50.0	05/13/22
22E0872-09 [SB-12 (0-1.5)]	B308384	1.60	50.0	05/13/22
22E0872-10 [SB-13 (0-1.5)]	B308384	1.50	50.0	05/13/22
22E0872-11 [SB-14 (0-1.5)]	B308384	1.59	50.0	05/13/22

Prep Method: SW-846 3050B **Analytical Method: SW-846 6010D**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
22E0872-01 [SB-1 (0-1.5)]	B308402	1.58	50.0	05/13/22
22E0872-02 [SB-2 (0-1.5)]	B308402	1.58	50.0	05/13/22
22E0872-03 [SB-3 (0-1.5)]	B308402	1.51	50.0	05/13/22
22E0872-04 [SB-4 (0-1.5)]	B308402	1.56	50.0	05/13/22
22E0872-05 [SB-6 (0-1.5)]	B308402	1.60	50.0	05/13/22

Prep Method: SW-846 7471 **Analytical Method: SW-846 7471B**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
22E0872-04 [SB-4 (0-1.5)]	B308444	0.530	50.0	05/15/22
22E0872-05 [SB-6 (0-1.5)]	B308444	0.561	50.0	05/15/22
22E0872-06 [SB-7 (0-1.5)]	B308444	0.574	50.0	05/15/22
22E0872-07 [SB-9 (0-1.5)]	B308444	0.579	50.0	05/15/22
22E0872-08 [SB-10 (0-1.5)]	B308444	0.565	50.0	05/15/22
22E0872-09 [SB-12 (0-1.5)]	B308444	0.555	50.0	05/15/22
22E0872-10 [SB-13 (0-1.5)]	B308444	0.519	50.0	05/15/22
22E0872-11 [SB-14 (0-1.5)]	B308444	0.580	50.0	05/15/22

Prep Method: SW-846 7471 **Analytical Method: SW-846 7471B**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
22E0872-01 [SB-1 (0-1.5)]	B308717	0.621	50.0	05/18/22
22E0872-02 [SB-2 (0-1.5)]	B308717	0.618	50.0	05/18/22
22E0872-03 [SB-3 (0-1.5)]	B308717	0.624	50.0	05/18/22

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method: SW-846 3540C **Analytical Method: SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
22E0872-01 [SB-1 (0-1.5)]	B308413	10.2	10.0	05/13/22
22E0872-02 [SB-2 (0-1.5)]	B308413	10.1	10.0	05/13/22
22E0872-03 [SB-3 (0-1.5)]	B308413	10.3	10.0	05/13/22
22E0872-04 [SB-4 (0-1.5)]	B308413	10.0	10.0	05/13/22
22E0872-05 [SB-6 (0-1.5)]	B308413	10.2	10.0	05/13/22
22E0872-06 [SB-7 (0-1.5)]	B308413	10.1	10.0	05/13/22
22E0872-07 [SB-9 (0-1.5)]	B308413	10.4	10.0	05/13/22
22E0872-08 [SB-10 (0-1.5)]	B308413	10.4	10.0	05/13/22
22E0872-09 [SB-12 (0-1.5)]	B308413	10.4	10.0	05/13/22
22E0872-10 [SB-13 (0-1.5)]	B308413	10.2	10.0	05/13/22
22E0872-11 [SB-14 (0-1.5)]	B308413	10.4	10.0	05/13/22

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B308413 - SW-846 3540C										
Blank (B308413-BLK1)				Prepared: 05/13/22 Analyzed: 05/16/22						
Aroclor-1016	ND	0.020	mg/Kg wet							
Aroclor-1016 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1221	ND	0.020	mg/Kg wet							
Aroclor-1221 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1232	ND	0.020	mg/Kg wet							
Aroclor-1232 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1242	ND	0.020	mg/Kg wet							
Aroclor-1242 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1248	ND	0.020	mg/Kg wet							
Aroclor-1248 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1254	ND	0.020	mg/Kg wet							
Aroclor-1254 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1260	ND	0.020	mg/Kg wet							
Aroclor-1260 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1262	ND	0.020	mg/Kg wet							
Aroclor-1262 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1268	ND	0.020	mg/Kg wet							
Aroclor-1268 [2C]	ND	0.020	mg/Kg wet							
Surrogate: Decachlorobiphenyl	*0.211*		mg/Kg wet	0.200		106	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.181*		mg/Kg wet	0.200		90.5	30-150			
Surrogate: Tetrachloro-m-xylene	*0.157*		mg/Kg wet	0.200		78.6	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.156*		mg/Kg wet	0.200		77.8	30-150			
LCS (B308413-BS1)				Prepared: 05/13/22 Analyzed: 05/16/22						
Aroclor-1016	0.15	0.020	mg/Kg wet	0.200		73.8	40-140			
Aroclor-1016 [2C]	0.15	0.020	mg/Kg wet	0.200		74.7	40-140			
Aroclor-1260	0.19	0.020	mg/Kg wet	0.200		93.8	40-140			
Aroclor-1260 [2C]	0.16	0.020	mg/Kg wet	0.200		79.3	40-140			
Surrogate: Decachlorobiphenyl	*0.211*		mg/Kg wet	0.200		106	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.182*		mg/Kg wet	0.200		91.2	30-150			
Surrogate: Tetrachloro-m-xylene	*0.138*		mg/Kg wet	0.200		69.2	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.136*		mg/Kg wet	0.200		68.1	30-150			
LCS Dup (B308413-BSD1)				Prepared: 05/13/22 Analyzed: 05/16/22						
Aroclor-1016	0.15	0.020	mg/Kg wet	0.200		77.3	40-140	4.66	30	
Aroclor-1016 [2C]	0.15	0.020	mg/Kg wet	0.200		77.1	40-140	3.17	30	
Aroclor-1260	0.19	0.020	mg/Kg wet	0.200		95.1	40-140	1.40	30	
Aroclor-1260 [2C]	0.16	0.020	mg/Kg wet	0.200		80.9	40-140	2.00	30	
Surrogate: Decachlorobiphenyl	*0.214*		mg/Kg wet	0.200		107	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.185*		mg/Kg wet	0.200		92.3	30-150			
Surrogate: Tetrachloro-m-xylene	*0.157*		mg/Kg wet	0.200		78.7	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.155*		mg/Kg wet	0.200		77.7	30-150			

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B308384 - SW-846 3050B											
Blank (B308384-BLK1)				Prepared: 05/13/22 Analyzed: 05/16/22							
Arsenic	ND	3.3	mg/Kg wet								
Barium	ND	1.7	mg/Kg wet								
Cadmium	ND	0.33	mg/Kg wet								
Chromium	ND	0.66	mg/Kg wet								
Lead	ND	0.50	mg/Kg wet								
Selenium	ND	3.3	mg/Kg wet								
Silver	ND	0.33	mg/Kg wet								
LCS (B308384-BS1)				Prepared: 05/13/22 Analyzed: 05/16/22							
Arsenic	135	10	mg/Kg wet	140		96.1		82.9-117.9			
Barium	226	5.0	mg/Kg wet	202		112		81.2-118.3			
Cadmium	94.9	1.0	mg/Kg wet	97.9		97.0		80-119.5			
Chromium	59.1	2.0	mg/Kg wet	60.4		97.9		80.3-119.7			
Lead	58.6	1.5	mg/Kg wet	56.7		103		82.9-116.9			
Selenium	33.4	10	mg/Kg wet	35.5		93.9		77.5-122.3			
Silver	19.8	1.0	mg/Kg wet	20.4		96.9		79.4-121.1			
LCS Dup (B308384-BSD1)				Prepared: 05/13/22 Analyzed: 05/16/22							
Arsenic	129	9.9	mg/Kg wet	140		91.8		82.9-117.9	4.54	30	
Barium	203	4.9	mg/Kg wet	202		101		81.2-118.3	10.7	20	
Cadmium	91.7	0.99	mg/Kg wet	97.9		93.7		80-119.5	3.46	20	
Chromium	60.2	2.0	mg/Kg wet	60.4		99.6		80.3-119.7	1.74	30	
Lead	54.5	1.5	mg/Kg wet	56.7		96.1		82.9-116.9	7.22	30	
Selenium	34.2	9.9	mg/Kg wet	35.5		96.3		77.5-122.3	2.45	30	
Silver	18.7	0.99	mg/Kg wet	20.4		91.9		79.4-121.1	5.28	30	
Reference (B308384-SRM1) MRL CHECK				Prepared: 05/13/22 Analyzed: 05/16/22							
Lead	0.655	0.50	mg/Kg wet	0.497		**132**	*	80-120			M-10
Batch B308402 - SW-846 3050B											
Blank (B308402-BLK1)				Prepared: 05/13/22 Analyzed: 05/16/22							
Arsenic	ND	3.3	mg/Kg wet								
Barium	ND	1.7	mg/Kg wet								
Cadmium	ND	0.33	mg/Kg wet								
Chromium	ND	0.66	mg/Kg wet								
Lead	ND	0.50	mg/Kg wet								
Selenium	ND	3.3	mg/Kg wet								
Silver	ND	0.33	mg/Kg wet								
LCS (B308402-BS1)				Prepared: 05/13/22 Analyzed: 05/16/22							
Arsenic	120	10	mg/Kg wet	140		85.5		82.9-117.9			
Barium	188	5.0	mg/Kg wet	202		93.3		81.2-118.3			
Cadmium	88.7	1.0	mg/Kg wet	97.9		90.6		80-119.5			
Chromium	53.6	2.0	mg/Kg wet	60.4		88.7		80.3-119.7			
Lead	49.9	1.5	mg/Kg wet	56.7		88.0		82.9-116.9			
Selenium	31.4	10	mg/Kg wet	35.5		88.6		77.5-122.3			
Silver	17.7	1.0	mg/Kg wet	20.4		86.9		79.4-121.1			

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B308402 - SW-846 3050B											
LCS Dup (B308402-BSD1)				Prepared: 05/13/22 Analyzed: 05/16/22							
Arsenic	140	9.9	mg/Kg wet	140		100		82.9-117.9	15.7	30	
Barium	221	4.9	mg/Kg wet	202		110		81.2-118.3	16.1	20	
Cadmium	102	0.99	mg/Kg wet	97.9		104		80-119.5	13.5	20	
Chromium	62.8	2.0	mg/Kg wet	60.4		104		80.3-119.7	15.8	30	
Lead	58.5	1.5	mg/Kg wet	56.7		103		82.9-116.9	15.9	30	
Selenium	36.4	9.9	mg/Kg wet	35.5		103		77.5-122.3	14.6	30	
Silver	21.3	0.99	mg/Kg wet	20.4		104		79.4-121.1	18.0	30	
Reference (B308402-SRM1) MRL CHECK				Prepared: 05/13/22 Analyzed: 05/16/22							
Lead	0.629	0.50	mg/Kg wet	0.495		**127**	*	80-120			M-10
Batch B308444 - SW-846 7471											
Blank (B308444-BLK1)				Prepared: 05/15/22 Analyzed: 05/17/22							
Mercury	ND	0.025	mg/Kg wet								
LCS (B308444-BS1)				Prepared: 05/15/22 Analyzed: 05/17/22							
Mercury	18.9	0.75	mg/Kg wet	16.5		115		74.5-124.8			
LCS Dup (B308444-BSD1)				Prepared: 05/15/22 Analyzed: 05/17/22							
Mercury	19.9	0.74	mg/Kg wet	16.5		121		74.5-124.8	5.12	20	
Batch B308717 - SW-846 7471											
Blank (B308717-BLK1)				Prepared: 05/18/22 Analyzed: 05/19/22							
Mercury	ND	0.025	mg/Kg wet								
LCS (B308717-BS1)				Prepared: 05/18/22 Analyzed: 05/19/22							
Mercury	18.9	0.74	mg/Kg wet	16.5		115		74.5-124.8			
LCS Dup (B308717-BSD1)				Prepared: 05/18/22 Analyzed: 05/19/22							
Mercury	18.0	0.69	mg/Kg wet	16.5		109		74.5-124.8	4.96	20	

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B308413-BS1

Date(s) Analyzed: 05/16/2022 05/16/2022

Instrument ID (1): ECD4

Instrument ID (2): ECD4

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.15	0.0
Aroclor-1260	1	0.000	-0.030	0.030	0.19	
	2	0.000	-0.030	0.030	0.16	17.1

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B308413-BSD1 Date(s) Analyzed: 05/16/2022 05/16/2022

Instrument ID (1): ECD4 Instrument ID (2): ECD4

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.15	6.5
Aroclor-1260	1	0.000	-0.030	0.030	0.19	
	2	0.000	-0.030	0.030	0.16	17.1

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
M-10	The reporting limit verification for the AIHA lead program is outside of control limits for this element. Any reported result at or near the detection limit may be biased on the high side.

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 6010D in Soil	
Arsenic	CT,NH,NY,ME,VA,NC
Barium	CT,NH,NY,ME,VA,NC
Cadmium	CT,NH,NY,ME,VA,NC
Chromium	CT,NH,NY,ME,VA,NC
Lead	CT,NH,NY,AIHA,ME,VA,NC
Selenium	CT,NH,NY,ME,VA,NC
Silver	CT,NH,NY,ME,VA,NC
SW-846 7471B in Soil	
Mercury	CT,NH,NY,NC,ME,VA
SW-846 8082A in Soil	
Aroclor-1016	CT,NH,NY,ME,NC,VA,PA
Aroclor-1016 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1262	NY,NC,VA,PA
Aroclor-1262 [2C]	NY,NC,VA,PA
Aroclor-1268	NY,NC,VA,PA
Aroclor-1268 [2C]	NY,NC,VA,PA

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2017	100033	03/1/2024
MA	Massachusetts DEP	M-MA100	06/30/2022
CT	Connecticut Department of Publilc Health	PH-0165	12/31/2022
NY	New York State Department of Health	10899 NELAP	04/1/2023
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2023
RI	Rhode Island Department of Health	LAO00373	12/30/2022
NC	North Carolina Div. of Water Quality	652	12/31/2022
NJ	New Jersey DEP	MA007 NELAP	06/30/2022
FL	Florida Department of Health	E871027 NELAP	06/30/2022
VT	Vermont Department of Health Lead Laboratory	LL720741	07/30/2022
ME	State of Maine	MA00100	06/9/2023
VA	Commonwealth of Virginia	460217	12/14/2022
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2022
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2022
NC-DW	North Carolina Department of Health	25703	07/31/2022
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2022
MI	Dept. of Env, Great Lakes, and Energy	9100	09/6/2022

22E0872

Pace Analytical®

Phone: 413-525-2332
Fax: 413-525-6405
Access COC's and Support Requests

http://www.pacelabs.com

CHAIN OF CUSTODY RECORD

39 Spruce Street
East Longmeadow, MA 01028

Doc # 381 Rev 5_07/13/2021

Page 1 of 3

Company Name: Atlas
Address: 51 Knight Ln. Williston, VT
Phone: 802-862-1950
Project Name: St. J Armory
Project Location: 1249 Main St St. J. VT
Project Number:
Project Manager: Jesse Stratton
Pace Quote Name/Number: 2204382
Invoice Recipient:
Sampled By: Emma Lyford

Required Turnaround Time:
7-Day ☐ 10-Day ☒
PFAS 10-Day (std) ☐ Due Date:

Rush - Approval Required:
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery:
Format: PDF ☒ EXCEL ☐
Other:
CLP Like Data Pkg Required: ☐
Email To:
Fax To #:

Dissolved Metals Samples:
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples:
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☐
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PAH	Extract & Hold
1	SB-1 0-1.5'	4.25.22	1000	GRAB	S	Uiw		X				X	
	SB-1 2-3'		1000	GRAB	S	Uiw		X					X
2	SB-2 0-1.5'		1015	GRAB	S	Uiw		X				X	
	SB-2 2-3'		1015	GRAB	S	Uiw		X					X
3	SB-3 0-1.5'		1045	GRAB	S	Uiw		X				X	
	SB-3 2-3'		1045	GRAB	S	Uiw		X					X
4	SB-4 0-1.5'		1035	GRAB	S	Uiw		X				X	
	SB-4 2-3'		1035	GRAB	S	Uiw		X					X
5	SB-6 0-1.5'		1110	GRAB	S	Uiw		X				X	
	SB-6 2-3'		1110	GRAB	S	Uiw		X					X

Relinquished by: (signature) — Date/Time: 4.26.22
Received by: (signature) — Date/Time: 4-27-2022
Relinquished by: (signature) — Date/Time: 4-27-2022
Received by: (signature) — Date/Time: 4/27 1005
Relinquished by: (signature) — Date/Time: 4/27 1700
Received by: (signature) — Date/Time: 4/28/22 700
Relinquished by: (signature) — Date/Time:
Received by: (signature) — Date/Time:

Client Comments: Reactivate samples for RCRA 8 and 8082 sox 5/13/22 KF

10:25 am

Date/Time Lab Requirements:
Due: 10:25 am
QC:
Sites:

Special Requirements:
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ AIHA-LAP,LLC

Lab Comments:

Courier Use Only
Total Number Of:
VIALS
GLASS
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

[2] Preservation Code

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Pace Analytical®

Phone: 413-525-2332
Fax: 413-525-6405
Access COC's and Support Requests

http://www.pacelabs.com

CHAIN OF CUSTODY RECORD

39 Spruce Street
East Longmeadow, MA 01028

Doc # 381 Rev 5_07/13/2021

Page 2 of 3

Company Name:	Atlas
Address:	51 Knight Ln Williston, VT
Phone:	802-862-1980
Project Name:	St. J. Armory
Project Location:	1249 main St St. J VT
Project Number:	
Project Manager:	Jesse Stratton
Pace Quote Name/Number:	2204382
Invoice Recipient:	
Sampled By:	Emma Lyford

Required Turnaround Time
7-Day ☐ 10-Day ☒
PFAS 10-Day (std) ☐ Due Date:

Rush Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☒ EXCEL ☐
Other:
CLP Like Data Pkg Required: ☐
Email To:
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☐
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PAH	Extract & Hold
6	SB-7 0-1.5'	4.25.22	1120	GRAB	S	UNK		X				X	
	SB-7 2-3 / 1.5		1120		S			X					X
7	SB-9 0-1.5'		1130		S			X				X	
	SB-9 2-3'		1130		S			X					X
8	SB-10 0-1.5'		1145		S			X				X	
	SB-10 2-3'		1145		S			X					X
9	SB-12 0-1.5'		930		S			X				X	
	SB-12 2-3'		930		S			X					X
10	SB-13 0-1.5'		915		S			X				X	
	SB-13 2-3'		915		S			X					X

Relinquished by: (signature)	Date/Time: 4.26.22
Received by: (signature)	Date/Time: 4-27-22
Relinquished by: (signature)	Date/Time: 4-27-22
Received by: (signature)	Date/Time: 1025 4/27
Relinquished by: (signature)	Date/Time: 7 30 4/27
Received by: (signature)	Date/Time: 4.27.22 1700
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments:
10:25 am

Detection Limit Requirements
MA 10:25 am
CT
Other

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

[2] Preservation Code
Courier Use Only
Total Number Of:
VIALS
GLASS
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N
*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

22D2009

Pace Analytical®

Phone: 413-525-2332
Fax: 413-525-6405
Access COC's and Support Requests

http://www.pacelabs.com

CHAIN OF CUSTODY RECORD

39 Spruce Street
East Longmeadow, MA 01028

Doc # 381 Rev 5_07/13/2021

Company Name:	Atlas
Address:	51 Knight lane Williston, VT
Phone:	802-862-1980
Project Name:	St J. Armory
Project Location:	1249 Main St St. J. VT
Project Number:	
Project Manager:	Jesse Straiton
Pace Quote Name/Number:	3204382
Invoice Recipient:	
Sampled By:	Emma Lyford

Turnaround Time Requested (TAT)
7-Day ☐ 10-Day ☒
PFAS 10-Day (std) ☐ Due Date:

Rush - Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☒ EXCEL ☐
Other:
CLP Like Data Pkg Required: ☐
Email To:
Fax To #:

Nitrate / Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☐
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PAH Extract & Hold
K	SB-14 0-1.5'	4.25.22	945	GRAB	S	MLE		X				X
	SB-14 2-3'	↓	945	GRAB	S	MLE		X				X

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS
GLASS
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? (Y) N
*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time:	4.26.22
Received by: (signature)	Date/Time:	4-27-22
Relinquished by: (signature)	Date/Time:	4-27-22
Received by: (signature)	Date/Time:	1025
Relinquished by: (signature)	Date/Time:	11 30
Received by: (signature)	Date/Time:	1200
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Client Comments: 10:25 am

Data Deliverable Requirements
WA
GA
Other

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

I Have Not Confirmed Sample Container Numbers With Lab Staff Before Relinquishing Over Samples_____

con-test® ANALYTICAL LABORATORY

Doc# 277 Rev 5 2017

Login Sample Receipt Checklist - (Rejection Criteria Listing - Using Acceptance Policy) Any False Statement will be brought to the attention of the Client - State True or False

Client Atlas

Received By _____ Date 4/27/22 Time 1700

How were the samples received? In Cooler T No Cooler _____ On Ice T No Ice _____

Direct from Sampling _____ Ambient _____ Melted Ice _____

Were samples within Temperature? 2-6°C T By Gun # 3 Actual Temp - 2.0

By Blank # _____ Actual Temp - _____

Was Custody Seal Intact? n/a Were Samples Tampered with? n/a

Was COC Relinquished ? T Does Chain Agree With Samples? T

Are there broken/leaking/loose caps on any samples? F

Is COC in ink/ Legible? T Were samples received within holding time? T

Did COC include all pertinent Information? Client T Analysis T Sampler Name T

Project T ID's T Collection Dates/Times T

Are Sample labels filled out and legible? T

Are there Lab to Filters? F Who was notified? _____

Are there Rushes? F Who was notified? _____

Are there Short Holds? F Who was notified? _____

Is there enough Volume? T

Is there Headspace where applicable? n/a MS/MSD? F

Proper Media/Containers Used? T Is splitting samples required? F

Were trip blanks received? F On COC? F

Do all samples have the proper pH? Acid n/a Base n/a

Vials	#	Containers:	#		#		#
Unp-		1 Liter Amb.		1 Liter Plastic		16 oz Amb.	
HCL-		500 mL Amb.		500 mL Plastic		8oz Amb/Clear	1
Meoh-		250 mL Amb.		250 mL Plastic		4oz Amb/Clear	
Bisulfate-		Flashpoint		Col./Bacteria		2oz Amb/Clear	
DI-		Other Glass		Other Plastic		Encore	
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:	
Sulfuric-		Perchlorate		Ziplock			

Unused Media

Vials	#	Containers:	#		#		#
Unp-		1 Liter Amb.		1 Liter Plastic		16 oz Amb.	
HCL-		500 mL Amb.		500 mL Plastic		8oz Amb/Clear	
Meoh-		250 mL Amb.		250 mL Plastic		4oz Amb/Clear	
Bisulfate-		Col./Bacteria		Flashpoint		2oz Amb/Clear	
DI-		Other Plastic		Other Glass		Encore	
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:	
Sulfuric-		Perchlorate		Ziplock			

Comments:

APPENDIX C

SOIL VAPOR LABORATORY ANALYTICAL REPORT

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

May 12, 2022

Jesse Stratton
ATC Group Services LLC - Vermont
51 Knight Lane, PO Box 1486
Williston, VT 05495

Project Location: St Johnsbury, VT
Client Job Number:
Project Number: 280EM00860
Laboratory Work Order Number: 22E0444

Enclosed are results of analyses for samples as received by the laboratory on May 5, 2022. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Kaitlyn A. Feliciano
Project Manager

Table of Contents

Sample Summary 3

Case Narrative 4

Sample Results 5

Sample Preparation Information 14

QC Data 15

Miscellaneous Air Analyses 15

B308172 15

Air Toxics by EPA Compendium Methods 16

B308166 16

Flag/Qualifier Summary 19

Internal standard Area & RT Summary 20

Continuing Calibration Check 21

Certifications 25

Chain of Custody/Sample Receipt 27

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

ATC Group Services LLC - Vermont
51 Knight Lane, PO Box 1486
Williston, VT 05495
ATTN: Jesse Stratton

REPORT DATE: 5/12/2022

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 280EM00860

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 22E0444

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: St Johnsbury, VT

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
MW-01	22E0444-01	Soil Gas		EPA 3C	
				EPA TO-15	
MW-02	22E0444-02	Soil Gas		EPA 3C	
				EPA TO-15	
MW-03	22E0444-03	Soil Gas		EPA 3C	
				EPA TO-15	

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

EPA TO-15

Qualifications:

L-01

Laboratory fortified blank/laboratory control sample recovery outside of control limits. Data validation is not affected since all results are "not detected" for all samples in this batch for this compound and bias is on the high side.

Analyte & Samples(s) Qualified:

1,2-Dichloro-1,1,2,2-tetrafluoroeth
B308166-BS1

Bromomethane
B308166-BS1

L-05

Laboratory fortified blank/laboratory control sample recovery is outside of control limits. Reported value for this compound is likely to be biased on the high side.

Analyte & Samples(s) Qualified:

Dichlorodifluoromethane (Freon 1
22E0444-01[MW-01], 22E0444-02[MW-02], 22E0444-03[MW-03], B308166-BLK1, B308166-BS1

V-06

Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side for this compound.

Analyte & Samples(s) Qualified:

Dichlorodifluoromethane (Freon 1
22E0444-01[MW-01], 22E0444-02[MW-02], 22E0444-03[MW-03], B308166-BLK1, B308166-BS1, S071394-CCV1

V-20

Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

Analyte & Samples(s) Qualified:

1,2-Dichloro-1,1,2,2-tetrafluoroeth
B308166-BS1, S071394-CCV1

Bromomethane
B308166-BS1, S071394-CCV1

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Lisa A. Worthington
Technical Representative

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

ANALYTICAL RESULTS

Project Location: St Johnsbury, VT
Date Received: 5/5/2022
Field Sample #: MW-01
Sample ID: 22E0444-01
Sample Matrix: Soil Gas
Sampled: 5/4/2022 14:06

Sample Description/Location:
Sub Description/Location:
Canister ID: 2287
Canister Size: 3 liter
Flow Controller ID: 4246
Sample Type: 30 min

Work Order: 22E0444
Initial Vacuum(in Hg): -27
Final Vacuum(in Hg): -4
Receipt Vacuum(in Hg): -6.1
Flow Controller Type: Fixed-Orifice
Flow Controller Calibration
RPD Pre and Post-Sampling:

EPA 3C

Analyte	Results	% RL	Flag/Qual	Dilution	Date/Time Analyzed	Analyst
Helium	ND	0.40		1	5/11/22 9:57	TPH

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

ANALYTICAL RESULTS

Project Location: St Johnsbury, VT
Date Received: 5/5/2022
Field Sample #: MW-01
Sample ID: 22E0444-01
Sample Matrix: Soil Gas
Sampled: 5/4/2022 14:06

Sample Description/Location:
Sub Description/Location:
Canister ID: 2287
Canister Size: 3 liter
Flow Controller ID: 4246
Sample Type: 30 min

Work Order: 22E0444
Initial Vacuum(in Hg): -27
Final Vacuum(in Hg): -4
Receipt Vacuum(in Hg): -6.1
Flow Controller Type: Fixed-Orifice
Flow Controller Calibration
RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv Results	ppbv RL	Flag/Qual	ug/m3 Results	ug/m3 RL	Dilution	Date/Time Analyzed	Analyst
Acetone	12	8.0		29	19	4	5/10/22 16:36	BRF
Benzene	0.32	0.20		1.0	0.64	4	5/10/22 16:36	BRF
Benzyl chloride	ND	0.20		ND	1.0	4	5/10/22 16:36	BRF
Bromodichloromethane	ND	0.20		ND	1.3	4	5/10/22 16:36	BRF
Bromoform	ND	0.20		ND	2.1	4	5/10/22 16:36	BRF
Bromomethane	ND	0.20		ND	0.78	4	5/10/22 16:36	BRF
1,3-Butadiene	ND	0.20		ND	0.44	4	5/10/22 16:36	BRF
2-Butanone (MEK)	ND	8.0		ND	24	4	5/10/22 16:36	BRF
Carbon Disulfide	ND	2.0		ND	6.2	4	5/10/22 16:36	BRF
Carbon Tetrachloride	ND	0.20		ND	1.3	4	5/10/22 16:36	BRF
Chlorobenzene	ND	0.20		ND	0.92	4	5/10/22 16:36	BRF
Chloroethane	ND	0.20		ND	0.53	4	5/10/22 16:36	BRF
Chloroform	ND	0.20		ND	0.98	4	5/10/22 16:36	BRF
Chloromethane	ND	0.40		ND	0.83	4	5/10/22 16:36	BRF
Cyclohexane	ND	0.20		ND	0.69	4	5/10/22 16:36	BRF
Dibromochloromethane	ND	0.20		ND	1.7	4	5/10/22 16:36	BRF
1,2-Dibromoethane (EDB)	ND	0.20		ND	1.5	4	5/10/22 16:36	BRF
1,2-Dichlorobenzene	ND	0.20		ND	1.2	4	5/10/22 16:36	BRF
1,3-Dichlorobenzene	ND	0.20		ND	1.2	4	5/10/22 16:36	BRF
1,4-Dichlorobenzene	ND	0.20		ND	1.2	4	5/10/22 16:36	BRF
Dichlorodifluoromethane (Freon 12)	1.2	0.20	V-06, L-05	5.9	0.99	4	5/10/22 16:36	BRF
1,1-Dichloroethane	ND	0.20		ND	0.81	4	5/10/22 16:36	BRF
1,2-Dichloroethane	ND	0.20		ND	0.81	4	5/10/22 16:36	BRF
1,1-Dichloroethylene	ND	0.20		ND	0.79	4	5/10/22 16:36	BRF
cis-1,2-Dichloroethylene	ND	0.20		ND	0.79	4	5/10/22 16:36	BRF
trans-1,2-Dichloroethylene	ND	0.20		ND	0.79	4	5/10/22 16:36	BRF
1,2-Dichloropropane	ND	0.20		ND	0.92	4	5/10/22 16:36	BRF
cis-1,3-Dichloropropene	ND	0.20		ND	0.91	4	5/10/22 16:36	BRF
trans-1,3-Dichloropropene	ND	0.20		ND	0.91	4	5/10/22 16:36	BRF
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.20		ND	1.4	4	5/10/22 16:36	BRF
1,4-Dioxane	ND	2.0		ND	7.2	4	5/10/22 16:36	BRF
Ethanol	8.6	8.0		16	15	4	5/10/22 16:36	BRF
Ethyl Acetate	ND	2.0		ND	7.2	4	5/10/22 16:36	BRF
Ethylbenzene	0.74	0.20		3.2	0.87	4	5/10/22 16:36	BRF
4-Ethyltoluene	ND	0.20		ND	0.98	4	5/10/22 16:36	BRF
Heptane	0.33	0.20		1.3	0.82	4	5/10/22 16:36	BRF
Hexachlorobutadiene	ND	0.20		ND	2.1	4	5/10/22 16:36	BRF

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

ANALYTICAL RESULTS

Project Location: St Johnsbury, VT
Date Received: 5/5/2022
Field Sample #: MW-01
Sample ID: 22E0444-01
Sample Matrix: Soil Gas
Sampled: 5/4/2022 14:06

Sample Description/Location:
Sub Description/Location:
Canister ID: 2287
Canister Size: 3 liter
Flow Controller ID: 4246
Sample Type: 30 min

Work Order: 22E0444
Initial Vacuum(in Hg): -27
Final Vacuum(in Hg): -4
Receipt Vacuum(in Hg): -6.1
Flow Controller Type: Fixed-Orifice
Flow Controller Calibration
RPD Pre and Post-Sampling:

EPA TO-15

	ppbv			ug/m3			Date/Time	
Analyte	**Results**	**RL**	**Flag/Qual**	**Results**	**RL**	**Dilution**	**Analyzed**	**Analyst**
Hexane	ND	8.0		ND	28	4	5/10/22 16:36	BRF
2-Hexanone (MBK)	ND	0.20		ND	0.82	4	5/10/22 16:36	BRF
Isopropanol	87	8.0		210	20	4	5/10/22 16:36	BRF
Methyl tert-Butyl Ether (MTBE)	ND	0.20		ND	0.72	4	5/10/22 16:36	BRF
Methylene Chloride	2.1	2.0		7.3	6.9	4	5/10/22 16:36	BRF
4-Methyl-2-pentanone (MIBK)	ND	0.20		ND	0.82	4	5/10/22 16:36	BRF
Naphthalene	ND	0.20		ND	1.0	4	5/10/22 16:36	BRF
Propene	ND	8.0		ND	14	4	5/10/22 16:36	BRF
Styrene	ND	0.20		ND	0.85	4	5/10/22 16:36	BRF
1,1,2,2-Tetrachloroethane	ND	0.20		ND	1.4	4	5/10/22 16:36	BRF
Tetrachloroethylene	1.4	0.20		9.2	1.4	4	5/10/22 16:36	BRF
Tetrahydrofuran	ND	2.0		ND	5.9	4	5/10/22 16:36	BRF
Toluene	4.5	0.20		17	0.75	4	5/10/22 16:36	BRF
1,2,4-Trichlorobenzene	ND	0.20		ND	1.5	4	5/10/22 16:36	BRF
1,1,1-Trichloroethane	ND	0.20		ND	1.1	4	5/10/22 16:36	BRF
1,1,2-Trichloroethane	ND	0.20		ND	1.1	4	5/10/22 16:36	BRF
Trichloroethylene	ND	0.20		ND	1.1	4	5/10/22 16:36	BRF
Trichlorofluoromethane (Freon 11)	ND	0.80		ND	4.5	4	5/10/22 16:36	BRF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.80		ND	6.1	4	5/10/22 16:36	BRF
1,2,4-Trimethylbenzene	0.37	0.20		1.8	0.98	4	5/10/22 16:36	BRF
1,3,5-Trimethylbenzene	ND	0.20		ND	0.98	4	5/10/22 16:36	BRF
Vinyl Acetate	ND	4.0		ND	14	4	5/10/22 16:36	BRF
Vinyl Chloride	ND	0.20		ND	0.51	4	5/10/22 16:36	BRF
m&p-Xylene	1.6	0.40		6.9	1.7	4	5/10/22 16:36	BRF
o-Xylene	0.56	0.20		2.4	0.87	4	5/10/22 16:36	BRF

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	103	70-130	5/10/22 16:36

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

ANALYTICAL RESULTS

Project Location: St Johnsbury, VT
Date Received: 5/5/2022
Field Sample #: MW-02
Sample ID: 22E0444-02
Sample Matrix: Soil Gas
Sampled: 5/4/2022 14:23

Sample Description/Location:
Sub Description/Location:
Canister ID: 2393
Canister Size: 3 liter
Flow Controller ID: 4349
Sample Type: 30 min

Work Order: 22E0444
Initial Vacuum(in Hg): -25.5
Final Vacuum(in Hg): -0
Receipt Vacuum(in Hg): -0.7
Flow Controller Type: Fixed-Orifice
Flow Controller Calibration
RPD Pre and Post-Sampling:

EPA 3C

Analyte	% Results	RL	Flag/Qual	Dilution	Date/Time Analyzed	Analyst
Helium	ND	0.40		1	5/11/22 10:09	TPH

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

ANALYTICAL RESULTS

Project Location: St Johnsbury, VT
Date Received: 5/5/2022
Field Sample #: MW-02
Sample ID: 22E0444-02
Sample Matrix: Soil Gas
Sampled: 5/4/2022 14:23

Sample Description/Location:
Sub Description/Location:
Canister ID: 2393
Canister Size: 3 liter
Flow Controller ID: 4349
Sample Type: 30 min

Work Order: 22E0444
Initial Vacuum(in Hg): -25.5
Final Vacuum(in Hg): -0
Receipt Vacuum(in Hg): -0.7
Flow Controller Type: Fixed-Orifice
Flow Controller Calibration
RPD Pre and Post-Sampling:

EPA TO-15

	ppbv			ug/m3			Date/Time	
Analyte	**Results**	**RL**	**Flag/Qual**	**Results**	**RL**	**Dilution**	**Analyzed**	**Analyst**
Acetone	ND	8.0		ND	19	4	5/10/22 17:16	BRF
Benzene	0.59	0.20		1.9	0.64	4	5/10/22 17:16	BRF
Benzyl chloride	ND	0.20		ND	1.0	4	5/10/22 17:16	BRF
Bromodichloromethane	ND	0.20		ND	1.3	4	5/10/22 17:16	BRF
Bromoform	ND	0.20		ND	2.1	4	5/10/22 17:16	BRF
Bromomethane	ND	0.20		ND	0.78	4	5/10/22 17:16	BRF
1,3-Butadiene	ND	0.20		ND	0.44	4	5/10/22 17:16	BRF
2-Butanone (MEK)	ND	8.0		ND	24	4	5/10/22 17:16	BRF
Carbon Disulfide	ND	2.0		ND	6.2	4	5/10/22 17:16	BRF
Carbon Tetrachloride	ND	0.20		ND	1.3	4	5/10/22 17:16	BRF
Chlorobenzene	ND	0.20		ND	0.92	4	5/10/22 17:16	BRF
Chloroethane	ND	0.20		ND	0.53	4	5/10/22 17:16	BRF
Chloroform	ND	0.20		ND	0.98	4	5/10/22 17:16	BRF
Chloromethane	ND	0.40		ND	0.83	4	5/10/22 17:16	BRF
Cyclohexane	7.2	0.20		25	0.69	4	5/10/22 17:16	BRF
Dibromochloromethane	ND	0.20		ND	1.7	4	5/10/22 17:16	BRF
1,2-Dibromoethane (EDB)	ND	0.20		ND	1.5	4	5/10/22 17:16	BRF
1,2-Dichlorobenzene	ND	0.20		ND	1.2	4	5/10/22 17:16	BRF
1,3-Dichlorobenzene	ND	0.20		ND	1.2	4	5/10/22 17:16	BRF
1,4-Dichlorobenzene	ND	0.20		ND	1.2	4	5/10/22 17:16	BRF
Dichlorodifluoromethane (Freon 12)	8.1	0.20	L-05, V-06	40	0.99	4	5/10/22 17:16	BRF
1,1-Dichloroethane	ND	0.20		ND	0.81	4	5/10/22 17:16	BRF
1,2-Dichloroethane	ND	0.20		ND	0.81	4	5/10/22 17:16	BRF
1,1-Dichloroethylene	ND	0.20		ND	0.79	4	5/10/22 17:16	BRF
cis-1,2-Dichloroethylene	ND	0.20		ND	0.79	4	5/10/22 17:16	BRF
trans-1,2-Dichloroethylene	ND	0.20		ND	0.79	4	5/10/22 17:16	BRF
1,2-Dichloropropane	ND	0.20		ND	0.92	4	5/10/22 17:16	BRF
cis-1,3-Dichloropropene	ND	0.20		ND	0.91	4	5/10/22 17:16	BRF
trans-1,3-Dichloropropene	ND	0.20		ND	0.91	4	5/10/22 17:16	BRF
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.20		ND	1.4	4	5/10/22 17:16	BRF
1,4-Dioxane	ND	2.0		ND	7.2	4	5/10/22 17:16	BRF
Ethanol	ND	8.0		ND	15	4	5/10/22 17:16	BRF
Ethyl Acetate	ND	2.0		ND	7.2	4	5/10/22 17:16	BRF
Ethylbenzene	0.70	0.20		3.0	0.87	4	5/10/22 17:16	BRF
4-Ethyltoluene	ND	0.20		ND	0.98	4	5/10/22 17:16	BRF
Heptane	0.55	0.20		2.3	0.82	4	5/10/22 17:16	BRF
Hexachlorobutadiene	ND	0.20		ND	2.1	4	5/10/22 17:16	BRF

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

ANALYTICAL RESULTS

Project Location: St Johnsbury, VT
Date Received: 5/5/2022
Field Sample #: MW-02
Sample ID: 22E0444-02
Sample Matrix: Soil Gas
Sampled: 5/4/2022 14:23

Sample Description/Location:
Sub Description/Location:
Canister ID: 2393
Canister Size: 3 liter
Flow Controller ID: 4349
Sample Type: 30 min

Work Order: 22E0444
Initial Vacuum(in Hg): -25.5
Final Vacuum(in Hg): -0
Receipt Vacuum(in Hg): -0.7
Flow Controller Type: Fixed-Orifice
Flow Controller Calibration
RPD Pre and Post-Sampling:

EPA TO-15

	ppbv			ug/m3			Date/Time	
Analyte	**Results**	**RL**	**Flag/Qual**	**Results**	**RL**	**Dilution**	**Analyzed**	**Analyst**
Hexane	ND	8.0		ND	28	4	5/10/22 17:16	BRF
2-Hexanone (MBK)	ND	0.20		ND	0.82	4	5/10/22 17:16	BRF
Isopropanol	120	8.0		290	20	4	5/10/22 17:16	BRF
Methyl tert-Butyl Ether (MTBE)	ND	0.20		ND	0.72	4	5/10/22 17:16	BRF
Methylene Chloride	ND	2.0		ND	6.9	4	5/10/22 17:16	BRF
4-Methyl-2-pentanone (MIBK)	ND	0.20		ND	0.82	4	5/10/22 17:16	BRF
Naphthalene	ND	0.20		ND	1.0	4	5/10/22 17:16	BRF
Propene	ND	8.0		ND	14	4	5/10/22 17:16	BRF
Styrene	ND	0.20		ND	0.85	4	5/10/22 17:16	BRF
1,1,2,2-Tetrachloroethane	ND	0.20		ND	1.4	4	5/10/22 17:16	BRF
Tetrachloroethylene	0.98	0.20		6.6	1.4	4	5/10/22 17:16	BRF
Tetrahydrofuran	ND	2.0		ND	5.9	4	5/10/22 17:16	BRF
Toluene	4.3	0.20		16	0.75	4	5/10/22 17:16	BRF
1,2,4-Trichlorobenzene	ND	0.20		ND	1.5	4	5/10/22 17:16	BRF
1,1,1-Trichloroethane	ND	0.20		ND	1.1	4	5/10/22 17:16	BRF
1,1,2-Trichloroethane	ND	0.20		ND	1.1	4	5/10/22 17:16	BRF
Trichloroethylene	ND	0.20		ND	1.1	4	5/10/22 17:16	BRF
Trichlorofluoromethane (Freon 11)	ND	0.80		ND	4.5	4	5/10/22 17:16	BRF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.80		ND	6.1	4	5/10/22 17:16	BRF
1,2,4-Trimethylbenzene	0.38	0.20		1.8	0.98	4	5/10/22 17:16	BRF
1,3,5-Trimethylbenzene	ND	0.20		ND	0.98	4	5/10/22 17:16	BRF
Vinyl Acetate	ND	4.0		ND	14	4	5/10/22 17:16	BRF
Vinyl Chloride	ND	0.20		ND	0.51	4	5/10/22 17:16	BRF
m&p-Xylene	1.9	0.40		8.2	1.7	4	5/10/22 17:16	BRF
o-Xylene	0.46	0.20		2.0	0.87	4	5/10/22 17:16	BRF

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	102	70-130	5/10/22 17:16

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

ANALYTICAL RESULTS

Project Location: St Johnsbury, VT
Date Received: 5/5/2022
Field Sample #: MW-03
Sample ID: 22E0444-03
Sample Matrix: Soil Gas
Sampled: 5/4/2022 14:15

Sample Description/Location:
Sub Description/Location:
Canister ID: 2263
Canister Size: 3 liter
Flow Controller ID: 4233
Sample Type: 30 min

Work Order: 22E0444
Initial Vacuum(in Hg): -29
Final Vacuum(in Hg): -6
Receipt Vacuum(in Hg): -5
Flow Controller Type: Fixed-Orifice
Flow Controller Calibration
RPD Pre and Post-Sampling:

EPA 3C

Analyte	% Results	RL	Flag/Qual	Dilution	Date/Time Analyzed	Analyst
Helium	ND	0.40		1	5/11/22 10:19	TPH

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

ANALYTICAL RESULTS

Project Location: St Johnsbury, VT
Date Received: 5/5/2022
Field Sample #: MW-03
Sample ID: 22E0444-03
Sample Matrix: Soil Gas
Sampled: 5/4/2022 14:15

Sample Description/Location:
Sub Description/Location:
Canister ID: 2263
Canister Size: 3 liter
Flow Controller ID: 4233
Sample Type: 30 min

Work Order: 22E0444
Initial Vacuum(in Hg): -29
Final Vacuum(in Hg): -6
Receipt Vacuum(in Hg): -5
Flow Controller Type: Fixed-Orifice
Flow Controller Calibration
RPD Pre and Post-Sampling:

EPA TO-15

	ppbv			ug/m3			Date/Time	
Analyte	**Results**	**RL**	**Flag/Qual**	**Results**	**RL**	**Dilution**	**Analyzed**	**Analyst**
Acetone	16	8.0		38	19	4	5/10/22 17:56	BRF
Benzene	0.46	0.20		1.5	0.64	4	5/10/22 17:56	BRF
Benzyl chloride	ND	0.20		ND	1.0	4	5/10/22 17:56	BRF
Bromodichloromethane	ND	0.20		ND	1.3	4	5/10/22 17:56	BRF
Bromoform	ND	0.20		ND	2.1	4	5/10/22 17:56	BRF
Bromomethane	ND	0.20		ND	0.78	4	5/10/22 17:56	BRF
1,3-Butadiene	ND	0.20		ND	0.44	4	5/10/22 17:56	BRF
2-Butanone (MEK)	ND	8.0		ND	24	4	5/10/22 17:56	BRF
Carbon Disulfide	ND	2.0		ND	6.2	4	5/10/22 17:56	BRF
Carbon Tetrachloride	ND	0.20		ND	1.3	4	5/10/22 17:56	BRF
Chlorobenzene	ND	0.20		ND	0.92	4	5/10/22 17:56	BRF
Chloroethane	ND	0.20		ND	0.53	4	5/10/22 17:56	BRF
Chloroform	ND	0.20		ND	0.98	4	5/10/22 17:56	BRF
Chloromethane	ND	0.40		ND	0.83	4	5/10/22 17:56	BRF
Cyclohexane	ND	0.20		ND	0.69	4	5/10/22 17:56	BRF
Dibromochloromethane	ND	0.20		ND	1.7	4	5/10/22 17:56	BRF
1,2-Dibromoethane (EDB)	ND	0.20		ND	1.5	4	5/10/22 17:56	BRF
1,2-Dichlorobenzene	ND	0.20		ND	1.2	4	5/10/22 17:56	BRF
1,3-Dichlorobenzene	ND	0.20		ND	1.2	4	5/10/22 17:56	BRF
1,4-Dichlorobenzene	ND	0.20		ND	1.2	4	5/10/22 17:56	BRF
Dichlorodifluoromethane (Freon 12)	4.2	0.20	L-05, V-06	21	0.99	4	5/10/22 17:56	BRF
1,1-Dichloroethane	ND	0.20		ND	0.81	4	5/10/22 17:56	BRF
1,2-Dichloroethane	ND	0.20		ND	0.81	4	5/10/22 17:56	BRF
1,1-Dichloroethylene	ND	0.20		ND	0.79	4	5/10/22 17:56	BRF
cis-1,2-Dichloroethylene	ND	0.20		ND	0.79	4	5/10/22 17:56	BRF
trans-1,2-Dichloroethylene	ND	0.20		ND	0.79	4	5/10/22 17:56	BRF
1,2-Dichloropropane	ND	0.20		ND	0.92	4	5/10/22 17:56	BRF
cis-1,3-Dichloropropene	ND	0.20		ND	0.91	4	5/10/22 17:56	BRF
trans-1,3-Dichloropropene	ND	0.20		ND	0.91	4	5/10/22 17:56	BRF
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.20		ND	1.4	4	5/10/22 17:56	BRF
1,4-Dioxane	ND	2.0		ND	7.2	4	5/10/22 17:56	BRF
Ethanol	ND	8.0		ND	15	4	5/10/22 17:56	BRF
Ethyl Acetate	4.4	2.0		16	7.2	4	5/10/22 17:56	BRF
Ethylbenzene	0.84	0.20		3.7	0.87	4	5/10/22 17:56	BRF
4-Ethyltoluene	ND	0.20		ND	0.98	4	5/10/22 17:56	BRF
Heptane	0.49	0.20		2.0	0.82	4	5/10/22 17:56	BRF
Hexachlorobutadiene	ND	0.20		ND	2.1	4	5/10/22 17:56	BRF

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

ANALYTICAL RESULTS

Project Location: St Johnsbury, VT
Date Received: 5/5/2022
Field Sample #: MW-03
Sample ID: 22E0444-03
Sample Matrix: Soil Gas
Sampled: 5/4/2022 14:15

Sample Description/Location:
Sub Description/Location:
Canister ID: 2263
Canister Size: 3 liter
Flow Controller ID: 4233
Sample Type: 30 min

Work Order: 22E0444
Initial Vacuum(in Hg): -29
Final Vacuum(in Hg): -6
Receipt Vacuum(in Hg): -5
Flow Controller Type: Fixed-Orifice
Flow Controller Calibration
RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv Results	ppbv RL	Flag/Qual	ug/m3 Results	ug/m3 RL	Dilution	Date/Time Analyzed	Analyst
Hexane	ND	8.0		ND	28	4	5/10/22 17:56	BRF
2-Hexanone (MBK)	ND	0.20		ND	0.82	4	5/10/22 17:56	BRF
Isopropanol	79	8.0		200	20	4	5/10/22 17:56	BRF
Methyl tert-Butyl Ether (MTBE)	ND	0.20		ND	0.72	4	5/10/22 17:56	BRF
Methylene Chloride	ND	2.0		ND	6.9	4	5/10/22 17:56	BRF
4-Methyl-2-pentanone (MIBK)	ND	0.20		ND	0.82	4	5/10/22 17:56	BRF
Naphthalene	ND	0.20		ND	1.0	4	5/10/22 17:56	BRF
Propene	ND	8.0		ND	14	4	5/10/22 17:56	BRF
Styrene	ND	0.20		ND	0.85	4	5/10/22 17:56	BRF
1,1,2,2-Tetrachloroethane	ND	0.20		ND	1.4	4	5/10/22 17:56	BRF
Tetrachloroethylene	1.4	0.20		9.5	1.4	4	5/10/22 17:56	BRF
Tetrahydrofuran	ND	2.0		ND	5.9	4	5/10/22 17:56	BRF
Toluene	6.1	0.20		23	0.75	4	5/10/22 17:56	BRF
1,2,4-Trichlorobenzene	ND	0.20		ND	1.5	4	5/10/22 17:56	BRF
1,1,1-Trichloroethane	ND	0.20		ND	1.1	4	5/10/22 17:56	BRF
1,1,2-Trichloroethane	ND	0.20		ND	1.1	4	5/10/22 17:56	BRF
Trichloroethylene	ND	0.20		ND	1.1	4	5/10/22 17:56	BRF
Trichlorofluoromethane (Freon 11)	ND	0.80		ND	4.5	4	5/10/22 17:56	BRF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.80		ND	6.1	4	5/10/22 17:56	BRF
1,2,4-Trimethylbenzene	0.40	0.20		1.9	0.98	4	5/10/22 17:56	BRF
1,3,5-Trimethylbenzene	ND	0.20		ND	0.98	4	5/10/22 17:56	BRF
Vinyl Acetate	ND	4.0		ND	14	4	5/10/22 17:56	BRF
Vinyl Chloride	ND	0.20		ND	0.51	4	5/10/22 17:56	BRF
m&p-Xylene	1.8	0.40		8.0	1.7	4	5/10/22 17:56	BRF
o-Xylene	0.62	0.20		2.7	0.87	4	5/10/22 17:56	BRF

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	105	70-130	5/10/22 17:56

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method: TO-15 Prep **Analytical Method: EP**

Lab Number [Field ID]	Batch	Pressure Dilution	Pre Dilution	Pre-Dil Initial mL	Pre-Dil Final mL	Default Injection mL	Actual Injection mL	Date
22E0444-01 [MW-01]	B308172	1.5	1	N/A	1000	0.5	0.75	05/11/22
22E0444-02 [MW-02]	B308172	1.5	1	N/A	1000	0.5	0.75	05/11/22
22E0444-03 [MW-03]	B308172	1.5	1	N/A	1000	0.5	0.75	05/11/22

Prep Method: TO-15 Prep **Analytical Method: EP**

Lab Number [Field ID]	Batch	Pressure Dilution	Pre Dilution	Pre-Dil Initial mL	Pre-Dil Final mL	Default Injection mL	Actual Injection mL	Date
22E0444-01 [MW-01]	B308166	1.5	1	N/A	1000	400	150	05/10/22
22E0444-02 [MW-02]	B308166	1.5	1	N/A	1000	400	150	05/10/22
22E0444-03 [MW-03]	B308166	1.5	1	N/A	1000	400	150	05/10/22

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Miscellaneous Air Analyses - Quality Control

Analyte	% Results	% RL	ug/m3 Results	ug/m3 RL	Spike Level %	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag/Qual
Batch B308172 - TO-15 Prep											
Blank (B308172-BLK1)					Prepared & Analyzed: 05/11/22						
Helium	ND	0.40									
LCS (B308172-BS1)					Prepared & Analyzed: 05/11/22						
Helium	0.539				0.500		108	70-130			

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv Results	ppbv RL	ug/m3 Results	ug/m3 RL	Spike Level ppbv	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag/Qual
Batch B308166 - TO-15 Prep											
Blank (B308166-BLK1)					Prepared & Analyzed: 05/10/22						
Acetone	ND	1.4									
Benzene	ND	0.035									
Benzyl chloride	ND	0.035									
Bromodichloromethane	ND	0.035									
Bromoform	ND	0.035									
Bromomethane	ND	0.035									
1,3-Butadiene	ND	0.035									
2-Butanone (MEK)	ND	1.4									
Carbon Disulfide	ND	0.35									
Carbon Tetrachloride	ND	0.035									
Chlorobenzene	ND	0.035									
Chloroethane	ND	0.035									
Chloroform	ND	0.035									
Chloromethane	ND	0.070									
Cyclohexane	ND	0.035									
Dibromochloromethane	ND	0.035									
1,2-Dibromoethane (EDB)	ND	0.035									
1,2-Dichlorobenzene	ND	0.035									
1,3-Dichlorobenzene	ND	0.035									
1,4-Dichlorobenzene	ND	0.035									
Dichlorodifluoromethane (Freon 12)	ND	0.035									L-05, V-06
1,1-Dichloroethane	ND	0.035									
1,2-Dichloroethane	ND	0.035									
1,1-Dichloroethylene	ND	0.035									
cis-1,2-Dichloroethylene	ND	0.035									
trans-1,2-Dichloroethylene	ND	0.035									
1,2-Dichloropropane	ND	0.035									
cis-1,3-Dichloropropene	ND	0.035									
trans-1,3-Dichloropropene	ND	0.035									
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.035									
1,4-Dioxane	ND	0.35									
Ethanol	ND	1.4									
Ethyl Acetate	ND	0.35									
Ethylbenzene	ND	0.035									
4-Ethyltoluene	ND	0.035									
Heptane	ND	0.035									
Hexachlorobutadiene	ND	0.035									
Hexane	ND	1.4									
2-Hexanone (MBK)	ND	0.035									
Methyl tert-Butyl Ether (MTBE)	ND	0.035									
Methylene Chloride	ND	0.35									
4-Methyl-2-pentanone (MIBK)	ND	0.035									
Naphthalene	ND	0.035									
Propene	ND	1.4									
Styrene	ND	0.035									
1,1,2,2-Tetrachloroethane	ND	0.035									

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv Results	ppbv RL	ug/m3 Results	ug/m3 RL	Spike Level ppbv	Source Result	%REC		%REC Limits	RPD	RPD Limit	Flag/Qual
Batch B308166 - TO-15 Prep												
Blank (B308166-BLK1)					Prepared & Analyzed: 05/10/22							
Tetrachloroethylene	ND	0.035										
Tetrahydrofuran	ND	0.35										
Toluene	ND	0.035										
1,2,4-Trichlorobenzene	ND	0.035										
1,1,1-Trichloroethane	ND	0.035										
1,1,2-Trichloroethane	ND	0.035										
Trichloroethylene	ND	0.035										
Trichlorofluoromethane (Freon 11)	ND	0.14										
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.14										
1,2,4-Trimethylbenzene	ND	0.035										
1,3,5-Trimethylbenzene	ND	0.035										
Vinyl Acetate	ND	0.70										
Vinyl Chloride	ND	0.035										
m&p-Xylene	ND	0.070										
o-Xylene	ND	0.035										
Surrogate: 4-Bromofluorobenzene (1)	*8.27*				*8.00*		*103*		*70-130*			
LCS (B308166-BS1)					Prepared & Analyzed: 05/10/22							
Acetone	5.14				5.00		103		70-130			
Benzene	4.44				5.00		88.9		70-130			
Benzyl chloride	4.78				5.00		95.6		70-130			
Bromodichloromethane	4.52				5.00		90.3		70-130			
Bromoform	6.08				5.00		122		70-130			
Bromomethane	6.54				5.00		**131**	*	70-130			L-01, V-20
1,3-Butadiene	5.86				5.00		117		70-130			
2-Butanone (MEK)	4.49				5.00		89.8		70-130			
Carbon Disulfide	5.96				5.00		119		70-130			
Carbon Tetrachloride	4.92				5.00		98.3		70-130			
Chlorobenzene	4.84				5.00		96.8		70-130			
Chloroethane	6.06				5.00		121		70-130			
Chloroform	5.68				5.00		114		70-130			
Chloromethane	5.45				5.00		109		70-130			
Cyclohexane	4.22				5.00		84.5		70-130			
Dibromochloromethane	5.31				5.00		106		70-130			
1,2-Dibromoethane (EDB)	4.79				5.00		95.7		70-130			
1,2-Dichlorobenzene	4.94				5.00		98.8		70-130			
1,3-Dichlorobenzene	5.03				5.00		101		70-130			
1,4-Dichlorobenzene	5.02				5.00		100		70-130			
Dichlorodifluoromethane (Freon 12)	6.75				5.00		**135**	*	70-130			L-05, V-06
1,1-Dichloroethane	5.25				5.00		105		70-130			
1,2-Dichloroethane	5.44				5.00		109		70-130			
1,1-Dichloroethylene	5.64				5.00		113		70-130			
cis-1,2-Dichloroethylene	5.06				5.00		101		70-130			
trans-1,2-Dichloroethylene	5.14				5.00		103		70-130			
1,2-Dichloropropane	3.82				5.00		76.3		70-130			
cis-1,3-Dichloropropene	4.01				5.00		80.2		70-130			

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv Results	ppbv RL	ug/m3 Results	ug/m3 RL	Spike Level ppbv	Source Result	%REC		%REC Limits	RPD	RPD Limit	Flag/Qual
Batch B308166 - TO-15 Prep												
LCS (B308166-BS1)					Prepared & Analyzed: 05/10/22							
trans-1,3-Dichloropropene	4.15				5.00		82.9		70-130			
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	6.64				5.00		**133**	*	70-130			L-01, V-20
1,4-Dioxane	4.67				5.00		93.4		70-130			
Ethanol	4.78				5.00		95.7		70-130			
Ethyl Acetate	5.41				5.00		108		70-130			
Ethylbenzene	4.80				5.00		95.9		70-130			
4-Ethyltoluene	4.97				5.00		99.4		70-130			
Heptane	3.90				5.00		77.9		70-130			
Hexachlorobutadiene	4.85				5.00		96.9		70-130			
Hexane	5.17				5.00		103		70-130			
2-Hexanone (MBK)	3.70				5.00		73.9		70-130			
Methyl tert-Butyl Ether (MTBE)	5.36				5.00		107		70-130			
Methylene Chloride	4.84				5.00		96.7		70-130			
4-Methyl-2-pentanone (MIBK)	3.51				5.00		70.1		70-130			
Naphthalene	4.70				5.00		94.0		70-130			
Propene	4.82				5.00		96.3		70-130			
Styrene	4.79				5.00		95.9		70-130			
1,1,2,2-Tetrachloroethane	4.31				5.00		86.1		70-130			
Tetrachloroethylene	5.06				5.00		101		70-130			
Tetrahydrofuran	5.30				5.00		106		70-130			
Toluene	4.90				5.00		98.1		70-130			
1,2,4-Trichlorobenzene	5.19				5.00		104		70-130			
1,1,1-Trichloroethane	4.37				5.00		87.4		70-130			
1,1,2-Trichloroethane	4.76				5.00		95.2		70-130			
Trichloroethylene	4.42				5.00		88.3		70-130			
Trichlorofluoromethane (Freon 11)	5.96				5.00		119		70-130			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	6.31				5.00		126		70-130			
1,2,4-Trimethylbenzene	4.81				5.00		96.2		70-130			
1,3,5-Trimethylbenzene	4.86				5.00		97.1		70-130			
Vinyl Acetate	4.31				5.00		86.3		70-130			
Vinyl Chloride	6.11				5.00		122		70-130			
m&p-Xylene	9.78				10.0		97.8		70-130			
o-Xylene	4.82				5.00		96.3		70-130			
Surrogate: 4-Bromofluorobenzene (1)	*8.35*				*8.00*		*104*		*70-130*			

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.

L-01	Laboratory fortified blank/laboratory control sample recovery outside of control limits. Data validation is not affected since all results are "not detected" for all samples in this batch for this compound and bias is on the high side.
L-05	Laboratory fortified blank/laboratory control sample recovery is outside of control limits. Reported value for this compound is likely to be biased on the high side.
V-06	Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side for this compound.
V-20	Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

INTERNAL STANDARD AREA AND RT SUMMARY

EPA TO-15

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Initial Cal Check (S070426-ICV1)			Lab File ID: G22A104022.D			Analyzed: 04/15/22 00:54			
Bromochloromethane (1)	1864849	8.485	1814308	8.485	103	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene (1)	3396119	10.259	3274776	10.259	104	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5 (1)	3122096	14.63	3056122	14.63	102	60 - 140	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY

EPA TO-15

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (S071394-CCV1)			Lab File ID: G22A130005.D			Analyzed: 05/10/22 10:28			
Bromochloromethane (1)	1422784	8.485	1814308	8.485	78	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene (1)	3368233	10.259	3274776	10.259	103	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5 (1)	3004022	14.63	3056122	14.63	98	60 - 140	0.0000	+/-0.50	
LCS (B308166-BS1)			Lab File ID: G22A130006.D			Analyzed: 05/10/22 11:07			
Bromochloromethane (1)	1409294	8.485	1422784	8.485	99	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene (1)	3369625	10.259	3368233	10.259	100	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5 (1)	3001452	14.63	3004022	14.63	100	60 - 140	0.0000	+/-0.50	
Blank (B308166-BLK1)			Lab File ID: G22A130009.D			Analyzed: 05/10/22 13:16			
Bromochloromethane (1)	1363069	8.491	1422784	8.485	96	60 - 140	0.0060	+/-0.50	
1,4-Difluorobenzene (1)	3193155	10.259	3368233	10.259	95	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5 (1)	2892168	14.63	3004022	14.63	96	60 - 140	0.0000	+/-0.50	
MW-01 (22E0444-01)			Lab File ID: G22A130014.D			Analyzed: 05/10/22 16:36			
Bromochloromethane (1)	1368177	8.491	1422784	8.485	96	60 - 140	0.0060	+/-0.50	
1,4-Difluorobenzene (1)	3165735	10.259	3368233	10.259	94	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5 (1)	2775888	14.63	3004022	14.63	92	60 - 140	0.0000	+/-0.50	
MW-02 (22E0444-02)			Lab File ID: G22A130015.D			Analyzed: 05/10/22 17:16			
Bromochloromethane (1)	1354988	8.491	1422784	8.485	95	60 - 140	0.0060	+/-0.50	
1,4-Difluorobenzene (1)	3232575	10.259	3368233	10.259	96	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5 (1)	2884071	14.63	3004022	14.63	96	60 - 140	0.0000	+/-0.50	
MW-03 (22E0444-03)			Lab File ID: G22A130016.D			Analyzed: 05/10/22 17:56			
Bromochloromethane (1)	1355250	8.491	1422784	8.485	95	60 - 140	0.0060	+/-0.50	
1,4-Difluorobenzene (1)	3182938	10.259	3368233	10.259	94	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5 (1)	2842534	14.63	3004022	14.63	95	60 - 140	0.0000	+/-0.50	

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CONTINUING CALIBRATION CHECK

EPA TO-15

S071394-CCV1

COMPOUND	TYPE	CONC. (ppbv)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Acetone	A	5.00	5.22	0.9627142	1.004457		4.3	30
Benzene	A	5.00	4.45	0.9673924	0.8617922		-10.9	30
Benzyl chloride	A	5.00	4.98	1.020517	1.017341		-0.3	30
Bromodichloromethane	A	5.00	4.57	0.7088833	0.6479105		-8.6	30
Bromoform	A	5.00	6.27	0.4161769	0.5220707		25.4	30
Bromomethane	A	5.00	6.68	0.3787841	0.5056464		33.5	30 *
1,3-Butadiene	A	5.00	6.06	0.4187761	0.5076593		21.2	30
2-Butanone (MEK)	A	5.00	4.46	1.530296	1.364573		-10.8	30
Carbon Disulfide	A	5.00	5.69	1.573446	1.791004		13.8	30
Carbon Tetrachloride	A	5.00	4.99	0.5079007	0.5068723		-0.2	30
Chlorobenzene	A	5.00	5.01	0.8200497	0.82241		0.3	30
Chloroethane	A	5.00	6.14	0.2543488	0.3125118		22.9	30
Chloroform	A	5.00	5.68	1.27954	1.453759		13.6	30
Chloromethane	A	5.00	5.54	0.5506086	0.6105764		10.9	30
Cyclohexane	A	5.00	4.21	0.4116652	0.3464264		-15.8	30
Dibromochloromethane	A	5.00	5.36	0.5601445	0.6004164		7.2	30
1,2-Dibromoethane (EDB)	A	5.00	4.91	0.597506	0.5865603		-1.8	30
1,2-Dichlorobenzene	A	5.00	5.24	0.6077766	0.6376172		4.9	30
1,3-Dichlorobenzene	A	5.00	5.30	0.6641816	0.7042718		6.0	30
1,4-Dichlorobenzene	A	5.00	5.24	0.6520986	0.6834565		4.8	30
Dichlorodifluoromethane (Freon 12)	A	5.00	6.86	1.22902	1.68749		37.3	30 *
1,1-Dichloroethane	A	5.00	5.11	1.204909	1.23162		2.2	30
1,2-Dichloroethane	A	5.00	5.40	0.8878476	0.9593372		8.1	30
1,1-Dichloroethylene	A	5.00	5.40	1.020229	1.100873		7.9	30
cis-1,2-Dichloroethylene	A	5.00	5.08	0.9049676	0.9190072		1.6	30
trans-1,2-Dichloroethylene	A	5.00	5.09	0.925489	0.9421124		1.8	30
1,2-Dichloropropane	A	5.00	3.81	0.4332879	0.3299843		-23.8	30
cis-1,3-Dichloropropene	A	5.00	4.15	0.5982938	0.4960526		-17.1	30
trans-1,3-Dichloropropene	A	5.00	4.22	0.5325488	0.4495143		-15.6	30
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 1	A	5.00	6.90	1.144034	1.579253		38.0	30 *
1,4-Dioxane	A	5.00	4.67	0.186424	0.1742483		-6.5	30
Ethanol	A	5.00	5.41	0.1988086	0.2150331		8.2	30
Ethyl Acetate	A	5.00	5.21	0.1966074	0.2048502		4.2	30
Ethylbenzene	A	5.00	4.96	1.461224	1.449537		-0.8	30
4-Ethyltoluene	A	5.00	5.15	1.416927	1.458801		3.0	30
Heptane	A	5.00	3.88	0.3500786	0.2715394		-22.4	30
Hexachlorobutadiene	A	5.00	5.47	0.3611528	0.3953207		9.5	30
Hexane	A	5.00	5.08	0.8594496	0.8421146		1.7	30

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CONTINUING CALIBRATION CHECK

EPA TO-15

S071394-CCV1

COMPOUND	TYPE	CONC. (ppbv)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
2-Hexanone (MBK)	A	5.00	3.78	0.9888817	0.748256		-24.3	30
Methyl tert-Butyl Ether (MTBE)	A	5.00	5.37	1.586632	1.704157		7.4	30
Methylene Chloride	A	5.00	4.74	0.8371906	0.7936688		-5.2	30
4-Methyl-2-pentanone (MIBK)	A	5.00	3.60	0.9980745	0.7191232		-27.9	30
Naphthalene	A	5.00	5.06	1.038849	1.05072		1.1	30
Propene	A	5.00	4.95	0.5367406	0.5317147		-0.9	30
Styrene	A	5.00	5.00	0.8178933	0.8186193		0.09	30
1,1,2,2-Tetrachloroethane	A	5.00	4.52	0.9927304	0.898428		-9.5	30
Tetrachloroethylene	A	5.00	5.17	0.4134848	0.4274781		3.4	30
Tetrahydrofuran	A	5.00	5.34	0.2687059	0.2867314		6.7	30
Toluene	A	5.00	4.95	1.150729	1.138317		-1.1	30
1,2,4-Trichlorobenzene	A	5.00	5.66	0.4001094	0.4527269		13.2	30
1,1,1-Trichloroethane	A	5.00	4.57	0.6090453	0.556142		-8.7	30
1,1,2-Trichloroethane	A	5.00	4.75	0.4085413	0.3882784		-5.0	30
Trichloroethylene	A	5.00	4.45	0.4149349	0.3693146		-11.0	30
Trichlorofluoromethane (Freon 11)	A	5.00	6.00	1.067097	1.280745		20.0	30
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113	A	5.00	6.29	1.019497	1.282387		25.8	30
1,2,4-Trimethylbenzene	A	5.00	5.08	1.162167	1.181098		1.6	30
1,3,5-Trimethylbenzene	A	5.00	5.05	1.19084	1.20372		1.1	30
Vinyl Acetate	A	5.00	4.48	1.948888	1.746946		-10.4	30
Vinyl Chloride	A	5.00	5.98	0.5517783	0.6603358		19.7	30
m&p-Xylene	A	10.0	10.0	1.138071	1.139958		0.2	30
o-Xylene	A	5.00	4.92	1.176972	1.158257		-1.6	30

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CONTINUING CALIBRATION CHECK

EPA 3C

S071398-CCV1

COMPOUND	TYPE	CONC. (%)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Helium	A	0.500	0.529	1066966	1129882		5.9	30

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CONTINUING CALIBRATION CHECK

EPA 3C

S071398-CCV2

COMPOUND	TYPE	CONC. (%)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Helium	A	0.500	0.521	1066966	1111836		4.2	30

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
EPA TO-15 in Air	
Acetone	AIHA,NY,ME,NH
Benzene	AIHA,FL,NJ,NY,ME,NH,VA
Benzyl chloride	AIHA,FL,NJ,NY,ME,NH,VA
Bromodichloromethane	AIHA,NJ,NY,ME,NH,VA
Bromoform	AIHA,NJ,NY,ME,NH,VA
Bromomethane	AIHA,FL,NJ,NY,ME,NH
1,3-Butadiene	AIHA,NJ,NY,ME,NH,VA
2-Butanone (MEK)	AIHA,FL,NJ,NY,ME,NH,VA
Carbon Disulfide	AIHA,NJ,NY,ME,NH,VA
Carbon Tetrachloride	AIHA,FL,NJ,NY,ME,NH,VA
Chlorobenzene	AIHA,FL,NJ,NY,ME,NH,VA
Chloroethane	AIHA,FL,NJ,NY,ME,NH,VA
Chloroform	AIHA,FL,NJ,NY,ME,NH,VA
Chloromethane	AIHA,FL,NJ,NY,ME,NH,VA
Cyclohexane	AIHA,NJ,NY,ME,NH,VA
Dibromochloromethane	AIHA,NY,ME,NH
1,2-Dibromoethane (EDB)	AIHA,NJ,NY,ME,NH
1,2-Dichlorobenzene	AIHA,FL,NJ,NY,ME,NH,VA
1,3-Dichlorobenzene	AIHA,NJ,NY,ME,NH
1,4-Dichlorobenzene	AIHA,FL,NJ,NY,ME,NH,VA
Dichlorodifluoromethane (Freon 12)	AIHA,NY,ME,NH
1,1-Dichloroethane	AIHA,FL,NJ,NY,ME,NH,VA
1,2-Dichloroethane	AIHA,FL,NJ,NY,ME,NH,VA
1,1-Dichloroethylene	AIHA,FL,NJ,NY,ME,NH,VA
cis-1,2-Dichloroethylene	AIHA,FL,NY,ME,NH,VA
trans-1,2-Dichloroethylene	AIHA,NJ,NY,ME,NH,VA
1,2-Dichloropropane	AIHA,FL,NJ,NY,ME,NH,VA
cis-1,3-Dichloropropene	AIHA,FL,NJ,NY,ME,NH,VA
trans-1,3-Dichloropropene	AIHA,NY,ME,NH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	AIHA,NJ,NY,ME,NH,VA
1,4-Dioxane	AIHA,NJ,NY,ME,NH,VA
Ethanol	AIHA
Ethyl Acetate	AIHA
Ethylbenzene	AIHA,FL,NJ,NY,ME,NH,VA
4-Ethyltoluene	AIHA,NJ
Heptane	AIHA,NJ,NY,ME,NH,VA
Hexachlorobutadiene	AIHA,NJ,NY,ME,NH,VA
Hexane	AIHA,FL,NJ,NY,ME,NH,VA
2-Hexanone (MBK)	AIHA
Isopropanol	AIHA,NY,ME,NH
Methyl tert-Butyl Ether (MTBE)	AIHA,FL,NJ,NY,ME,NH,VA
Methylene Chloride	AIHA,FL,NJ,NY,ME,NH,VA
4-Methyl-2-pentanone (MIBK)	AIHA,FL,NJ,NY,ME,NH
Naphthalene	NY,ME,NH
Propene	AIHA
Styrene	AIHA,FL,NJ,NY,ME,NH,VA
1,1,2,2-Tetrachloroethane	AIHA,FL,NJ,NY,ME,NH,VA

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
EPA TO-15 in Air	
Tetrachloroethylene	AIHA,FL,NJ,NY,ME,NH,VA
Tetrahydrofuran	AIHA
Toluene	AIHA,FL,NJ,NY,ME,NH,VA
1,2,4-Trichlorobenzene	AIHA,NJ,NY,ME,NH,VA
1,1,1-Trichloroethane	AIHA,FL,NJ,NY,ME,NH,VA
1,1,2-Trichloroethane	AIHA,FL,NJ,NY,ME,NH,VA
Trichloroethylene	AIHA,FL,NJ,NY,ME,NH,VA
Trichlorofluoromethane (Freon 11)	AIHA,NY,ME,NH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	AIHA,NJ,NY,ME,NH,VA
1,2,4-Trimethylbenzene	AIHA,NJ,NY,ME,NH
1,3,5-Trimethylbenzene	AIHA,NJ,NY,ME,NH
Vinyl Acetate	AIHA,FL,NJ,NY,ME,NH,VA
Vinyl Chloride	AIHA,FL,NJ,NY,ME,NH,VA
m&p-Xylene	AIHA,FL,NJ,NY,ME,NH,VA
o-Xylene	AIHA,FL,NJ,NY,ME,NH,VA

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2017	100033	03/1/2024
MA	Massachusetts DEP	M-MA100	06/30/2022
CT	Connecticut Department of Publilc Health	PH-0165	12/31/2022
NY	New York State Department of Health	10899 NELAP	04/1/2023
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2023
RI	Rhode Island Department of Health	LAO00373	12/30/2022
NC	North Carolina Div. of Water Quality	652	12/31/2022
NJ	New Jersey DEP	MA007 NELAP	06/30/2022
FL	Florida Department of Health	E871027 NELAP	06/30/2022
VT	Vermont Department of Health Lead Laboratory	LL720741	07/30/2022
ME	State of Maine	MA00100	06/9/2023
VA	Commonwealth of Virginia	460217	12/14/2022
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2022
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2022
NC-DW	North Carolina Department of Health	25703	07/31/2022
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2022
MI	Dept. of Env, Great Lakes, and Energy	9100	09/6/2022

22E0444

Pace Analytical®

Phone: 413-525-2332
Fax: 413-525-6405
www.pacelabs.com

http://www.pacelabs.com

DOC #378 REV3_11232021

CHAIN OF CUSTODY RECORD (AIR)

39 Spruce Street
East Longmeadow, MA 01028

Page 1 of 1

Company Name: ATC's
Address: 51 Knight Lane, Williston Vt 05495
Phone: 802-862-1980
Project Name: ST Johnsbury Armory
Project Location: ST Johnsbury, Vermont
Project Number: 280EM005660
Project Manager: Jesse Stratton
Pace Quote Name/Number:
Invoice Recipient:
Sampled By: Mark Emerson

Requested Turnaround Time:
7-Day [X] 10-Day [ ]
Due Date:

Rush Approval Required:
1-Day [ ] 3-Day [ ]
2-Day [ ] 4-Day [ ]

Data Delivery:
Format: PDF [X] EXCEL [ ]
Other:
CLP Like Data Pkg Required: [ ]
Email To:
Fax To #:

ANALYSIS REQUESTED

Lab Use	Client Use	Collection Data		Duration	Flow Rate	Matrix	Volume	TO-15	SPA Methods 3C Mod. - 14hr.		" Hg			Please fill out completely, sign, date and retain the yellow copy for your records
Pace Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	Total Minutes Sampled	[ ] m³/min [X] L/min	Code	[X] Liters [ ] m³				Initial Pressure	Final Pressure	Lab Receipt Pressure	Summa canisters and flow controllers must be returned within 15 days of receipt or rental fees will apply
1	MW-01	5/4/22 1336	5/4/22 1426	30	200mL/min	SG	3	X	X		-27	-4	-6.1	For summa canister and flow controller information please refer to Con-Test's Air Media Agreement
2	MW-02	5/4/22 1351	5/4/22 1423	32	↓	SG	↓	X	X		-25.5	0	-0.7	
3	MW-03	5/4/22 1343	5/4/22 1415	32	↓	SG	↓	X	X		-29	-6	-5	

Summa Can ID	Flow Controller ID
2287	4246
2393	4349
2263	4233

Comments:

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Matrix Codes:
SG = SOIL GAS
IA = INDOOR AIR
AMB = AMBIENT
SS = SUB SLAB
D = DUP
BL = BLANK
O = Other_____

	Date/Time:
Relinquished by: (signature)	5/4/22 1545
Received by: (signature)	5/4/22 1545
Relinquished by: (signature)	5/4/22 1654
Received by: (signature)	5/5/22 0900
Relinquished by: (signature)	5/5/22 1515
Received by: (signature)	5/5/22 1515

Detection Limit Requirements:
MA
GW
Other

Special Requirements:
[ ] MA MCP Required
MCP Certification Form Required
[ ] CT RCP Required
RCP Certification Form Required
[ ] Other

Pace Analytical®
NELAC and AIHA-LAP, LLC Accredited

Project Entity:
[ ] Government [ ] Municipality [ ] MWRA [ ] WRTA
[ ] Federal [ ] 21 J [ ] School
[✓] City [ ] Brownfield [ ] MBTA

Other:
[ ] Chromatogram
[ ] AIHA-LAP,LLC

PCB ONLY:
[ ] Soxhlet
[ ] Non Soxhlet

I Have Not Confirmed Sample Container Numbers With Lab Staff Before Relinquishing Over Samples_____

con-test® ANALYTICAL LABORATORY

Doc# 278 Rev 6 2017

Air Media Sample Receipt Checklist - (Rejection Criteria Listing - Using Acceptance Policy) Any False Statement will be brought to the attention of the Client - State True or False

Client AJC

Received By NAP Date 5/5 Time 1515

How were the samples received? In Cooler ____ On Ice ____ No Ice ____ In Box T Ambient ____ Melted Ice ____

Were samples within Temperature Compliance? 2-6°C ____ By Gun # ____ Actual Temp - ____ By Blank # ____ Actual Temp - ____

Was Custody Seal Intact? NA Were Samples Tampered with? N

Was COC Relinquished ? T Does Chain Agree With Samples? T

Are there any loose caps/valves on any samples? F

Is COC in ink/ Legible? T

Did COC Include all Pertinent Information? Client T Project T Analysis T ID's T Sampler Name T Collection Dates/Times T

Are Sample Labels filled out and legible? T

Are there Rushes? F Who was notified? ____

Samples are received within holding time? T

Proper Media Used? T Individually Certified Cans? F

Are there Trip Blanks? F Is there enough Volume? T

Containers:	#	Size	Regulator	Duration	Accessories:			
Summa Cans	3	3L	3	30 min	Nut/Ferrule		IC Train	
Tedlar Bags					Tubing			
TO-17 Tubes					T-Connector		Shipping Charges	
Radiello					Syringe			
Pufs/TO-11s					Tedlar			

Can #'s					Reg #'s				
2287					4246				
2393					4340				
2263					4233				
Unused Media					**Pufs/TO-17's**				

Comments:

APPENDIX D
STANDARD OPERATING PROCEDURES

SOP 1.0 DRILLING EQUIPMENT STANDARDS

1.1 EQUIPMENT DECONTAMINATION

All drilling equipment and associated tools, including but not limited to, augers, flush-threaded casing, drill rods, sampling equipment, wrenches, etc., that may have come in contact with any material which could cause contamination shall be decontaminated using a high pressure detergent steam cleaning equipment, followed by, if needed a nanograde methanol swabbing. This will be followed by a distilled or controlled water rinse. The control water shall be obtained from a source approved by the supervising field representative.

1.2 EQUIPMENT AND MATERIALS

All equipment will be in good repair and in proper working order with no visible signs of oil or hydraulic fluid leaks.

The drill rig shall be capable of providing a power driven sectional hollow stem auger and/or flush-threaded casing with a minimum inside diameter of 2 1/2 inches to a minimum depth of 60 feet. In addition, the following equipment shall be available:

- Drill Rods, minimum size equivalent to the "A" Rod, (1 5/8 inches 0.D. and 1 1/8 I.D.);
- lb. Drive Hammer and 300 lb. Drive Hammer;
- Split-spoon Samplers;
- Hollow Stem Auger Plug;
- Roller Bit and Diamond Corer Bit;
- Water Tank and Pump;
- Any other equipment needed to successfully complete job.

SOP **4.0 GENERAL SAMPLING PROCEDURES FOR AQUEOUS AND SOLID MATRICES**

- During field sampling activities, the following applicable procedures will be practiced for sample collection:

- Whenever possible, samples will be collected first from the location expected to be least contaminated. Samples that are expected to be most contaminated will be collected last.

- Accurate and detailed field notes will be maintained in a bound field notebook. Soil samples will be examined and logged in the field.

- Sampling procedures will be performed with the overall intent of collecting representative samples and minimizing sample disturbance.

- Soil samples will be selected for analysis based on the results of qualitative field screening for total volatile organic vapors, visual and olfactory observations, and the depth of the water table.

- Sample containers will be labeled with the site name, project number and date prior to being filled with a sample.

- All sample collection, handling, and shipping information will be recorded in a field notebook.

- Groundwater samples will be logged, using the attached *Groundwater Sampling Log.* Samples of other matrices (sediment, surface water, soil, etc.) will be logged, using the attached *Field Sampling Log*.

- All samples should be collected according the specific requirements of the intended analytical method. Tables 1 and 2 provide lists of sample containers, preservation and holding time requirements for aqueous and soil/sediment samples, respectively.

- All samples will be placed in a chilled, thermally-insulated container containing ice. Blue ice, ice packs, or ice substitutes are not able to reach and maintain the required temperature until receipt at a laboratory.

- All soil samples for volatile organic compound analysis must be collected, preserved, and handled accordingly to SW846 Method 5035. The procedures are outlined in attached memorandum from Spectrum Analytical.

- All samples to be analyzed by Massachusetts Department of Environmental Protection methodologies for Volatile Petroleum Hydrocarbons (VPH) and Extractable Petroleum Hydrocarbons (EPH) will be collected according the published MADEP procedures outlined in the attached memorandum from Spectrum Analytical, Inc.

SOP 5.0 SUBSURFACE SOIL SAMPLE COLLECTION PROCEDURES

Subsurface soil samples will be collected during the performance of soil borings and soil probes in order to determine the nature and extent of contamination. Soil sampling protocols are based on standard methods found in the following documents: MADEP (1991), USEPA (1991), USEPA (1993) and ASTM Designation: D 1586-84.

5.1 MATERIALS

The following materials will be available during subsurface soil sampling:

- health and safety equipment;
- disposable gloves;
- sample retrieval device (split-spoon sampler, macro-core sampler);
- map of the Site;
- field book;
- aluminum foil and zip-lock type bags;
- stainless steel sampling tool and bowl;
- polyethylene sheeting;
- knife;
- sample containers;
- photoionization detector;
- paper towels;
- chain-of-custody forms;
- cooler and ice;
- decontamination equipment and supplies (non-phosphate detergent, potable water, methanol and 10% nitric acid rinses, buckets, brushes, etc.).

SOP 5.10 SUBSURFACE SOIL SAMPLE COLLECTION USING HOLLOW-STEM AUGERING

The following applicable procedures will be followed during collection of subsurface soil samples during hollow-stem augering.

- Representative subsurface soil samples will be collected by using a hollow-stem auger drilling technique and a 24-inch long, 1 3/8-inch inside diameter split-spoon sampler. A larger inside diameter split-spoon sampler may be used to improve the amount of recovery; an optional plastic liner may also be inserted into the inside of the larger diameter split-spoon samplers. Samples obtained from the split-spoon sampler are suitable for physical and chemical analysis.

- The split-spoon sampler will be made of carbon steel. Other equipment used during sampling such as mixing bowls and sampling tools will be made of stainless steel.

- Split-spoon samplers will be advanced according to the standard penetration test (as described in the ASTM Designation: D 1586-84) with the exception that the split-spoon will be advanced a full two feet, or until refusal. Refusal will be defined as driving the split-spoon sampler six inches or less with a blow count of 50. The sampler will be driven by a 140-pound hammer with a vertical free drop of 30 inches. The blow counts obtained by performing the standard penetration test will be used to characterize soil density or soil consistency. The number of blow counts will be recorded in a field book and transferred to a boring log (figure attached).

- Split-spoon samples will be collected at five-foot intervals. In some conditions a surface sample (0-2 feet) may need to be collected. Based on site-specific conditions, samples may be collected continuously or at changes in geologic strata.

- Upon retrieval of the split-spoon sampler, the following applicable procedures will be completed.

  - The split-spoon sampler will be loosened by the drillers and opened by the inspector. The inspector will scan for total volatile organic vapors using a Photoionization Detector (PID) or a Flame Ionization Detector (FID), if specified. The length of recovery will be measured. This information will be recorded in a bound field book or field boring log.

  - Soil will be described and logged in the field according to the modified Burmister system. The soil description will be given in the following format: soil name; sorting and plasticity; particle size distribution, shape, and angularity; color; moisture content; density or consistency. This information will be recorded in a bound field book and transferred to a boring log or directly in a field boring log..

  - Soil samples will be examined for the presence of any identifiable components of artificial fill, and odor, sheen, or other abnormalities indicative of the presence of contamination.

  - Samples for the analysis for volatile organic compounds (VOCs and VPH) will be collected as soon as possible directly from the split-spoon sampler using a decontaminated stainless steel sampling tool. No mixing of the soil sample will occur.

  - Representative samples shall be transferred by clean spoon to 15 ml of MeOH contained in 40ml amber VOAs with teflon septum. The level of MeOH prior to sample addition shall be marked. Soil shall be added to at least this line on the VOA. A duplicate VOA shall be collected and submitted for each sample as standard procedure. Additional soil from the

sample location shall be submitted in a separate container (2-4 oz glass jar) without preservation solution for dry weight determination purposes for each set of MeOH preserved VOAs.

- Loose soil will be removed from the glass threads of the vial with a paper towel to ensure a good seal. The cap will be secured tightly. The sample containers will immediately be placed in a chilled, thermally insulated container. The container will include a trip blank consisting of methanol in a 40-ml vial.

- **Alternative for VOC and VPH:** If the optional plastic liner is used a hole will be drilled through the side of the liner, allowing for the collection of a sub-sample using a stainless steel syringe. This sub-sample can be placed into a 40-ml VOA vial, filling the vial 1/2 full, and then covering the vial with foil prior to capping with the teflon-lined cap.

- Duplicate samples for the field screening for total organic vapors will be collected from each split-spoon sampler by filling two 8-ounce glass soil jars half full with soil and covering the jar with a double layer of aluminum foil and securing the lid over the foil. The sample will be screened by using a PID or FID according to jar headspace analytical screening protocol (MA DEP #WSC-401-91). The jars will be labeled with the job designation, boring number, sample depth, blow count, and screening result.

- Discrete grab soil samples collected for laboratory analysis for semivolatile organic compounds, PCBs, pesticides, and inorganic compounds will be homogenized by mixing the soil in a stainless steel bowl or a polyethylene bag prior to filling the sample container. The cap will be secured tightly. No chemical preservation is necessary.

- Composite soil samples collected for laboratory analysis for semivolatile organic compounds, PCBs, pesticides, and inorganic compounds will be composed of discrete grab samples placed in a stainless steel bowl or polyethylene bag for mixing. The soil will then be placed on a 1-meter square piece of polyethylene sheeting and rolled backward and forward by lifting and releasing corners of the sheet. The sample will be spread out on the sheet and divided into quarters. Soil will be collected from each quarter consecutively until the sample containers are full.

- Sample containers will be checked to see that a Teflon liner is present in the cap prior to filling. ATC Standard Operating Procedure (SOP) # 4.00 should be referred to for types of containers necessary for different analyses.

- All sample containers will be labeled with the following information: site; project number; boring number; sample interval or depth; sample matrix; date; time of collection; testing parameters; grab or composite sample; initials of sampling personnel.

- Sample containers will be capped immediately after filling and cooled to 4°C by placing them into a chilled, thermally insulated container for transport to the laboratory.

- All equipment used to collect samples for analysis will be either decontaminated before each use or dedicated to a particular sample location after initial decontamination.

- In case of gross contamination, soil will be drummed, labeled “Remediation Waste”, and disposed of according to applicable municipal, state, and federal regulations.

SOP 5.20 SUBSURFACE SOIL SAMPLE COLLECTION USING AN EARTHPROBE™

The following applicable procedures will be performed during collection of soil samples using a 24-inch large bore sampler.

- Representative subsurface soil samples will be collected in 2-foot intervals by direct push using a clean, decontaminated 24-inch long, 2-inch outside diameter, nickel-plated large bore sampler containing a dedicated 24-inch long by 1.125-inch inside diameter PETG clear plastic liner. Samples obtained from the large bore sampler are suitable for physical and chemical analysis.

- Other equipment used during sampling such as mixing bowls and sampling tools will be made of stainless steel.

- The large bore sampler will be advanced from the surface to the depth of interest. The sampler remains completely sealed while it is pushed or driven to the desired sampling depth. A piston stop-pin at the trailing end of the sampler is removed by means of extension rods inserted through the probe rods after the sampler is driven to the depth at which sampling is to begin. This enables the piston to retract into the sample tube as it is displaced by soil while the sample is collected.

- Upon retrieval of the large bore sampler, the following applicable procedures will be followed.

  - The liner will be removed from the sampler and cut open with a pre-decontaminated knife. The soil will be scanned for total volatile organic vapors using a PID or FID and the length of recovery will be measured. This information will be recorded on a boring log. **Alternative:** A hole will be drilled through the side of the liner, allowing for the collection of a sub-sample using a stainless steel syringe.

  - Soil will be described and logged according to a modified Burmister system. The soil description will be given in the following format: soil name; sorting and plasticity; particle size distribution, shape, and angularity; color; moisture content; density or consistency. This information will be recorded in a field book and/or on a boring log.

  - Duplicate samples for field screening for total organic vapors will be collected by filling two 8-ounce glass soil jars half full with soil and covering the jar with a double layer of aluminum foil and securing the lid over the foil. One sample will be collected from the top portion of the recovered soil and one from the bottom portion. The sample will be screened by using a PID or FID according to the Jar Headspace Analytical Screening Procedure found in the Massachusetts Department of Environmental Protection (DEP) Interim Remediation Waste Management Policy for Petroleum Contaminated Soils #WSC-94-400. **Alternative:** If a sample is collected with a stainless steel syringe, this sub-sample can be placed into a 40-ml VOA vial, filling the vial 1/2 full, and then covering the vial with foil prior to capping with the teflon-lined cap.

- Samples for analysis for volatile organic compounds (VOCs and VPH) will be collected directly from the liner using a decontaminated stainless steel tool. No mixing of the soil sample will occur.

- Representative samples shall be transferred by clean spoon to 15 ml of MeOH contained in 40ml amber VOAs with teflon septum. The level of MeOH prior to sample addition shall be marked. Soil shall be added to at least this line on the VOA. A duplicate VOA shall be collected and submitted for each sample as standard procedure. Additional soil from the sample location shall

be submitted in a separate container (2-4 oz glass jar) without preservation solution for dry weight determination purposes for each set of MeOH preserved VOAs.

- Loose soil will be removed from the glass threads of the vial with a paper towel to ensure a good seal. The cap will be secured tightly. The sample containers will immediately be placed in a chilled, thermally insulated container. The container will include a trip blank consisting of methanol in a 40-ml vial.

- Grab samples of soils collected from the sampler for laboratory analysis for semivolatile organic compounds, PCBs, pesticides, and inorganics will be homogenized by mixing the soil in a stainless steel bowl or a polyethylene bag, or by the following method, if specified. The soil will be placed on a 1-meter square piece of polyethylene sheeting and rolled backward and forward by lifting and releasing the corners of the sheet. The sample will be spread out on the sheet and divided into quarters. Soil will be collected from each quarter consecutively until the sample containers are full. The container lid will be secured tightly. No chemical preservation is necessary.

- Sample containers will be checked to see that a Teflon liner is present in the cap prior to filling. ATC Standard Operating Procedure (SOP) # 4.00 should be referenced for selection of proper sample containers and preservation methods for each analytical method.

- All sample containers will be labeled with the following information: site; project number; earth probe number; sample interval or depth; sample matrix; date; time of collection; testing parameters; grab or composite sample; initials of sampling personnel.

- Sample containers will be capped immediately after filling and cooled to 4°C by placing them into a chilled, thermally insulated container for transport to the laboratory.

- All equipment used to collect samples for analysis will be either decontaminated before each use or dedicated to a particular sample location after initial decontamination according to the attached procedures.

SOP 5.30 SUBSURFACE SOIL SAMPLE COLLECTION USING AN EARTHPROBE™

The following applicable procedures will be performed during collection of soil samples using a 48-inch macro-core sampler:

- Representative subsurface soil samples will be collected in 4-foot intervals by direct push using a clean, decontaminated 48-inch long, 2-inch outside diameter, nickel-plated macro-core sampler containing a dedicated 45-inch long by 1.5-inch inside diameter PETG clear plastic liner. Samples obtained from the macro-core sampler are suitable for physical and chemical analysis.

- Other equipment used during sampling such as mixing bowls and sampling tools will be made of stainless steel.

- The macro-core sampler will be advanced from the surface to a depth of 4 feet. In order to collect samples below four feet, the soil above the sampling interval must be removed. If the borehole remains open samples can be collected continuously to the desired depth.

- Careful visual inspection of the sample will be performed to identify different soil in the top of the sampler that may have been caused by soil sloughing into the open borehole. In this case the judgment of the sampler must be used before completing boring logs or collecting representative soil sample. If the borehole does not stay open or if the sloughing of soils is excessive, the integrity of the soil samples is jeopardized and the 24-inch large bore sampler should be used for sampling below the initial 0- to 4-foot interval.

- Upon retrieval of the macro-core sampler, the following applicable procedures will be followed:

  - The liner will be removed from the sampler and cut open with a pre-decontaminated knife. The soil will be scanned for total volatile organic vapors using a PID or FID and the length of recovery will be measured. This information will be recorded on a boring log. **Alternative:** A hole will be drilled through the side of the liner, allowing for the collection of a sub-sample using a stainless steel syringe.

  - Soil will be described and logged according to a modified Burmister system. The soil description will be given in the following format: soil name; sorting and plasticity; particle size distribution, shape, and angularity; color; moisture content; density or consistency. This information will be recorded in a field book and/or on a boring log.

  - Duplicate samples for field screening for total organic vapors will be collected by filling two 8-ounce glass soil jars half full with soil and covering the jar with a double layer of aluminum foil and securing the lid over the foil. One sample will be collected from the top portion of the recovered soil and one from the bottom portion. The sample will be screened by using a PID or FID according to the Jar Headspace Analytical Screening Procedure found in the Massachusetts Department of Environmental Protection (DEP) Interim Remediation Waste Management Policy for Petroleum Contaminated Soils #WSC-94-400. **Alternative:** If a sample is collected with a stainless steel syringe, this sub-sample can be placed into a 40-ml VOA vial, filling the vial 1/2 full, and then covering the vial with foil prior to capping with the teflon-lined cap.

- Samples for analysis for volatile organic compounds (VOCs and VPH) will be collected directly from the liner using a decontaminated stainless steel tool. No mixing of the soil sample will occur.

- Representative samples shall be transferred by clean spoon to 15 ml of MeOH contained in 40ml amber VOAs with teflon septum. The level of MeOH prior to sample addition shall be marked. Soil shall be added to at least this line on the VOA. A duplicate VOA shall be collected and submitted for each sample as standard procedure. Additional soil from the sample location shall be submitted in a separate container (2-4 oz glass jar) without preservation solution for dry weight determination purposes for each set of MeOH preserved VOAs.

- Loose soil will be removed from the glass threads of the vial with a paper towel to ensure a good seal. The cap will be secured tightly. The sample containers will immediately be placed in a chilled, thermally insulated container. The container will include a trip blank consisting of methanol in a 40-ml vial.

- Grab samples of soils collected from the sampler for laboratory analysis for semivolatile organic compounds, PCBs, pesticides, TPH, EPH, and inorganics will be composited by homogenized by mixing the soil in a stainless steel bowl or a polyethylene bag, or by the following method, if specified. The soil will be placed on a 1-meter square piece of polyethylene sheeting and rolled backward and forward by lifting and releasing the corners of the sheet. The sample will be spread out on the sheet and divided into quarters. Soil will be collected from each quarter consecutively until the sample containers are full. The container lid will be secured tightly. No chemical preservation is necessary.

- Sample containers will be checked to see that a Teflon liner is present in the cap prior to filling. ATC Standard Operating Procedure (SOP) # 4.00 should be referenced for selection of proper sample containers and preservation methods for each analytical method.

- All sample containers will be labeled with the following information: site; project number; earth probe number; sample interval or depth; sample matrix; date; time of collection; testing parameters; grab or composite sample; initials of sampling personnel.

- Sample containers will be capped immediately after filling and cooled to 4°C by placing them into a chilled, thermally insulated container for transport to the laboratory.

- All equipment used to collect samples for analysis will be either decontaminated before each use or dedicated to a particular sample location after initial decontamination according to the attached procedures.

SOP 10.00 DECONTAMINATION

Decontamination will be performed in order to: minimize the spread of contaminants on the Site and from one sampling location to another; reduce the potential exposure of field personnel to contaminants; and to ensure good data quality and reliability. Decontamination of all field analytical testing and sampling equipment will be performed according to the following procedures. These procedures are based on ASTM Designation D 5088-90, USEPA CERCLA QAPP Review Guidance, 1987.

Equipment cleaning procedures include pre-field, field, and post-field decontamination. Non-disposable equipment will be decontaminated after completing each sampling event. In cases of gross contamination (free phase product), rinse water will be contained for proper disposal according to municipal, state, and federal regulations. Decontamination procedures will be monitored through sampling and analysis when quality assurance/quality control checks are necessary.

Equipment will be dedicated to each sampling point and decontamination will be performed at the off-site facility as much as possible.

Decontaminated equipment will be rested on polyethylene sheeting at each sampling point.

Samplers will use new disposable gloves at each sampling point.

Potable water from the public water supply will be used for control rinse water.

A certified laboratory supply of deionized water will be used for decontamination of field testing and sampling equipment and for the collection of rinsate blanks. Deionized water will be stored in Nalgene, glass, or Teflon containers. The storage area containing the deionized water will be separated from the storage area for solvents.

Equipment rinsate blanks will be collected when a quality control check of the decontamination procedure is necessary. This check will not be performed if dedicated equipment is used. One blank will be collected at least once during a sampling event for each different piece of sampling equipment used. Rinsate blanks will be prepared by pouring deionized water over the decontaminated piece of equipment and collecting it in the sample container. The equipment rinsate blank will be analyzed for the same analytes as the samples that have been collected with that piece of equipment.

10.1 MATERIALS

- health and safety equipment;
- laboratory-supplied deionized water;
- phosphate-free detergent (Alconox, Liquinox);
- potable water (municipal water source);
- methanol;
- Hexane;
- Acetone;
- nitric acid rinse solution;
- wash basins;
- inert brushes;
- polyethylene sheeting;
- large heavy duty garbage bags;
- spray bottles;

- zip-lock bags;
- paper towels/Handiwipes;
- disposable gloves.

10.2 DECONTAMINATION PROCEDURES

- Stainless steel bailers will be disassembled, soaked in hot potable water and scrubbed with a brush in "Alconox" detergent and potable water , and rinsed with clean potable water at the company's facility. Bailers will be allowed to air dry in a vertical position in a contaminant-free environment.

- Prior to the sampling event, bailers used for the collection of samples which will undergo analysis for total petroleum hydrocarbons and volatile organic compounds will be rinsed with hot potable water followed by a 10% methanol solution of pesticide grade methanol and deionized water, followed by a final rinse with deionized water. The volume of deionized water will be at least five times the volume of the methanol. Bailers used for the collection of samples which will undergo analysis for semi-volatile organic compounds, PCBs, and pesticides will be rinsed with a technical grade acetone followed by a pesticide grade hexane, and a final deionized water rinse as above. Bailers used for the collection of groundwater samples which will undergo analysis for metals will be rinsed with 10 per cent nitric acid solution prepared from reagent grade nitric acid and deionized water followed by a potable water rinse, and a final deionized water rinse.

- Bailers will be wrapped in an inert material (i.e. plastic bags) and stored in a clean environment during transport to the Site.

- Following sample collection, the stainless-steel bailers will be rinsed with clean potable water and placed in a plastic bag for transport to the company's facility where decontamination will take place.

- Soil and sediment sampling equipment (stainless steel sampling scoop, tool, and bowl, split-spoon and macro-core sampler, knife) will be decontaminated in the field after each use.

- Soil and sediment sampling equipment will be decontaminated as follows: scrubbed with inert brushes in a bucket containing phosphate-free detergent and potable water; rinsed with potable water; rinsed with pesticide grade methanol; and finally rinsed with deionized water. The final potable water and deionized water rinse volumes will equal 5 times the volume of the methanol rinse. The equipment will be allowed to air dry and will be stored in a clean environment until reused.

- Non-dedicated field equipment used for the collection of samples to be analyzed for metals and filtering apparatus will be cleaned prior to each use by using a phosphate-free detergent solution, a potable water rinse, followed by a 10 percent nitric acid rinse solution prepared from reagent grade nitric acid and deionized water, a potable water rinse, and a final rinse with deionized water. Used filters will be properly disposed of.

- The YSI Water Quality Monitoring System™, Geotech Multi Parameter™ meter, interface probe, down-hole slug test equipment, QED Water Wizard well development equipment, and other measuring instruments will be decontaminated between uses by rinsing with Alconox or Liquinox, followed by potable water and deionized water rinses. A methanol rinse will be utilized prior to the deionized water rinse in the event of gross contamination such as contact with free-phase product.

- The drill rig and earthprobe and all drilling equipment and associated tools, including but not limited to augers, drill casing, drill rods, sampling equipment, and wrenches, will be steam cleaned prior to

beginning the drilling on the Site. This cleaning will consist of using a high pressure detergent steam cleaning equipment, followed by a nanograde methanol swabbing if gross contamination was present. This will be followed by a controlled water rinse. Any down-hole equipment (auger flights, rods, sampling equipment, etc.) coming in contact with gross contamination (i.e. free phase product) will be steam-cleaned between uses. Otherwise equipment will be scrubbed manually with potable water and Alconox as needed to remove soil between uses.

- Sampling equipment and probes will be decontaminated in an area covered by polyethylene sheeting adjacent to the sampling location.

- In cases of gross contamination (i.e. free phase product) rinse water will be collected for proper disposal according to municipal, state or federal regulations. Contaminated solids (disposable gloves, clothing, polyethylene tubing and sheeting, etc.) will be collected and characterized for proper disposal.

- Decontamination procedures will be fully documented in the field notebook. The following information should be recorded: Site location, date, time and weather; sample location where equipment used; location where decontamination was performed; field personnel performing the decontamination; decontamination procedures; disposal of rinse water if necessary; samples collected for QA/QC and analytical results.

- Health and safety procedures associated with decontamination are found in the Health and Safety Plan.

SOP 11.00 SAMPLE CUSTODY PROCEDURES

- Sample custody procedures will be followed in order to create an accurate written record. This record can be used to trace the possession and handling of all samples from collection, through all transfers of custody until the samples are delivered to the analytical laboratory. Custody for samples will be maintained by field personnel collecting the samples until they are properly transferred. The following procedures are based on ASTM Designation D 4840-88, standard methods found in DEP (1991), and USPEA (1987) guidance documents.

- A self-adhesive waterproof sample label will be affixed to each sample container before or immediately thereafter sample collection. A waterproof pen will be used to record information on the label. The label should include a unique identifier and may include the following information:

  Project Number
  Sample ID Number
  Sample Location
  Sample Matrix
  Date and Time of Sample Collection
  Designation as Grab or Composite Sample
  Parameters to be Tested
  Preservative
  Initials of Sampler

- All sample containers will be supplied by a state-certified laboratory. Commercially purchased sample containers will be pre-cleaned and quality controlled according to EPA recommended washing procedures and specifications (Level I and/or Level A according to the vendor's specifications).

- Chemical preservatives will be added to the sample containers by the state-certified laboratory providing the containers. Tables 1 and 2 indicate the type of preservation which will be used.

- Chain-of-custody records will be filled out by the sampler using information from the sample labels and field notes made at time of sample collection. The chain-of-custody will include the dates and times of collection and receipt. The chain-of-custody will document any tampering that may have occurred; if there are no such comments then no tampering was observed. An example of the chain of custody (provided by Spectrum Analytical, Inc. of Agawam, Massachusetts) is included.

- One chain-of-custody record will be used for each packaged lot of samples. Where the chain-of-custody consists of more than one page, each page will be sequentially numbered and show the total number of pages. More than one chain-of-custody may be used for one packaged lot.

- Samples will be stored in a thermally insulated container with ice until released to the laboratory, a courier, or transferred to a dedicated and secured sample storage refrigerator. Each cooler will contain sufficient ice to insure that a 4°C temperature is maintained, and will be packed in a manner to prevent damage to the sample containers. The field chain-of-custody records, completed at the time of sample collection, will be placed inside the cooler for transport to the laboratory. These forms will be sealed in a zip-lock type plastic bag to protect them against moisture.

- The chain-of-custody form will be signed by the relinquishing party and the receiving party. The reason for transfer (i.e. courier, shipment of sample) will be indicated each time the sample custody

changes.

- The method of shipment to the laboratory will be noted on the chain-of-custody (i.e. hand delivered to laboratory, laboratory courier, commercial shipping). When a commercial shipper is used for sample transport, the chain-of-custody will be signed as relinquished to the shipper, sealed in a zip-lock type bag to protect it from moisture, and placed inside the cooler. The shippers package handling number will be noted on the chain-of-custody, if available. The cooler will then be sealed and a custody seal attached. A copy of the shipping papers will be maintained with the copy of the chain-of-custody.

- Upon receipt by the laboratory, internal laboratory records will document sample custody until its final disposition.

SOP 21: INSTALLATION OF SUBSURFACE VAPOR IMPLANTS TO EVALUATE SOIL VAPORS

This SOP documents the installation and sampling of soil vapor points utilizing vapor implants for use during site characterization and/or vapor intrusion assessments. The data derived from this procedure will assist in evaluating the presence of source mass and/or determining if the vapor intrusion pathway is completed in situations where subsurface contamination is beneath or in close proximity to a building. These procedures should be utilized in conjunction with additional methodologies as required by State guidelines (VT ANR Vapor Intrusion Guidance, March 24, 2020) as multiple lines of evidence in addition to this procedure are required to conduct a comprehensive site characterization and vapor intrusion assessment.

1.0 Materials and Equipment

The following materials and equipment will be available during installation of soil vapor points utilizing vapor implants:

- Health and safety equipment;
- Field book;
- Hand auger, pig tail auger, soil probe, or direct push technology (DPT) rig
- Plastic sheeting (for spoils)
- 2 Buckets (for spoils and decon)
- Decon brush
- Glass beads
- Driller's sand
- Bentonite (granular)
- Cement
- Mixing bin
- Water
- Alconox
- 1/4" Stainless steel implants w/tips
- 1/4" Teflon, Teflon-lined, or Nylaflow tubing
- 1/4" tubing caps
- Core drill (if subslab)
- Roadbox or floor cover

2.0 Installation of Soil Vapor Points Utilizing Vapor Implants

Prior to installing any subsurface devices, request the property owner to mark all underground utilities, including any utilities buried beneath the slab (underslab utilities) if subslab points will be installed and comply with any requirements under ATC’s Subsurface Work Policy #33.. Review any available design or construction plans and perform an inspection on your own of all electrical, fuel, communications, and other utility conduits and sweeps. Comply with DigSafe requirements and hire a private utility location contractor or geophysical firm to verify the owner's markings and any unknown utilities not covered by

DigSafe.

- If installing a subslab point, use a core drill to drill through the slab, appropriately sized for the roadbox or floor cover. Clean out the concrete dust with a shop vac. Minimize tracking on floor by using plastic sheeting around the hole.

- Use a small-diameter hand auger, pig tail auger, soil probe or DPT rig to remove soil core to appropriate depth. Utilize the smallest diameter tool possible.

- Log and field-screen soils in accordance with your work plan.

- Decontaminate probe tools between points with alconox and water.

- Attach 1/4-inch Teflon, Teflon-lined Nylaflow tubing to vapor implant and install in bottom of soil core with tubing extending above the surface and capped.

- Pour glass beads into annulus space up to at least one inch above the top of the implant and add one inch of driller's sand.

- Pour granular bentonite into annulus space up to the bottom of the slab or within 4-6" of the ground surface; hydrate the bentonite by pouring water into the hole every 4-6".

- Cut and re-cap tubing as appropriate and install roadbox or floor cover.

3.0 Leak Testing

Perform lead testing in accordance with SOP #27 under separate cover.

4.0 Field-Screening and Differential Pressure Testing

Perform field-screening and differential pressure testing in accordance with SOP #27 under separate cover.

5.0 Vapor Point Sampling

Perform vapor point sampling for offsite laboratory analyses in accordance with SOP #24 under separate cover.

REFERENCES:

VTDEC Vapor Intrusion Guidance, March 24, 2020

Appendix E – Targeted Brownfield Assessment Report for Hazardous Building Materials, 2024

TARGETED BROWNFIELDS ASSESSMENT
HAZARDOUS BUILDING MATERIALS ASSESSMENT

ST. JOHNSBURY ARMORY
ST. JOHNSBURY, VERMONT

Prepared For:
U.S. Environmental Protection Agency (EPA)
Region I
Land, Chemicals, and Redevelopment Division
5 Post Office Square, Suite 100
Boston, Massachusetts 02109-3912

EPA CONTRACT NO. EP-S1-17-01
TASK ORDER NO. 68HE0119F0009

Submitted By:
KGSNE JV, LLC
293 Boston Post Road, West, Suite 100
Marlborough, MA 01752

Submittal Date: January 10, 2024

EPA Region I
Reviewed and Approved:

Christine Beling
Contracting Officer's Representative (COR)

Date

Region I START
Reviewed and Approved:



Bridget Fortier, EIT
Project Engineer

1/10/2024
Date



Clarence "Tim" Andrews, PG
Senior Project Manager

1/10/2024
Date

TABLE OF CONTENTS
TARGETED BROWNFIELDS ASSESSMENT
HAZARDOUS BUILDING MATERIALS ASSESSMENT
ST. JOHNSBURY ARMORY
ST. JOHNSBURY, VERMONT

EXECUTIVE SUMMARY 1

1.0 INTRODUCTION 2
- 1.1 Project Objectives 2
- 1.2 Site Background 2
  - 1.2.1 Site Location and Description 2
- 1.3 Previous Investigations 3

2.0 TBA INVESTIGATION ACTIVITIES 3
- 2.1 PCB Paints and Coatings 4
- 2.2 Lead Based Paint 4
- 2.3 Asbestos Containing Materials 5
- 2.4 PCB Bulk Material Sampling 6
- 2.5 Sub-Slab Sampling 6
- 2.6 Exterior Soil Sampling 7

3.0 DATA USABILITY AND VALIDATION 8

4.0 SUMMARY OF TBA SAMPLING RESULTS 8
- 4.1 PCB Paints and Coatings 8
- 4.2 Lead Based Paint 9
- 4.3 Asbestos Containing Materials 9
- 4.4 PCB Bulk Materials 10
- 4.5 Sub Slab Sampling 10
- 4.6 Exterior Soil Sampling 10

5.0 CONCLUSIONS 11

6.0 REFERENCES 12

TABLES

NUMBER

2-1 PCB Paints and Coatings Sample Results
2-2 Lead Waste Characterization Sample Results
2-3 Asbestos Sample Results
2-4 PCB Bulk Material Sample Results
2-5 PCB Soil Sample Results

TABLE OF CONTENTS
TARGETED BROWNFIELDS ASSESSMENT
HAZARDOUS BUILDING MATERIALS ASSESSMENT
ST. JOHNSBURY ARMORY
ST. JOHNSBURY, VERMONT

FIGURES

NUMBER

1-1 Site Locus
2-1a PCB Paints & Coatings and Lead Composite Samples– Second Floor
2-1b PCB Paints & Coatings and Lead Composite Samples – First Floor
2-1c PCB Paints & Coatings and Lead Composite Samples– Basement
2-1d PCB Paints & Coatings and Lead Composite Samples – Exterior and Roof
2-2a Asbestos and Bulk PCB Material Samples – Second Floor
2-2b Asbestos and Bulk PCB Material Samples– First Floor
2-2c Asbestos and Bulk PCB Material Samples – Basement
2-2d Asbestos and Bulk PCB Material Samples – Exterior and Roof
2-3 PCB Soil Sample Locations

APPENDICES

NUMBER

A KD Associates Report
B Laboratory Analytical Reports
C Soil Boring Logs
D Data Validation Reports

EXECUTIVE SUMMARY

KGSNE JV II, LLC (KGSNE) has completed a Targeted Brownfields Assessment (TBA) at the St. Johnsbury Armory located at 1249 Main Street, St Johnsbury, Vermont (the Site) for the U.S. Environmental Protection Agency (EPA) under Contract No. 68HE0122D0001, Task Order No. 68HE0122F0044, Site No. 68HE0122F0044-13. TBA activities were performed to address data gaps identified by Atlas Technical Consultants (Atlas). The supplemental data will be used by the Town of St. Johnsbury and its contractor Montrose Environmental Group Inc. (Montrose) to further define the distribution of hazardous materials in support of cleanup planning and materials abatement for future building renovation and reuse or demolition and disposal.

The Former Armory building is a 2-story 5,600 (+/-) square foot building that was constructed in 1916. The building has served as an armory, gymnasium, and meeting house throughout its history. The building has remained vacant and unused for several years, leading to extensive mold growth and damage to various building materials.

On March 20, 2023, Atlas developed a Workplan for Additional Hazardous Building Materials Sampling (Atlas, 2023; the workplan). This plan was developed based on the previous assessments, and called for additional polychlorinated biphenyl (PCB) and asbestos sampling, as well as sub-slab soil sampling and lead waste characterization sampling. This workplan was the basis of sampling for this TBA investigation.

KGSNE performed TBA field investigation activities between August and December 2023. KGSNE oversaw the completion of the Phase I hazardous building material survey on August 14 through 16, 2023 that included the collection of asbestos containing materials and polychlorinated biphenyls (PCB) paints and coatings. KGSNE collected sub-slab soil samples on August 17, 2023. On October 2, 2023 KD Associates returned to the Site to collect bulk building material samples for PCBs. Additional building materials were sampled by KGSNE on December 3, 2023.

Phase II began on October 25, 2023. KD Associates sampled various paint locations for waste characterization, as well as additional building material samples where high PCB paint concentrations were found from Phase I. On November 1 and 2, 2023, KGSNE collected soil samples from 24 locations next to high PCB paint locations in order to confirm and delineate PCB migration into the subsurface.

1.0 INTRODUCTION

KGSNE JV II, LLC (KGSNE) has completed a Targeted Brownfields Assessment (TBA) at the St. Johnsbury Armory located at 1249 Main Street, St Johnsbury, Vermont (the Site) for the U.S. Environmental Protection Agency (EPA) under Contract No. 68HE0122D0001, Task Order No. 68HE0122F0044, Site No. 68HE0122F0044-13. Work was performed in general accordance with the procedures and quality control measures detailed in the Program Quality Assurance Project Plan (Program QAPP) prepared by KGSNE and approved by EPA on October 27, 2022 (KGSNE 2022), the Quality Assurance Project Plan Addendum (QAPPA) prepared by KGSNE (KGSNE 2023a), and the QAPPA Update prepared by KGSNE (KGSNE 2023b). This report presents the findings of the TBA field investigation activities conducted by KGSNE between August and December 2023. A Site Locus Map is included as Figure 1-1.

1.1 Project Objectives

The overall objective of the TBA is to perform a supplemental hazardous building material survey (HBMS) at the Site to address data gaps identified by Atlas Technical Consultants (Atlas). The supplemental data will be used by the Town of St. Johnsbury and its contractor Montrose Environmental Group Inc. (Montrose) to further delineate the distribution of hazardous materials to support future building renovation and reuse or demolition and disposal. Other common HBM were delineated in previous investigations. TBA activities were split into two phases. Phase I consisted of collection of suspected asbestos containing materials (ACMs), and multi-media samples suspected of containing polychlorinated biphenyls (PCBs) including bulk building materials, paints, and sub-slab soils. Phase II, which was based on the results of Phase I, consisted of lead-based paint samples for waste characterization, further building material sampling for PCBs, and soil sampling for PCBs.

1.2 Site Background

This section describes the physical characteristics of the Site as well as the environmental history of the Site.

1.2.1 Site Location and Description

The Former Armory building is a 2-story 5,600 (+/-) square foot building that was constructed in 1916. The building has served as an armory, gymnasium, and meeting house throughout its history. The building has remained vacant and unused for several years, leading to extensive mold growth and damage to various building materials.

1.3 Previous Investigations

There have been four previous Site investigations:

Limited Interior Asbestos Inspection – Crothers Environmental Group LLC, November 1, 2008: This assessment was an initial building materials survey for asbestos.

Environmental Survey – Cardno ATC, March 28, 2013: This assessment included inventory and sampling of asbestos, PCBs, lead-based paint, lead dust, mold testing, and a floor drain investigation.

PCB Building Material Survey – ATC Group Services LLC, March 3, 2017: This assessment included additional PCB sampling of building materials, indoor air, and the concrete floor slab.

Targeted Brownfields Assessment Report – KGSNE, LLC, March 29, 2021: This assessment included additional PCB and asbestos sampling, lead paint testing, a regulated/universal waste survey, and mold survey and sampling.

On March 20, 2023, Atlas developed a Workplan for Additional Hazardous Building Materials Sampling (Atlas, 2023). This plan was developed based on the previous assessments, and called for additional PCB and asbestos sampling, as well as sub-slab soil sampling and lead waste characterization sampling. This workplan was the basis of sampling for this TBA investigation.

2.0 TBA INVESTIGATION ACTIVITIES

KGSNE performed TBA field investigation activities between August and December 2023, in general accordance with the QAPPA (KGSNE, 2023a) and QAPPA Update (KGSNE, 2023b). KGSNE oversaw the completion of the Phase I HBMS on August 14 through 16, 2023 that included the collection of ACM and PCB paints and coatings. KGSNE collected sub-slab soil samples on August 17, 2023. On October 2, 2023 KD Associates returned to the Site to collect bulk building material samples for PCBs. Additional building materials were sampled by KGSNE on December 3, 2023 to replace samples that could not be analyzed initially due to matrix interference issues. A copy of KD Associates' report summarizing findings from Phase I is included as Appendix A.

Phase II began on October 25, 2023. KD Associates sampled various paint locations for waste characterization, as well as additional building material samples where high PCB paint concentrations were found from Phase I. On November 1 and 2, 2023, KGSNE collected soil samples from 24 locations next to high PCB paint locations in order to confirm and delineate PCB migration into the subsurface.

2.1 PCB Paints and Coatings

From August 14 through 18, 2023 KGSNE mobilized to the Site with KD Associates to sample PCB paints and coatings for Phase I throughout the interior and exterior of the building. Samples were collected from pre-determined locations identified by the Atlas workplan and as directed by Montrose. Several materials listed for sampling in the workplan were determined by KGSNE, Montrose, and KD Associates to not exist (such as doors or underlying plasters) and were not sampled. Four additional samples of Celotex board in the gym which were not originally identified were sampled. On October 18, 2023 KD Associates returned to the Site to collect samples from suspect substrate materials or materials subject to potential leaching of PCBs, particularly concrete window sashes. On December 4, 2023 KGSNE returned to the Site to collect subsequent samples.

The following is a breakdown of the samples collected from each area of the building:

Location	Total PCB Paints/Coating Samples Collected
Second Floor	48
First Floor	94
Basement	96
Exterior	40

Paint and coating samples were collected using tools and scrapers that were decontaminated with a diluted hexane spray and deionized water between locations. KGSNE confirmed with the laboratory that only 2 grams of material were needed for analysis but attempted to collect 10 grams of material where possible. Samples were weighed in the field to ensure proper sample volume.

Samples were transmitted to Pace Analytical Laboratory (Pace) of East Longmeadow, Massachusetts and were analyzed for PCBs using Method 8082 with Soxhlet Extraction. Sample information and results are listed in Table 2-1 and shown on Figures 2-1a, 2-1b, 2-1c, and 2-1d. Laboratory reports are included in Appendix B.

2.2 Lead Based Paint

Based on results from Phase I, Montrose provided instructions on sample collection requirements for Phase II sampling. On October 25, 2023 KD Associates collected five composite samples for lead waste characterization as part of Phase II. Each composite sample consisted of lead paint from five locations that were chosen by Montrose based on the PCB and asbestos results to

accurately characterize the lead concentrations in the different waste streams. Lead paint samples were collected using hand tools and scrapers that were decontaminated between locations.

Waste characterization samples were transmitted under a chain-of-custody to Pace. Samples were analyzed for toxic characteristic leaching procedure (TCLP) lead. Sample locations and results are listed in Table 2-2 and shown on Figures 2-1a, 2-1b, 2-1c, and 2-1d. Laboratory reports are included in Appendix B.

2.3 Asbestos Containing Materials

KD Associates' Vermont-certified asbestos inspectors conducted the asbestos survey during the week of August 14, 2023. Samples were collected from pre-determined locations identified by Atlas. Several materials listed for sampling in the workplan were determined to not exist and were not sampled. Additional materials that were likely to contain asbestos were identified by KD Associates, KGSNE, and Clay Point Associates Inc. (Clay Point) (a subcontractor of Montrose) during the investigation and were also sampled.

A total of 97 samples were collected from suspect bulk building materials for laboratory analysis for asbestos. Multiple samples were collected from homogeneous areas identified throughout the building to identify asbestos content. Homogeneous areas consist of areas that appear to be similar in material color, texture, and date of installation or application. The samples were spread across 45 homogeneous areas.

The Atlas workplan called for the sampling of material that might exist behind the brick façade of the building and included the removal of brick on the exterior to investigate said possible materials. KD Associates attempted to reach materials behind the façade by removing bricks from one location on the north, west, and south sides of the building. The façade unexpectedly contained three layers of brick arranged in an offset pattern that would require removal of several bricks on the outermost layer in order to successfully remove bricks in the innermost layers. Montrose decided to not continue this exploration so as not to damage the historical façade.

The workplan had additionally called for investigation behind the vent covers in Rooms 7 and 15 to evaluate suspect materials behind them. Upon further investigation, the vents were actually determined to be drain chases from the bathrooms, and no covers were present. Montrose indicated that no samples needed to be collected from the drain chases.

Samples of drywall and joint compound were selected to be sampled from several rooms throughout the building in the Atlas workplan. KD Associates and Clay Point moved or eliminated several of the samples for more spatial coverage of different materials.

Bulk samples were transmitted under a chain-of-custody to EMSL Analytical, Inc. (EMSL), an accredited Vermont-certified laboratory located at 5 Constitution Way, Unit A in Woburn, Massachusetts. Samples were analyzed by polarized light microscopy (PLM) in accordance with the EPA "Method for Determination of Asbestos in Bulk Material"; EPA/600/R-93/116 (EPA, 1993). Any materials found to contain <2% asbestos by PLM analysis were analyzed via 400-point count.

Non-friable organically bound (NOB) samples were analyzed using via PLM with gravimetric reduction. Transmission Electron Microscopy (TEM) was used to confirm PLM results if PLM testing found NOB materials to be negative for asbestos content.

Each set of homogeneous bulk samples was analyzed using the "hit-stop" procedure. Per this procedure, analysis of additional duplicate samples collected from identical materials is not required if asbestos is detected in any one of the samples from the homogeneous group.

Sample locations and results are listed in Table 2-3 and shown on Figures 2-2a, 2-2b, 2-2c, and 2-2d. Laboratory reports are included in Appendix B.

2.4 PCB Bulk Material Sampling

On October 2, 2023, KD Associates returned to the Site to sample bulk building materials for PCB analysis. Samples were collected from pre-determined locations identified by Atlas. Several materials listed for sampling in the workplan were determined to not exist and were not sampled. Per the workplan, three samples of each material were collected.

Building material samples were collected using tools and scrapers that were decontaminated with a diluted hexane spray and deionized water between locations. Samples were submitted to Pace and were analyzed for PCBs using Method 8082 with Soxhlet Extraction. Sample locations and results are listed in Table 2-4 and shown on Figures 2-2a, 2-2b, 2-2c, and 2-2d. Laboratory reports are included in Appendix B.

2.5 Sub-Slab Sampling

On August 17, 2023 KGSNE oversaw the coring of concrete through the basement slab and collected five soil samples for PCB analysis from beneath the basement concrete floor. Cascade Environmental (Cascade) of Barre, Vermont first cleared the sample area of the concrete floor in the basement with a wire brush, making sure to scrape away any paint on the concrete floor. The area was wiped down with a rag. Cascade used a 4-inch concrete core drill with water to core

through the concrete slab to the soil below. A wet-vac was used during coring to ensure slurry did not penetrate the soil below. Once the core had been removed, KGSNE collected the soil sample using a decontaminated trowel. Samples were collected from Room 23, Room 27, Room 25A, Room 21, and Room 31. In general, concrete slab thickness was observed by field staff to be approximately 6 inches.

Soil samples were submitted to Pace under chain-of-custody. Samples were analyzed for PCBs using Method 8082 with Soxhlet Extraction. Sample results are listed in Table 2-5 and locations are shown on Figure 2-3. Laboratory reports are included in Appendix B.

2.6 Exterior Soil Sampling

On November 1 and 2, 2023, KGSNE oversaw the advancement of 24 soil borings around the exterior of the building. The locations were predetermined by Montrose based on high PCB results in Phase I materials samples. The samples were completed to evaluate potential presence of shallow soil contamination. Drilex Environmental (Drilex) used a hand-held Geoprobe and hammer drill to advance each boring. Soil samples were collected in 0.5-foot intervals to a depth of 5 feet below ground surface (bgs), and then in one-foot intervals from depths between 5 and 8 feet bgs. Samples were collected using a dedicated 24-inch acetate macro-core sampling sleeve. KGSNE visually classified soils in the field using the Modified Burmister Classification System. Soil descriptions and other pertinent subsurface observations are presented on boring logs included in Appendix C.

Sample location P-328-Ex was advanced through the concrete steps on the north side of the building. Below the steps was a void approximately 6 feet deep before soil was encountered. Drilex was able to advance a boring into the underlying dirt, but only to 12 feet bgs below the top of the step, as this was the depth limit of the tooling. KGSNE collected samples every 0.5 foot from 6 feet below the step to 11 feet below the step (the top 5 feet of the boring) and collected one 1-foot interval from 11 to 12 feet below the step.

One boring was supposed to be advanced into the soil underneath the concrete landing pad at the bottom of the northern basement steps. Drilex attempted this location but was still in concrete after 2 feet of drilling, which is the limit of the hammer drill bit. Montrose instructed KGSNE to drill through the first step above the landing to determine if the pad extended in that direction. Drilex reached the same 2 foot depth into the pad, and Montrose instructed KGSNE to skip this location.

Soil samples were submitted to Pace under chain-of-custody. Samples were analyzed for PCBs using Method 8082 with Soxhlet Extraction. Only the top interval (0-0.5 feet bgs) samples from

each location were initially submitted for analysis; all other samples were placed on hold at the laboratory and analyzed as needed given the results of the shallower samples. Sample locations and results are listed in Table 2-5 and shown on Figure 2-3. Laboratory reports are included in Appendix B.

3.0 DATA USABILITY AND VALIDATION

KGSNE performed a Tier 1 Stage 2A manual data review (S2AVM) on the organic and inorganic analytical data collected during the TBA. The Tier 1 Stage 2A manual data review was performed in accordance with the Region 1 - EPA New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures (EPA, 2020a); USEPA's National Functional Guidelines for Organic Superfund Methods Data Review (EPA 2020b); USEPA's National Functional Guidelines for Inorganic Superfund Methods Data Review (EPA 2020c); the Program QAPP (KGSNE, 2022) (RFA# 12263), dated October 2022, and the QAPPA (KGSNE, 2023a) for the St. Johnsbury Armory Site, which appends the October 2022 Program QAPP.

Data were evaluated based on the following parameters: overall evaluation of data and potential usability issues, data completeness, preservation and technical holding times, blanks, surrogates (organic analyses only), internal standards, matrix spike analysis, laboratory duplicates, laboratory control samples (LCS), field duplicates, ICP serial dilutions (metals only), target analyte identification, and reported quantitation limits.

In general, the data meets the project quality criteria and can be used without restriction. Qualified results are noted in the data summary tables. Limitations and qualification of the data were noted and explained in the data review memorandum provided in Appendix D.

4.0 SUMMARY OF TBA SAMPLING RESULTS

KGSNE performed a review of the sampling data generated during the TBA investigation. A brief summary of the laboratory analytical results is presented below.

4.1 PCB Paints and Coatings

KGSNE submitted 278 PCB paint samples, plus additional quality control samples. Samples that had greater than 50 parts per million (ppm) of total PCBs were used by Montrose to determine sample locations for Phase II sampling. Below is a summary of the PCB paint and coating results:

Location	Total PCB Paints/Coating Samples Collected	Total Samples Exceeding 50 ppm of PCBs
Second Floor	48	8
First Floor	94	8
Basement	96	65
Exterior	40	11

Analytical laboratory reports are included as Appendix B. Soil analytical results are presented in Table 2-1. Figures 2-1a, 2-1b, 2-1c, and 2-1d depict the sample locations.

4.2 Lead Based Paint

Five composite samples were submitted for lead TCLP for waste characterization. Results ranged from 0.21 milligrams per liter (mg/L) to 28 mg/L. Analytical laboratory reports are included as Appendix B. Lead analytical results are presented in Table 2-2. Figures 2-1a, 2-1b, 2-1c, and 2-1d depict sample locations.

4.3 Asbestos Containing Materials

KGSNE submitted 97 ACM samples from 45 homogenous areas, plus additional quality control samples. Each set of homogeneous bulk samples was analyzed using the "hit-stop" procedure. Per this procedure, analysis of additional duplicate samples collected from identical materials is not required if asbestos is detected in any one of the samples from the homogeneous group.

ACMs identified during the HBMS include:

- White caulking along the roof of the building;
- Flashing caulk on the southwest loading ramp roofline;
- Light gray caulking along the roof-chimney join;
- Built up tar paper on the gambrel roof;
- Asphalt layer on the gambrel roof;
- Joint compound in Rooms 6 and 7;
- Black mastic in Room 18;
- Gray adhesive behind the faux wood wall paneling in Room 5;
- Silver paint on the metal roof of the southwest loading dock; and
- Built up roofing under the flat roof.

Samples that returned positive results for the presence of asbestos are presented on Table 2-3. Laboratory analytical data for asbestos analysis is included in Appendix B. Sample locations are presented in Figures 2-2a, 2-2b, 2-2c, and 2-2d.

4.4 PCB Bulk Materials

KGSNE submitted 24 bulk building materials for PCB analysis. Bulk samples that returned positive results for PCBs are presented on Table 4-4. Laboratory analytical data for PCB analysis is included in Appendix B. Sample locations are presented in Figures 2-2a, 2-2b, 2-2c, and 2-2d.

4.5 Sub Slab Sampling

KGSNE submitted five soil samples collected from beneath the slab of the building foundation. No PCBs were detected in any of the samples. PCB soil analytical results are presented on Table 2-5. Sample locations are shown on Figure 2-3. Analytical laboratory reports are included as Appendix B.

4.6 Exterior Soil Sampling

KGSNE submitted 24 soil samples from borings advanced on the exterior of the building for PCB analysis. Over 280 samples collected from subsequent depths were also submitted to the laboratory and placed on hold, pending results of the initial sample analyses. The following locations reported PCB detections in the 0-0.5 foot interval and had deeper intervals analyzed;

- P-308-Ex had one additional interval analyzed
- P-313-Ex had two additional intervals analyzed
- P-314-Ex had one additional interval analyzed
- P-315-Ex had two additional intervals analyzed
- P-316-Ex had one additional interval analyzed
- P-321-Ex had one additional interval analyzed
- P-323-Ex had one additional interval analyzed
- P-326-Ex had one additional interval analyzed

In total, 34 soil samples were analyzed from the borings.

The highest concentrations of PCBs were detected in samples collected from boring P-315-Ex. Total PCBs were reported at a concentration of 4.4 ppm in the 0-0.5 foot sample. Total PCBs were reported at a concentration of 1.3 ppm in the 0.5-1.0 foot sample, and at a concentration of 0.097

ppm in the 1-1.5 foot sample. P-315-Ex is located to the west of the southwest loading ramp structure.

No other soil samples analyzed reported concentrations exceeding 1 ppm total PCBs.

Soil analytical results are presented on Table 2-5. Sample locations are shown on Figure 2-3. Analytical laboratory reports are included as Appendix B.

5.0 CONCLUSIONS

KGSNE has completed this TBA at the St. Johnsbury Armory located at 1249 Main Street, St. Johnsbury, Vermont for the EPA. The overall objective of the TBA was to perform a supplemental HBMS at the Site to address data gaps identified by Atlas, and to conduct subsequent sampling as requested by Montrose.

The results of this HBMS have identified additional materials at the Site that require consideration for future redevelopment activities, including:

- PCBs in paint, caulk, and other bulk building materials;
- PCBs in exterior soil; and
- Asbestos in various building materials including caulk, mastic, roofing, paint, and joint compound.

The supplemental data will be used by Montrose to further define the distribution of hazardous materials in support of cleanup planning and materials abatement for future building renovation and reuse or demolition and disposal.

6.0 REFERENCES

Atlas Technical Consultants, 2023. Workplan for Additional Hazardous Building Materials Sampling. March 20.

KGSNE, JV LLC, 2022. Program Quality Assurance Project Plan (Program QAPP). October 27.

KGSNE, JV LLC, 2023a. Quality Assurance Project Plan Addendum (QAPPA). July 10.

KGSNE, JV LLC, 2023b. Quality Assurance Project Plan Addendum Update. October 31.

USEPA, 2020a. EPA New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures. September.

USEPA, 2020b. National Functional Guidelines for Organic Superfund Methods Data Review. November.

USEPA, 2020c. National Functional Guidelines for Inorganic Superfund Methods Data Review. November.

USEPA, 1993. Method for Determination of Asbestos in Bulk Material. June

TABLES

Table 2-1
PCB Paints and Coatings Sample Results
St. Johnsbury Armory
St. Johnsbury Vermont

Exterior/ Interior	Floor	Room	Direction	Approx. SF	Substrate	Color	KGSNE Sample ID	Comments	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Aroclor-1262	Aroclor-1268	Total PCBs
Interior	2nd	3	East	270	Plaster/Lath	Beige/Brown	P-001-R03E		<3.9	<3.9	<3.9	<3.9	<3.9	37	<3.9	<3.9	<3.9	37
			South	270	Plaster/Lath	Beige/Brown/Pink	P-002-R03S		<4.8	<4.8	<4.8	<4.8	<4.8	46	<4.8	<4.8	<4.8	46
			West	270	Plaster/Lath	Beige/Yellow/ Salmon/Brown	P-003-R03W		<4.2	<4.2	<4.2	<4.2	<4.2	43	<4.2	<4.2	<4.2	43
			North	270	Plaster/Lath													
			Ceiling	900	Plaster/Lath	White	P-004-R03C		<3.8	<3.8	<3.8	<3.8	<3.8	29	<3.8	<3.8	<3.8	29
			Wood Trim	15	Wood Trim	Salmon	P-005-R03WT		<4.8	<4.8	<4.8	<4.8	<4.8	58	<4.8	<4.8	<4.8	58
			Door	20		Blue	P-006-R03D		<5.0	<5.0	<5.0	<5.0	<5.0	41	<5.0	<5.0	<5.0	41
			Floor	900	Underlayment													
		4	East	270	Plaster/Lath	Beige/Salmon	P-007-R04E		<4.9	<4.9	<4.9	<4.9	<4.9	23	<4.9	<4.9	<4.9	23
			South	180	Plaster/Lath	Beige/Salmon	P-008-R04S		<4.3	<4.3	<4.3	<4.3	<4.3	17	<4.3	<4.3	<4.3	17
			West	270	Plaster/Lath	Beige/Salmon/ Maroon	P-009-R04W		<4.4	<4.4	<4.4	<4.4	<4.4	24	<4.4	<4.4	<4.4	24
			North	180	Plaster/Lath													
			Ceiling	600	Bare Lath													
			Wood Trim	15		Drk. Beige	P-010-R04WT		<4.7	<4.7	<4.7	<4.7	<4.7	51	<4.7	<4.7	<4.7	51
			Door	20		Drk. Beige	P-011-R04D		<4.7	<4.7	<4.7	<4.7	<4.7	50	<4.7	<4.7	<4.7	50
			Floor	600	Underlayment													
		5	East	180	Plaster/Lath	Lt. Biege	P-012-R05E		<4.7	<4.7	<4.7	<4.7	<4.7	18	<4.7	<4.7	<4.7	18
			South	90	Plaster/Lath	Lt. Blue	P-013-R05S		<4.7	<4.7	<4.7	<4.7	<4.7	31	<4.7	<4.7	<4.7	31
			West	180	Plaster/Lath	Lt. Beige	P-014-R05W		<5.0	<5.0	<5.0	<5.0	<5.0	22	<5.0	<5.0	<5.0	22
			North	90	Plaster/Lath													
			Ceiling	200	Drop Tiles	White	P-015-R05C		<4.2	<4.2	<4.2	<4.2	<4.2	16	<4.2	<4.2	<4.2	16
			Wood Trim	10		Lt. Beige	P-017-R05WT		<4.6	<4.6	<4.6	<4.6	<4.6	35	<4.6	<4.6	<4.6	35
			Door	20		Robin's Egg Blue	P-024-R05D		<4.9	<4.9	<4.9	<4.9	<4.9	72	<4.9	<4.9	<4.9	72
			Floor	200	Hardwood	Brown	P-016-R05F		<4.7	<4.7	<4.7	<4.7	<4.7	21	<4.7	<4.7	<4.7	21
		6	East	72	Plaster/Lath	Drk. Beige/Lt. Green	P-018-R06E		<4.7	<4.7	<4.7	<4.7	<4.7	23	<4.7	<4.7	<4.7	23
			South	72	Plaster/Lath	Drk. Beige/Lt. Green	P-019-R06S		<4.6	<4.6	<4.6	<4.6	<4.6	21	<4.6	<4.6	<4.6	21
			West	72	Plaster/Lath													
			North	72	Plaster/Lath													
			Ceiling	64	Drywall	White	P-020-R06C		<4.9	<4.9	<4.9	<4.9	<4.9	18	<4.9	<4.9	<4.9	18
			Wood Trim	4		Robins Egg Blue/Orange	P-021-R06WT		<4.7	<4.7	<4.7	<4.7	<4.7	38	<4.7	<4.7	<4.7	38
			Door	20		White	P-022-R06D		<3.7	<3.7	<3.7	<3.7	<3.7	49	<3.7	<3.7	<3.7	49
			Floor	64	Hardwood	Brown	P-023-R06F		<4.8	<4.8	<4.8	<4.8	<4.8	52	<4.8	<4.8	<4.8	52
		7	East	54	Plaster/Lath	Drk. Beige	P-025-R07E		<4.9	<4.9	<4.9	<4.9	<4.9	22	<4.9	<4.9	<4.9	22
			South	54	Plaster/Lath	Drk. Beige	P-026-R07S		<4.5	<4.5	<4.5	<4.5	<4.5	14	<4.5	<4.5	<4.5	14
			West	54	Plaster/Lath													
			North	54	Plaster/Lath													
			Wood Trim	3		Drk. Beige/Green	P-029-R07WT		<4.4	<4.4	<4.4	<4.4	<4.4	35	<4.4	<4.4	<4.4	35
			Door	20		Beige	P-037-R07D		<4.8	<4.8	<4.8	<4.8	<4.8	19	<4.8	<4.8	<4.8	19
			Ceiling	36	Drywall	White	P-027-R07C		<4.6	<4.6	<4.6	<4.6	<4.6	33	<4.6	<4.6	<4.6	33
			Floor	36	Hardwood	Brown	P-028-R07F		<4.1	<4.1	<4.1	<4.1	<4.1	36	<4.1	<4.1	<4.1	36
		8	East	180	Plaster/Lath	Yellow/Green	P-030-R08E	Lab ID P-030-R09E	<4.8	<4.8	<4.8	<4.8	<4.8	20	<4.8	<4.8	<4.8	20
			South	108	Plaster/Lath	Yellow	P-031-R08S	Lab ID P-0310R09S	<3.7	<3.7	<3.7	<3.7	<3.7	16	<3.7	<3.7	<3.7	16
			West	180	Plaster/Lath	Yellow	P-032-R08W	Lab ID P-032-R09W	<4.3	<4.3	<4.3	<4.3	<4.3	11	<4.3	<4.3	<4.3	11
			North	108	Plaster/Lath													
			Ceiling	240	Plaster/Lath	White	P-033-R08C		<4.2	<4.2	<4.2	<4.2	<4.2	20	<4.2	<4.2	<4.2	20
			Wood Trim	10		Red/Maroon	P-035-R08WT		<4.9	<4.9	<4.9	<4.9	<4.9	34	<4.9	<4.9	<4.9	34
			Door	20		Red/Maroon	P-036-R08D		<4.9	<4.9	<4.9	<4.9	<4.9	45	<4.9	<4.9	<4.9	45
			Floor	240	Hardwood	Brown	P-034-R08F		<4.9	<4.9	<4.9	<4.9	<4.9	51	<4.9	<4.9	<4.9	51
		9	East	180	Plaster/Lath	Blue/White	P-038-R09E		<4.9	<4.9	<4.9	<4.9	<4.9	50	<4.9	<4.9	<4.9	50
			South	90	Plaster/Lath	Yellow/Lt. Blue	P-039-R09S		<4.8	<4.8	<4.8	<4.8	<4.8	17	<4.8	<4.8	<4.8	17
			West	180	Plaster/Lath	Lt. Beige/Blue	P-040-R09W		<4.4	<4.4	<4.4	<4.4	<4.4	16	<4.4	<4.4	<4.4	16
			North	90	Plaster/Lath													
			Ceiling	200	Plaster/Lath	White	P-041-R09C		<2.4	<2.4	<2.4	<2.4	<2.4	14	<2.4	<2.4	<2.4	14
			Wood Trim	10		Blue	P-043-R09WT		<4.9	<4.9	<4.9	<4.9	<4.9	27	<4.9	<4.9	<4.9	27
			Door	20		Blue	P-044-R09D		<5.0	<5.0	<5.0	<5.0	<5.0	31	<5.0	<5.0	<5.0	31
			Floor	200	Hardwood	Brown	P-042-R09F		<5.0	<5.0	<5.0	<5.0	<5.0	56	<5.0	<5.0	<5.0	56

Exterior/ Interior	Floor	Room	Direction	Approx. SF	Substrate	Color	KGSNE Sample ID	Comments	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Aroclor-1262	Aroclor-1268	Total PCBs
Interior	2nd	10	East	180	Plaster/Lath	White	P-045-R10E		<2.4	<2.4	<2.4	<2.4	<2.4	13	<2.4	<2.4	<2.4	13
			South	90	Plaster/Lath	White	P-046-R10S		<4.7	<4.7	<4.7	<4.7	<4.7	21	<4.7	<4.7	<4.7	21
			West	180	Plaster/Lath	White	P-047-R10W		<4.9	<4.9	<4.9	<4.9	<4.9	19	<4.9	<4.9	<4.9	19
			North	90	Plaster/Lath													
			Ceiling	200	Bare Lath													
			Wood Trim	10		White	P-156-R10WT		<9.9	<9.9	<9.9	<9.9	<9.9	38	<9.9	<9.9	<9.9	38
			Door	20				No Door										
			Floor	200	Underlayment													
	1st	Stairwell 1-2	East	NA	NA													
			South	225	Plaster/Lath	White/Salmon	P-257-S12S		<4.6	<4.6	<4.6	<4.6	<4.6	55	<4.6	<4.6	<4.6	55
			West	54	Plaster/Lath													
			North	225	Plaster/Lath	White	P-223-S12N		<4.7	<4.7	<4.7	<4.7	<4.7	64	<4.7	<4.7	<4.7	64
			Ceiling	150	Plaster/Lath	Beige/White/Red	P-220-S12C		<3.5	<3.5	<3.5	<3.5	<3.5	19	<3.5	<3.5	<3.5	19
			Wood Rails	20		Beige	P-274-S12R		<3.9	<3.9	<3.9	<3.9	<3.9	50	<3.9	<3.9	<3.9	50
			Floor	150	Wood Steps	Light Green/Orange/Blue	P-155-S12F		<9.9	<9.9	<9.9	<9.9	<9.9	65	<9.9	<9.9	<9.9	65
		11	East	135	Drywall over	Beige/White	P-158-R11EDW		<0.50	<0.50	<0.50	<0.50	<0.50	2.7 J	<0.50	<0.50	<0.50	2.7
			East	135	Plaster/Lath	White/Orange/Light Green	P-212-R11EP		<3.9	<3.9	<3.9	<3.9	<3.9	16	<3.9	<3.9	<3.9	16
			South	270	Drywall over	Salmon	P-217-R11SDW		<1.8	<1.8	<1.8	<1.8	<1.8	6.2	<1.8	<1.8	<1.8	6.2
			South	270	Plaster/Lath			No plaster										
			West	135	Drywall over	Salmon	P-258-R11WDW		<3.9	<3.9	<3.9	<3.9	<3.9	15	<3.9	<3.9	<3.9	15
			West	135	Plaster/Lath	White	P-164-R11WP		<4.1	<4.1	<4.1	<4.1	<4.1	20	<4.1	<4.1	<4.1	20
			North	270	Drywall over Plaster/Lath													
			Ceiling	450	Drywall over	White	P-254-R11CDW		<0.50	<0.50	<0.50	<0.50	3.7 J	3.4 J	<0.50	<0.50	<0.50	3.4
			Ceiling	450	Plaster/Lath	White	P-231-R11CP		<0.91	<0.91	<0.91	<0.91	<0.91	1.7	<0.91	<0.91	<0.91	1.7
			Wood Trim	7.5		Dark Green/Beige/Blue	P-248-R11WT		<4.2	<4.2	<4.2	<4.2	<4.2	33	<4.2	<4.2	<4.2	33
			Door	20		White/Beige/Blue	P-250-R11D		<4.7	<4.7	<4.7	<4.7	<4.7	50	<4.7	<4.7	<4.7	50
			Floor	450	Hardwood	Brown	P-157-R11F		<2.0	<2.0	<2.0	<2.0	<2.0	11	<2.0	<2.0	<2.0	11
		12	East	270	Drywall over	Beige/White	P-244-R12EDW		<0.45	<0.45	<0.45	<0.45	2.5	3	<0.45	<0.45	<0.45	5.5
			East	270	Plaster/Lath	Beige/Blue	P-251-R12EW		<2.3	<2.3	<2.3	<2.3	<2.3	10	<2.3	<2.3	<2.3	10
			South	180	Drywall over	Light Yellow	P-162-R12SDW		<0.80	<0.80	<0.80	<0.80	3.6	3.3	<0.80	<0.80	<0.80	6.9
			South	180	Plaster/Lath			No plaster										
			West	270	Drywall over													
			West	270	Plywood													
			North	180	Drywall over	White	P-243-R12NDW		<2.3	<2.3	<2.3	<2.3	<2.3	6.6	<2.3	<2.3	<2.3	6.6
			North	180	Plaster/Lath	White	P-247-R12NP		<0.42	<0.42	<0.42	<0.42	<0.42	2.4	<0.42	<0.42	<0.42	2.4
			Ceiling	600	Drywall	White	P-214-R12CDW		<1.0	<1.0	<1.0	<1.0	<1.0	5.3	<1.0	<1.0	<1.0	5.3
			Ceiling	600	Particle board	White	P-213-R12CPB		<2.3	<2.3	<2.3	<2.3	<2.3	9	<2.3	<2.3	<2.3	9
			Ceiling	600	Plaster/Lath	White	P-242-R12-CP		<0.37	<0.37	<0.37	<0.37	<0.37	0.66	<0.37	<0.37	<0.37	0.66
			Wood Trim	15		Green/Blue	P-228-R12WT		<4.1	<4.1	<4.1	<4.1	<4.1	26	<4.1	<4.1	<4.1	26
			Floor	600	Hardwood	Brown	P-234-R12F		<0.94	<0.94	<0.94	<0.94	7	6.4	<0.94	<0.94	<0.94	13
		13	East	54	Plaster/Lath	Dark Green/Light Green	P-233-R13E		<4.1	<4.1	<4.1	<4.1	<4.1	8.3	<4.1	<4.1	<4.1	8.3
			South	90	Plaster/Lath	Light Green/Dark Green	P-225-R13S		<4.2	<4.2	<4.2	<4.2	<4.2	4.5	<4.2	<4.2	<4.2	4.5
			West	54	Plaster/Lath													
			North	90	Plaster/Lath													
			Ceiling	60	Wood Panel	White	P-230-R13CWP		<2.2	<2.2	<2.2	<2.2	<2.2	4.5	<2.2	<2.2	<2.2	4.5
			Ceiling	60	Plaster/Lath	White	P-216-R13CP		<0.092	<0.092	<0.092	<0.092	<0.092	0.21	<0.092	<0.092	<0.092	0.21
			Wood Trim	3		Dark Blue	P-218-R13WT		<3.4	<3.4	<3.4	<3.4	<3.4	11	<3.4	<3.4	<3.4	11
			Door	20		White Beige	P-240-R13D		<3.9	<3.9	<3.9	<3.9	<3.9	25	<3.9	<3.9	<3.9	25
			Floor	60	Hardwood	Brown	P-232-R13F		<4.8	<4.8	<4.8	<4.8	<4.8	27	<4.8	<4.8	<4.8	27
		14	East	216	Drywall	Beige	P-219-R14EDW		<1.8	<1.8	<1.8	<1.8	<1.8	6.8	<1.8	<1.8	<1.8	6.8
			East	216	Plaster/Lath	White	P-227-R14-EP		<1.7	<1.7	<1.7	<1.7	1.8	3	<1.7	<1.7	<1.7	4.8
			South	108	Drywall	Salmon	P-226-R14SDW		<2.1	<2.1	<2.1	<2.1	<2.1	12	<2.1	<2.1	<2.1	12
			South	108	Plaster/Lath	White	P-255-R14SP		<4.2	<4.2	<4.2	<4.2	<4.2	5.3	<4.2	<4.2	<4.2	5.3
			West	216	Drywall	Beige/Yellow	P-163-R14WDW		<0.89	<0.89	<0.89	<0.89	3.5	2.1	<0.89	<0.89	<0.89	5.6
			West	216	Plaster/Lath	Pink	P-249-R14WP		<0.43	<0.43	<0.43	<0.43	<0.43	1.5	<0.43	<0.43	<0.43	1.5
			North	108	Drywall over Plaster/Lath													
			Ceiling	288	Drywall	White	P-229-R14CDW		<2.2	<2.2	<2.2	<2.2	<2.2	8.9	<2.2	<2.2	<2.2	8.9
			Ceiling	288	Drop Ceiling Wood Panel	White	P-160-R14CWP		<2.0	<2.0	<2.0	<2.0	<2.0	8.3	<2.0	<2.0	<2.0	8.3
			Ceiling	288	Plaster/Lath	White	P-208-R14CP		<0.48	<0.48	<0.48	<0.48	<0.48	1.4	<0.48	<0.48	<0.48	1.4
			Wood Trim	12		Green/Blue	P-159-R14WT		<4.9	<4.9	<4.9	<4.9	<4.9	20	<4.9	<4.9	<4.9	20
			Door	20				No door										
			Floor	288	Hardwood	Brown/Yellow	P-154-R14F		<2.0	<2.0	<2.0	<2.0	<2.0	12	<2.0	<2.0	<2.0	12

Exterior/ Interior	Floor	Room	Direction	Approx. SF	Substrate	Color	KGSNE Sample ID	Comments	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Aroclor-1262	Aroclor-1268	Total PCBs
Interior	1st	15	East	54	Plaster/Lath	Pink/Green/ White/Brown	P-259-R15E		<4.5	<4.5	<4.5	<4.5	<4.5	56	<4.5	<4.5	<4.5	56
			South	54	Plaster/Lath	Pink/Green/ White/Brown	P-236-R15S		<3.8	<3.8	<3.8	<3.8	<3.8	59	<3.8	<3.8	<3.8	59
			West	54	Plaster/Lath													
			North	54	Plaster/Lath													
			Ceiling	36	Plywood panel	Beige/Pink/Brown	P-215-R15CPW		<4.1	<4.1	<4.1	<4.1	<4.1	25	<4.1	<4.1	<4.1	25
			Ceiling	36	Plaster/Lath	Beige/Pink/Brown	P-211-R15CP		<0.43	<0.43	<0.43	<0.43	<0.43	0.59	<0.43	<0.43	<0.43	0.59
			Wood Trim	3		Light Brown/Blue/White	P-221-R15WT		<3.8	<3.8	<3.8	<3.8	<3.8	63	<3.8	<3.8	<3.8	63
			Door	20		Dark Green/White	P-253-R15D		<4.4	<4.4	<4.4	<4.4	<4.4	32	<4.4	<4.4	<4.4	32
			Floor	36	Vinyl/Lin over Hardwood													
		16	East	225	Wood Panel	White	P-134-R16EW		<4.0	<4.0	<4.0	<4.0	<4.0	21	<4.0	<4.0	<4.0	21
			East	225	Plaster/Lath	Light Green/Dark Green	P-133-R16EP		<0.46	<0.46	<0.46	<0.46	<0.46	5.5	<0.46	<0.46	<0.46	5.5
			South	270	Wood Panel	White	P-161-R16SWP		<5.0	<5.0	<5.0	<5.0	17	18	<5.0	<5.0	<5.0	35
			South	270	Plaster/Lath	Green	P-209-R16SP		<0.97	<0.97	<0.97	<0.97	2.1 J	2.3	<0.97	<0.97	<0.97	2.3
			West	225	None													
			North	270	Wood Panel	Green/White	P-210-R16NWP		<4.4	<4.4	<4.4	<4.4	<4.4	26	<4.4	<4.4	<4.4	26
			North	270	Plaster/Lath	White	P-222-R16NP		<3.6	<3.6	<3.6	<3.6	<3.6	16	<3.6	<3.6	<3.6	16
			Ceiling	750	Plaster/Lath	White	P-207-R16C		<4.2	<4.2	<4.2	<4.2	<4.2	16	<4.2	<4.2	<4.2	16
			Wood Trim	13		Dark Green	P-135-R16WT		<3.8	<3.8	<3.8	<3.8	<3.8	33	<3.8	<3.8	<3.8	33
			Door	20			P-165-R16D		<4.4	<4.4	<4.4	<4.4	<4.4	34	<4.4	<4.4	<4.4	34
			Floor	750	Underlayment													
		Gym	East	1,386	Wood panelling	White	P-145-EWP1		<0.99	<0.99	<0.99	<0.99	<0.99	3.4	<0.99	<0.99	<0.99	3.4
						White	P-146-EWP2		<1.0	<1.0	<1.0	<1.0	<1.0	5.8	<1.0	<1.0	<1.0	5.8
						White/Green	P-147-EWP3		<1.0	<1.0	<1.0	<1.0	<1.0	5.6	<1.0	<1.0	<1.0	5.6
				1386	Particle Board	Green	P-148-EPB1		<0.99	<0.99	<0.99	<0.99	<0.99	9.3	<0.99	<0.99	<0.99	9.3
						Green	P-149-EPB2		<1.0	<1.0	<1.0	<1.0	<1.0	4.7	<1.0	<1.0	<1.0	4.7
						Green	P-150-EPB3		<2.0	<2.0	<2.0	<2.0	<2.0	19	<2.0	<2.0	<2.0	19
				1386	Plaster/Lath	White	P-151-EP1		<0.099	<0.099	<0.099	<0.099	<0.099	0.55	<0.099	<0.099	<0.099	0.55
						White	P-152-EP2		<0.10	<0.10	<0.10	<0.10	<0.10	0.62	<0.10	<0.10	<0.10	0.62
						White	P-153-EP3		<0.10	<0.10	<0.10	<0.10	<0.10	1.2	<0.10	<0.10	<0.10	1.2
					Cellotex	Light Green	P-265-R17EC1	Added during initial sample collection	<0.44	<0.44	<0.44	<0.44	<0.44	6.3	<0.44	<0.44	<0.44	6.3
						Light Green	P-266-R17EC2	Added during initial sample collection	<0.44	<0.44	<0.44	<0.44	<0.44	5.3 J	<0.44	<0.44	<0.44	5.3
						White	P-267-R17EC3	Added during initial sample collection	<0.38	<0.38	<0.38	<0.38	<0.38	2.9	<0.38	<0.38	<0.38	2.9
						White	P-268-R17EC4	Added during initial sample collection	<0.42	<0.42	<0.42	<0.42	<0.42	3.1	<0.42	<0.42	<0.42	3.1
			South	957	Brick	White/Blue	P-252-R17S		<1.9	<1.9	<1.9	<1.9	<1.9	12	<1.9	<1.9	<1.9	12
			West	1,386	Brick	White/Yellow	P-204-R17W	Taken from high spot on the wall	<1.8	<1.8	<1.8	<1.8	<1.8	4.8	<1.8	<1.8	<1.8	4.8
				1,386	Brick	White/Yellow	P-205-R17W	Taken from a low spot on the wall	<2.3	<2.3	<2.3	<2.3	<2.3	8.2	<2.3	<2.3	<2.3	8.2
				1,386	Brick	White/Yellow	P-206-R17W	Taken from a low spot on the wall	<1.9	<1.9	<1.9	<1.9	<1.9	10	<1.9	<1.9	<1.9	10
			North	957	Brick	White/Yellow/Green	P-136-GN		<0.45	<0.45	<0.45	<0.45	<0.45	6.1	<0.45	<0.45	<0.45	6.1
			Ceiling	5,481	Particle board/plywood	White/Beige	P-193-GC		<0.48	<0.48	<0.48	<0.48	<0.48	1.6	<0.48	<0.48	<0.48	1.6
					Particle board/plywood	White/Beige	P-194-GC		<0.38	<0.38	<0.38	<0.38	<0.38	0.64	<0.38	<0.38	<0.38	0.64
					Particle board/plywood	White/Beige	P-195-GC		<0.37	<0.37	<0.37	<0.37	<0.37	0.85	<0.37	<0.37	<0.37	0.85
					Particle board/plywood	White/Beige	P-196-GC		<0.42	<0.42	<0.42	<0.42	<0.42	1.5	<0.42	<0.42	<0.42	1.5
					Particle board/plywood	White/Beige	P-197-GC		<0.37	<0.37	<0.37	<0.37	<0.37	0.57	<0.37	<0.37	<0.37	0.57
					Particle board/plywood	White/Beige	P-198-GC		<0.40	<0.40	<0.40	<0.40	<0.40	1.1	<0.40	<0.40	<0.40	1.1
			Door	20				No door										
			Metal Girders	1,500	Painted metal	White	P-199		<1.9	<1.9	<1.9	<1.9	<1.9	7.6	<1.9	<1.9	<1.9	7.6
							P-200		<0.46	<0.46	<0.46	<0.46	<0.46	4.6	<0.46	<0.46	<0.46	4.6
							P-201		<1.0	<1.0	<1.0	<1.0	<1.0	7.9	<1.0	<1.0	<1.0	7.9
							P-202		<1.9	<1.9	<1.9	<1.9	<1.9	8.5	<1.9	<1.9	<1.9	8.5
			Floor	4,933	Hardwood/ polyurethane	Brown	P-137-GFN	Taken from north section of the floor	<0.50	<0.50	<0.50	<0.50	<0.50	3	<0.50	<0.50	<0.50	3
						Brown	P-138-GFE	Taken from east section of the floor	<0.49	<0.49	<0.49	<0.49	<0.49	3.6	<0.49	<0.49	<0.49	3.6
						Brown	P-139-GFS	Taken from south section of the floor	<0.43	<0.43	<0.43	<0.43	<0.43	7.1	<0.43	<0.43	<0.43	7.1
						Brown	P-140-GFW	Taken from west section of the floor	<0.45	<0.45	<0.45	<0.45	<0.45	4.1	<0.45	<0.45	<0.45	4.1
						Brown	P-141-GFC	Taken from central section of the floor	<1.0	<1.0	<1.0	<1.0	<1.0	7.9	<1.0	<1.0	<1.0	7.9
			Floor	164	Hardwood/Dk green	Dark Green	P-142-GFDG		<0.98	<0.98	<0.98	<0.98	<0.98	3.7	<0.98	<0.98	<0.98	3.7
			Floor	164	Hardwood/Lt green	Light Green	P-143-GFLG		<2.0	<2.0	<2.0	<2.0	<2.0	13	<2.0	<2.0	<2.0	13
			Floor	164	Hardwood/White	White	P-144-GFW		<0.10	<0.10	<0.10	<0.10	<0.10	1.4	<0.10	<0.10	<0.10	1.4

Exterior/ Interior	Floor	Room	Direction	Approx. SF	Substrate	Color	KGSNE Sample ID	Comments	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Aroclor-1262	Aroclor-1268	Total PCBs
Interior	Basement	Stairwell 0-1	East		NA													
			South	225	Plaster/Lath	Beige/Green/Brown	P-062-S01S		<2.0	<2.0	<2.0	<2.0	<2.0	18	<2.0	<2.0	<2.0	18
			West	54	Plaster/Lath	Beige/Green/Brown	P-063-S01W		<2.0	<2.0	<2.0	<2.0	<2.0	40	<2.0	<2.0	<2.0	40
			North	225	Plaster/Lath	Beige/Brown	P-064-S01N		<4.0	<4.0	<4.0	<4.0	<4.0	43	<4.0	<4.0	<4.0	43
			Ceiling	150	Drywall	White	P-066-S01C		<0.20	<0.20	<0.20	<0.20	<0.20	0.33 J	<0.20	<0.20	<0.20	0.33
			Wood Rails	20		Dark Green	P-065-S01R	Labeled P-065-S01C in lab report	<4.0	<4.0	<4.0	<4.0	<4.0	81 J	<4.0	<4.0	<4.0	81
			Door	20		White/ Dark Green	P-067-S01D		<4.0	<4.0	<4.0	<4.0	<4.0	65	<4.0	<4.0	<4.0	65
			Floor	150	Wood Steps	White/Dark Green/ Black/Brown/ Light Blue	P-239-S01F		<7.6	<7.6	<7.6	<7.6	<7.6	110	<7.6	<7.6	<7.6	110
		18	East	180	Brick	Light Blue/Salmon/ Brown	P-048-R18E		<9.8	<9.8	<9.8	<9.8	<9.8	180	<9.8	<9.8	<9.8	180
			South	135	Brick	Light Blue/ White	P-049-R18S		<24	<24	<24	<24	<24	330	<24	<24	<24	330
			West	180	Brick													
			North	135	Concrete	White/Green/Drk. Grey	P-051-R18NC		<24	<24	<24	<24	<24	290	<24	<24	<24	290
					Brick	White/Beige	P-050-R18NB		<8.8	<8.8	<8.8	<8.8	<8.8	110	<8.8	<8.8	<8.8	110
			Ceiling	300	Drywall													
			Ceiling	300	Pressed tin	Dark Beige/Black	P-052-R18C		<4.3	<4.3	<4.3	<4.3	<4.3	19	<4.3	<4.3	<4.3	19
			Ceiling	300	Lath													
			Floor	300	Gray Painted Concrete													
		20	East	270	Brick	White/Dark Grey	P-053-R20E		<250	<250	<250	<250	<250	4,000	<250	<250	<250	4,000
			South	180	Brick													
			West	270	Brick	Light Green	P-054-R20W		<250	<250	<250	<250	<250	5,100	<250	<250	<250	5,100
			North	180	Concrete	Beige/Drk. Grey	P-056-R20NC		<480	<480	<480	<480	<480	6,400	<480	<480	<480	6,400
					Brick	Light Green	P-055-R20NB		<90	<90	<90	<90	<90	1,300	<90	<90	<90	1,300
			Ceiling	600	None													
			Floor	600	Unpainted Concrete													
		21	East	270	Concrete	Light Blue/ Brown	P-057-R21EC		<8.8	<8.8	<8.8	<8.8	<8.8	86	<8.8	<8.8	<8.8	86
					Brick	Pink/Lt. Green/Brown	P-058-R21EB		<4.4	<4.4	<4.4	<4.4	<4.4	52	<4.4	<4.4	<4.4	52
			South	180	Brick	White/Light Blue	P-059-R21S		<47	<47	<47	<47	<47	380	<47	<47	<47	380
			West	270	Brick	Blue/Light Green	P-094-R21W		<3.9	<3.9	<3.9	<3.9	<3.9	51	<3.9	<3.9	<3.9	51
			North	180	Concrete/Brick													
			Ceiling	600	Drywall	White	P-060-R21C		<4.6	<4.6	<4.6	<4.6	<4.6	50	<4.6	<4.6	<4.6	50
			Door	20		Light Blue/White/ Green/Orange/ yellow	P-061-R21D		<4.0	<4.0	<4.0	<4.0	<4.0	52	<4.0	<4.0	<4.0	52
			Floor	600	Beige Painted Concrete	Grey/Beige	P-095-R21FN	North End	<2.0	<2.0	<2.0	<2.0	<2.0	21	<2.0	<2.0	<2.0	21
			Floor	600	Beige Painted Concrete	Grey/Beige	P-096-R21FS	South End	<2.0	<2.0	<2.0	<2.0	10	16	<2.0	<2.0	<2.0	26
		22	East	108	Painted Drywall	Yellow/White	P-068-R22EDW		<4.0	<4.0	<4.0	<4.0	<4.0	52	<4.0	<4.0	<4.0	52
			East	108	Concrete Foundation	Brown	P-069-R22EC		<40	<40	<40	<40	<40	460	<40	<40	<40	460
			South	225	Printed Plywood	Yellow/Dark Blue	P-080-R22SPW		<2.0	<2.0	<2.0	<2.0	<2.0	25	<2.0	<2.0	<2.0	25
			South	225	Brick	Light Blue	P-081-R22SB		<20	<20	<20	<20	<20	400	<20	<20	<20	400
			West	108	Painted Plywood	White	P-070-R22WPW		<2.0	<2.0	<2.0	<2.0	<2.0	21	<2.0	<2.0	<2.0	21
			West	108	Brick	Light Blue	P-071-R22WB		<20	<20	<20	<20	<20	280	<20	<20	<20	280
			North	225	Painted Plywood													
			North	225	Brick													
			Ceiling	300	2x4 wood	White	P-073-R22C		<4.0	<4.0	<4.0	<4.0	<4.0	67	<4.0	<4.0	<4.0	67
			Door	20		White	P-072-R2D	Sample ID was misprinted by field staff, but is applicable to Room 22	<20	<20	<20	<20	<20	200	<20	<20	<20	200
			Floor	300	Gray Painted Concrete													
		23	East	225	Concrete	Salmon/Dark Green	P-074-R23EC		<10	<10	<10	<10	<10	150	<10	<10	<10	150
					Brick	Salmon/Light Green/White	P-075-R23EB		<4.0	<4.0	<4.0	<4.0	<4.0	65	<4.0	<4.0	<4.0	65
			South	144	Concrete/Brick													
			West	225	Brick	Salmon/Light Green	P-077-R23W		<9.9	<9.9	<9.9	<9.9	<9.9	120	<9.9	<9.9	<9.9	120
			North	144	Brick	Salmon	P-078-R23N		<10	<10	<10	<10	<10	150	<10	<10	<10	150
			Ceiling	400	Pressed tin over lath	White	P-224-R23C		<45	<45	<45	<45	<45	950	<45	<45	<45	950
			Wood Trim	13		Dark Green/White	P-076-R23EWT		<10	<10	<10	<10	<10	92	<10	<10	<10	92
			Door	20		White/Dark Blue	P-079-R23D		<9.8	<9.8	<9.8	<9.8	<9.8	75	<9.8	<9.8	<9.8	75
			Floor	400	Gray Painted Concrete													

Exterior/ Interior	Floor	Room	Direction	Approx. SF	Substrate	Color	KGSNE Sample ID	Comments	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Aroclor-1262	Aroclor-1268	Total PCBs
Interior	Basement	24	East	144	Brick	Salmon/White/Light Green	P-082-R24E		<9.8	<9.8	<9.8	<9.8	<9.8	120	<9.8	<9.8	<9.8	120
			South	135	Concrete	Beige/ Light Green	P-083-R24SC		<9.9	<9.9	<9.9	<9.9	<9.9	130	<9.9	<9.9	<9.9	130
					Brick	Beige/ Light Green	P-084-R24SB		<10	<10	<10	<10	<10	130	<10	<10	<10	130
			West	144	Brick	White/Light Green	P-085-R24W		<9.9	<9.9	<9.9	<9.9	<9.9	110	<9.9	<9.9	<9.9	110
			North	135	Unpainted plywood													
			Ceiling	240	Bare Lath													
			Door	20		White/Beige	P-256-R24D		<4.4	<4.4	<4.4	<4.4	33 J	27	<4.4	<4.4	<4.4	27
			Floor	240	Gray Painted Concrete													
		24A	East	54	None													
			South	135	Painted plywood	White/Beige	P-097-R24AS		<4.1	<4.1	<4.1	<4.1	<4.1	42	<4.1	<4.1	<4.1	42
			West	54	Brick	White/Light Green	P-098-R24AW		<18	<18	<18	<18	<18	200	<18	<18	<18	200
			North	135	Brick	Beige/ Light Green	P-099-R24AN		<9.8	<9.8	<9.8	<9.8	<9.8	150	<9.8	<9.8	<9.8	150
			Ceiling	90	Drywall		P-100-R24AC		<10	<10	<10	<10	<10	110	<10	<10	<10	110
			Floor	90	Gray Painted Concrete													
		25	East	108	Brick	White/ Light Green/ Maroon	P-086-R25E		<23	<23	<23	<23	<23	300	<23	<23	<23	300
			South	45	Brick		P-087-R25S		<10	<10	<10	<10	<10	90	<10	<10	<10	90
			West	108	Brick													
			North	45	Brick													
			Ceiling	60	Drywall	Beige	P-088-R25CDW		<7.5	<7.5	<7.5	<7.5	<7.5	66	<7.5	<7.5	<7.5	66
			Ceiling	60	Plaster/Lath	Beige	P-089-R25CP	Lab misprinted ID as P-089-R2**S**CP	<4.3	<4.3	<4.3	<4.3	<4.3	56	<4.3	<4.3	<4.3	56
			Door	20		Dark Blue	P-235-R25D		<4.5	<4.5	<4.5	<4.5	<4.5	19	<4.5	<4.5	<4.5	19
			Floor	60	Gray Painted Concrete													
		25A	East	90	Brick	Light Green	P-090-R25AE		<20	<20	<20	<20	<20	350	<20	<20	<20	350
			South	135	Brick	Light Green	P-091-R25AS		<20	<20	<20	<20	<20	380	<20	<20	<20	380
			West	90	Brick													
			North	135	Brick													
			Ceiling	150	Drywall	Beige	P-092-R25ACDW		<4.4	<4.4	<4.4	<4.4	<4.4	37	<4.4	<4.4	<4.4	37
			Ceiling	150	Plaster/Lath	Beige	P-093-R25ACP		<3.8	<3.8	<3.8	<3.8	<3.8	30	<3.8	<3.8	<3.8	30
			Floor	150	Gray Painted Concrete													
		26	East	108	Brick	White	P-101-R26E		<4.5	<4.5	<4.5	<4.5	<4.5	41	<4.5	<4.5	<4.5	41
			South	540	Concrete	White	P-102-R26SC		<4.0	<4.0	<4.0	<4.0	<4.0	80	<4.0	<4.0	<4.0	80
					Brick	White	P-103-R26SB		<4.3	<4.3	<4.3	<4.3	<4.3	36	<4.3	<4.3	<4.3	36
			West	108	CMU (newer), Drywall													
			North	540	CMU	White	P-104-R26N		<3.6	<3.6	<3.6	<3.6	<3.6	42	<3.6	<3.6	<3.6	42
			Ceiling	720	Drywall over lath	White	P-105-R26C		<3.5	<3.5	<3.5	<3.5	<3.5	7.9	<3.5	<3.5	<3.5	7.9
			Floor	720	Gray Painted Concrete													
		27	East	180	Unpainted CMU													
			South	585	CMU	White	P-106-R-27S		<5.0	<5.0	<5.0	<5.0	<5.0	42	<5.0	<5.0	<5.0	42
			West	180	None													
			North	90	CMU	White/Pink	P-107-R27NC		<4.8	<4.8	<4.8	<4.8	<4.8	30	<4.8	<4.8	<4.8	30
			North	495	Brick	White	P-108-R27NB		<3.6	<3.6	<3.6	<3.6	<3.6	50	<3.6	<3.6	<3.6	50
			Ceiling	1,300	None													
			Floor	1,300	Gray Painted Concrete													
		27A	East	180	Brick	Light Green/Red/White	P-109-R27AE		<4.5	<4.5	<4.5	<4.5	<4.5	12	<4.5	<4.5	<4.5	12
			South	45	None													
			West	180	CMU	White	P-110-R27AW		<4.4	<4.4	<4.4	<4.4	<4.4	23	<4.4	<4.4	<4.4	23
			North	45	Brick													
			Ceiling	100	None													
			Floor	100	Gray Painted Concrete													
		28	East	495	Bare wood/ none													
			South	153	Concrete	White	P-111-R28SC		<4.8	<4.8	<4.8	<4.8	<4.8	19	<4.8	<4.8	<4.8	19
					Brick	White	P-112-R28SB		<3.6	<3.6	<3.6	<3.6	<3.6	11	<3.6	<3.6	<3.6	11
			West	495	Concrete	Light Green/Pink/Light Blue	P-113-R28WC		<3.9	<3.9	<3.9	<3.9	<3.9	29	<3.9	<3.9	<3.9	29
					Brick	Light Green/Light Pink	P-114-R28WB		<4.8	<4.8	<4.8	<4.8	<4.8	16	<4.8	<4.8	<4.8	16
			North	153	None													
			Ceiling	935	None													
			Door	20		White/Light Green	P-115-R28D		<4.2	<4.2	<4.2	<4.2	<4.2	27	<4.2	<4.2	<4.2	27
			Floor	935	Unpainted Concrete													

Exterior/ Interior	Floor	Room	Direction	Approx. SF	Substrate	Color	KGSNE Sample ID	Comments	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Aroclor-1262	Aroclor-1268	Total PCBs
Interior	Basement	29	East	90	Bare wood													
			South	153	None													
			West	90	Concrete		P-116-29WC		<4.6	<4.6	<4.6	<4.6	<4.6	60	<4.6	<4.6	<4.6	60
					Brick		P-117-29WB		<4.4	<4.4	<4.4	<4.4	<4.4	17	<4.4	<4.4	<4.4	17
			North	153	Concrete		P-119-29NC		<4.5	<4.5	<4.5	<4.5	26	51	<4.5	<4.5	<4.5	77
					Brick	Light Green/Yellow	P-118-29NB		<3.9	<3.9	<3.9	<3.9	43	29	<3.9	<3.9	<3.9	72
			Ceiling	170	None													
			Floor	170	Unpainted Concrete													
		30	East	135	Brick	Light Green/White	P-120-R30E		<4.4	<4.4	<4.4	<4.4	<4.4	170	<4.4	<4.4	<4.4	170
			South	90	None													
			West	135	None													
			North	90	Concrete	Light Green/White	P-121-R30NC		<9.5	<9.5	<9.5	<9.5	<9.5	130	<9.5	<9.5	<9.5	130
					Brick	Light Green/White	P-122-R30NB		<8.8	<8.8	<8.8	<8.8	<8.8	94	<8.8	<8.8	<8.8	94
			Ceiling	150	Drywall over lath	White	P-123-R30C		<4.4	<4.4	<4.4	<4.4	<4.4	31	<4.4	<4.4	<4.4	31
			Floor	150	Gray Painted Concrete													
		31	East	135	None													
			South	135	None													
			West	135	Brick	Dark Green/White	P-124-R31W		<4.7	<4.7	<4.7	<4.7	<4.7	28	<4.7	<4.7	<4.7	28
			North	135	Concrete	White	P-125-R31NC		<22	<22	<22	<22	<22	160	<22	<22	<22	160
					Brick	Whitre	P-132-R31NB		<22	<22	<22	<22	<22	250	<22	<22	<22	250
			Ceiling	225	Unpainted drywall													
			Floor	225	Gray Painted Concrete													
		32	East	135	None													
			South	135	None													
			West	135	None													
			North	135	Concrete/Brick													
			Ceiling	225	Unpainted drywall													
			Floor	225	Gray Painted Concrete													
		33	East	135	Brick	Light Green	P-126-R33E	Misspelled in fig	<23	<23	<23	<23	<23	300	<23	<23	<23	300
			South	135	None													
			West	135	None													
			North	135	Concrete	Light Green/White	P-127-R33NC		<22	<22	<22	<22	<22	310	<22	<22	<22	310
					Brick	Light Green	P-237-R33NB		<24	<24	<24	<24	<24	320	<24	<24	<24	320
			Ceiling	225	Unpainted drywall													
			Floor	225	Gray Painted Concrete													
		34	East	135	Brick	Light Green	P-260-R34E		<20	<20	<20	<20	<20	200	<20	<20	<20	200
			South	90	CMU	White	P-261-R34S		<4.4	<4.4	<4.4	<4.4	<4.4	32	<4.4	<4.4	<4.4	32
			West	135	None													
			North	90	None													
			Ceiling	150	Drywall over lath	White	P-128-R34C		<4.9	<4.9	<4.9	<4.9	<4.9	43	<4.9	<4.9	<4.9	43
			Floor	150	Gray Painted Concrete													
		35	East	135	None													
			South	45	Brick	White/Light Green	P-245-R35S		<25	<25	<25	<25	<25	220	<25	<25	<25	220
			West	135	Brick	White/Light Green	P-129-R35W		<20	<20	<20	<20	<20	180	<20	<20	<20	180
			North	45	None													
			Ceiling	75	Pressed tin over lath	White/ Brown	P-238-R35C		<9.3	<9.3	<9.3	<9.3	<9.3	130	<9.3	<9.3	<9.3	130
			Floor	75	Gray Painted Concrete													
		36	East	135	None													
			South	90	Brick													
			West	135	None													
			North	90	None													
			Ceiling	150	Pressed tin over lath		P-246-R36C		<21	<21	<21	<21	<21	130	<21	<21	<21	130
			Floor	150	Gray Painted Concrete													
		37	East	135	Brick	Light Green	P-130-R37E		<20	<20	<20	<20	<20	400	<20	<20	<20	400
			South	270	Brick	Light Green	P-131-R37S		<24	<24	<24	<24	<24	270	<24	<24	<24	270
			West	135	None													
			North	270	None													
			Ceiling	450	Pressed tin over lath	White/Brown	P-241-R37C		<3.5	<3.5	<3.5	<3.5	<3.5	65	<3.5	<3.5	<3.5	65
			Floor	450	Gray Painted Concrete													

Exterior/ Interior	Floor	Room	Direction	Approx. SF	Substrate	Color	KGSNE Sample ID	Comments	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Aroclor-1262	Aroclor-1268	Total PCBs
Exterior	N/A	Front Entrance - Surround		50	Wood	White painted	P-169-Ex		<0.47	<0.47	<0.47	<0.47	<0.47	1.8	<0.47	<0.47	<0.47	1.8
							P-170-Ex		<0.48	<0.48	<0.48	<0.48	<0.48	1	<0.48	<0.48	<0.48	1
							P-171-Ex		<0.49	<0.49	<0.49	<0.49	<0.49	1.7	<0.49	<0.49	<0.49	1.7
		Front Entrance - Door		64	Wood	Dark Green painted	P-178-Ex		<0.93	<0.93	<0.93	<0.93	<0.93	2.4	<0.93	<0.93	<0.93	2.4
							P-179-Ex		<0.97	<0.97	<0.97	<0.97	<0.97	1.8	<0.97	<0.97	<0.97	1.8
							P-180-Ex		<0.92	<0.92	<0.92	<0.92	<0.92	3	<0.92	<0.92	<0.92	3
		Front Entrance		100	Concrete	White painted	P-203-Ex	No white paint on front exterior except for 1916 cornerstone	<0.089	<0.089	<0.089	<0.089	<0.089	0.5	<0.089	<0.089	<0.089	0.5
		North basement stairwell		200	Concrete	Multi-color painted	P-172-Ex		<900	<900	<900	<900	<900	9,700	<900	<900	<900	9,700
							P-173-Ex		<1,400	<1,400	<1,400	<1,400	<1,400	7,100	<1,400	<1,400	<1,400	7,100
							P-174-Ex		<3,400	<3,400	<3,400	<3,400	<3,400	20,000	<3,400	<3,400	<3,400	20,000
		Front Steps Handrails		40 LF	Metal	Black painted	P-181-Ex		<2.3	<2.3	<2.3	<2.3	11	11	<2.3	<2.3	<2.3	22
							P-182-Ex		<2.0	<2.0	<2.0	<2.0	8.8	12	<2.0	<2.0	<2.0	20.8
							P-183-Ex		<2.1	<2.1	<2.1	<2.1	13	12	<2.1	<2.1	<2.1	25
		Window Frames		80	Wood	White painted	P-175-Ex		<0.43	<0.43	<0.43	<0.43	<0.43	1.8	<0.43	<0.43	<0.43	1.8
							P-176-Ex		<0.47	<0.47	<0.47	<0.47	<0.47	0.6	<0.47	<0.47	<0.47	0.6
							P-177-Ex		<0.47	<0.47	<0.47	<0.47	<0.47	0.72 J	<0.47	<0.47	<0.47	0.7
		Window Sashes		80	Wood	Dark Green painted	P-262-Ex		<3.6	<3.6	<3.6	<3.6	<3.6	70	<3.6	<3.6	<3.6	70
							P-263-Ex		<8.7	<8.7	<8.7	<8.7	<8.7	160	<8.7	<8.7	<8.7	160
							P-264-Ex		<4.1	<4.1	<4.1	<4.1	<4.1	180	<4.1	<4.1	<4.1	180
		Ceiling of North central roof over steps		150	Wood	White painted	P-166-Ex		<0.95	<0.95	<0.95	<0.95	<0.95	5.7	<0.95	<0.95	<0.95	5.7
							P-167-Ex		<0.96	<0.96	<0.96	<0.96	<0.96	4.5	<0.96	<0.96	<0.96	4.5
							P-168-Ex		<0.46	<0.46	<0.46	<0.46	<0.46	1	<0.46	<0.46	<0.46	1
		Roof Edge Trim/Soffits		400	Wood	White/gray painted	P-190-Ex		<0.45	<0.45	<0.45	<0.45	<0.45	1.1 J	<0.45	<0.45	<0.45	1.1
							P-191-Ex		<0.44	<0.44	<0.44	<0.44	<0.44	1	<0.44	<0.44	<0.44	1
							P-192-Ex		<0.41	<0.41	<0.41	<0.41	<0.41	1.7	<0.41	<0.41	<0.41	1.7
		Southwest Loading Ramp		600	Concrete	Gray painted	P-184-Ex		<200	<200	<200	<200	<200	7,500	<200	<200	<200	7,500
							P-185-Ex		<230	<230	<230	<230	<230	7,700	<230	<230	<230	7,700
							P-186-Ex		<220	<220	<220	<220	<220	9,600	<220	<220	<220	9,600
		Southwest Loading Ramp Roof		300	Wood Trim/Soffit/Door & Sheet Metal walls	White painted	P-187-Ex		<4.3	<4.3	<4.3	<4.3	<4.3	38	<4.3	<4.3	<4.3	38
							P-188-Ex		<8.1	<8.1	<8.1	<8.1	<8.1	110	<8.1	<8.1	<8.1	110
							P-189-Ex		<21	<21	<21	<21	<21	360	<21	<21	<21	360
		East concrete window sills under green painted sashes		N/A	Concrete	Not painted	P-299-Ex		<0.087	<0.087	<0.087	<0.087	<0.087	<0.087	<0.087	<0.087	<0.087	--
							P-300-Ex		<0.098	<0.098	<0.098	<0.098	<0.098	<0.098	<0.098	<0.098	<0.098	--
							P-301-Ex		<0.096	<0.096	<0.096	<0.096	<0.096	<0.096	<0.096	<0.096	<0.096	--
		North concrete window sills under green painted sashes		N/A	Concrete	Not painted	P-302-Ex		<0.096	<0.096	<0.096	<0.096	<0.096	<0.096	<0.096	<0.096	<0.096	--
							P-303-Ex		<0.097	<0.097	<0.097	<0.097	<0.097	<0.097	<0.097	<0.097	<0.097	--
							P-304-Ex		<0.092	<0.092	<0.092	<0.092	<0.092	<0.092	<0.092	<0.092	<0.092	--
		South concrete window sills under green painted sashes		N/A	Concrete	Not painted	P-332-Ex		<0.091	<0.091	<0.091	<0.091	<0.091	<0.091	<0.091	<0.091	<0.091	--
							P-333-Ex		<0.095	<0.095	<0.095	<0.095	<0.095	<0.095	<0.095	<0.095	<0.095	--
							P-334-Ex		<0.095	<0.095	<0.095	<0.095	<0.095	<0.095	<0.095	<0.095	<0.095	--

Notes:
Material IDs and Room numbers from Atlas Technical Consultants *Workplan for Additional Hazardous Building Materials Sampling* , 2023
LF = linear feet
SF = square feet
'--' = indicates all results for that sample were non-detect.
All results reported in ppm
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the samples.
Red shading indicates the material did not exist
Tan shading indicates the material contains a total PCB concentration over 50 ppm
Gray shading indicates the material was not selected to be sampled in the original sample plan by Atlas. The materials are still shown in the Atlas Workplan tables and were carried over for continuity.

Table 2-2
Lead Waste Characterization Sample Results
St. Johnsbury Armory
St. Johnsbury Vermont

Waste Characterization Composite Sample Identification	Exterior/Interior	Floor	Room	Direction	Substrate	Color	Former Sample ID to Collect Adjacent Grab Sample	Lead Result (mg/L)
WC-Lead-Comp 1	Interior	Basement	26	Floor	Concrete	Blue	PCB-20C (note-historic sample location unknown, sample blue floor paint)	5.7
	Interior	Basement	23	Floor	Concrete	Grey	PCB-16D (note-historic sample location unknown, sample grey floor paint)	
	Interior	1st floor	15	South	Plaster/Lath	Pink, Green, White, Brown	P-236-R15S	
	Interior	2nd Floor	6	Floor	Wood	Brown	P-023-R06F	
	Exterior	N/A	N/A	Southwest Loading Ramp Roof	Wood Trim/Soffit/Door & Sheet Metal walls	White	P-188-Ex (Note-sample white painted wood trim)	
WC-Lead-Comp 2	Interior	Basement	18	North	Sheet Metal walls	White/Green/Drk. Grey	P-051-R18NC	15
	Interior	Basement	18	East	Brick	Lt. Blue/Salmon/ Brown	P-048-R18E	
	Interior	Basement	20	West	Brick	Lt. Green	P-054-R20W	
	Interior	Basement	20	North	Concrete	Beige/Drk. Grey	P-056-R20NC	
WC-Lead-Comp 3	Interior	Basement	21	East	Brick	Pink/Lt. Green/Brown	P-058-R21EB	28
	Interior	Basement	21	West	Brick	Blue/Lt. Green	P-094-R21W	
	Interior	Basement	23	East	Concrete	Salmon/Drk. Green	P-074-R23EC	
	Interior	Basement	25	East	Brick	White/ Lt. Green/ Maroon	P-086-R25E	
WC-Lead-Comp 4	Interior	Basement	22	South	Painted Plywood	Yellow/Drk. Blue	P-080-R22SPW	0.21
	Interior	1st floor	Gym	East	Cellotex	Lt Green - high	P-265-R17EC1	
	Interior	2nd Floor	8	South	Plaster/Lath	Yellow	P-031-R09S	
	Exterior	N/A	N/A	Front Entrance - Surround	Wood	Dark Green	P-178-Ex	
	Exterior	N/A	N/A	Roof Edge Trim/Soffits	Wood	White/Gray	P-190-Ex	
WC-Lead-Comp 5	Interior	Basement	Stairwell 0-1	Ceiling	Drywall	White	P-066-S01C	0.63
	Interior	1st floor	15	Ceiling	Plaster/Lath	Beige/Pink/Brown	P-211-R15CP	
	Interior	2nd Floor	5	Behind wall panneling in Room 5	Gray adhesive associated with brown, faux wood wall paneling	Gray	A-006a-R5	
	Exterior	N/A	Roof	Chimney	Light gray horizontal caulk (#5)	Light gray	P-281-Ex	
	Exterior	N/A	Roof	silver paint assciated with metal roofing	Tin	Silver	A-022a	

Notes:
Material IDs and Room numbers from Atlas Technical Consultants *Workplan for Additional Hazardous Building Materials Sampling* , 2023
mg/L = milligrams per liter

Table 2-3
Asbestos Sample Results
St. Johnsbury Armory
St. Johnsbury Vermont
Page 1 of 3

Medium/ Area	Material ID	Material & Description	Material Location(s)	Quantity	Recommended Sample Locations	KGSNE Sample ID	Asbestos Percent Type
Caulking	1	Black caulk	Exterior; Between back edge of soffit and brick wall below; north and south sides of building	175 LF	Roofline - north side		
	2	White caulk	Exterior; Roofline intersection (sloping portion) between east and west portions of building, at top of metal flashing and in joint between roof and wall	20 LF	Roofline - north side	A-023a	2% Chrysotile
						A-023b	Positive Stop
	3	Flashing caulk	Exterior; Small roof over southwest loading ramp roofline intersection with brick wall, at top of metal flashing	20 LF	SW Corner Ramp Roof	A-021a	2% Chrysotile
						A-021b	Positive Stop
						A-021c	Positive Stop
	4	Caulk (if present)	Over central stair to basement; roofline intersection with brick wall	20 LF	Small roof over north central stair to basement		
	5	Light gray horizontal caulk	Roof - chimney	10 LF	Roof - chimney	A-024a	3% Chrysotile
						A-024b	Positive Stop
	6	Yellow caulking around interior door trim	Room 17 (gym) between exit door frame and interior brick, north side of gym	20 LF	Room 17 (gym)	A-016a-R17	--
						A-016b-R17	--
Roofing	7	Asphalt shingle	Eastern end of western portion of building - upper wall on roof level adjacent to flat roof - under slate wall shingles	200 SF	At material location	A-025a	--
						A-025b	--
	8 & 9	Roof paper (brown & black [tar])	Eastern end of western portion of building - upper wall on roof level adjacent to flat roof - under slate wall shingles	200 SF	At material location	A-026a	--
						A-026b	--
						A-045a	--
						A-045b	--
	10	Material(s) (including tar paper) that may be present under gambrel slate	Gambrel roof - under slate	~6,000 SF	Gambrel roof - top. Conduct exploratory work under slate.	A-027a	10% Chrysotile
		Built up tar paper				A-027b	Positive Stop
	10a	asphalt layer				A-028a	6% Chrysotile
						A-028b	Positive Stop
	10b	rubber roofing membrane				A-029a	--
						A-029b	--
	10c	fiberboard				A-030a	--
						A-030b	--
	11	Rubber roofing adhesive	Throughout flat roof, eastern portion of building, seams, corners, various locations	100 SF	Flat roof, eastern portion of building		
	12	Rubber roofing patch adhesive - if present	Flat roof, eastern portion of building, patches (if present)	20 SF	Flat roof, eastern portion of building	A-031a	--
						A-031b	--
						A-031c	--
	13	Asphalt roof repair sheeting	North side of gambrel roof	~2,000 SF	Gambrel roof - north side		
Interior	14	Celotex board	Rooms 6 (loose panels), 10 (walls of closet)	100 SF	Room 6, 10	A-002a-R10	--
						A-002b-R06	--
	15	Thin wall panels	Room 10, 16	~700 SF	Room 10, 16	A-003a-R10	--
						A-003b-R16	--
	16	Ceiling panels, if not wood/plywood	Room 17 (gym)	~6,000 SF	Room 17	A-032a	--
						A-032b	--
	17	Insulation, if any, behind ceiling panels	Room 17 (gym)	~6,000 SF	Room 17		
	18	Wood paneling - backing paper	Room 5	480 SF	Room 5		
	19	Black paper (L side of middle window below sill)	Room 5, behind wood paneling (observed in gap between window trim and paneling)	Up to 480 SF	Room 5		

Table 2-3
Asbestos Sample Results
St. Johnsbury Armory
St. Johnsbury Vermont
Page 2 of 3

Medium/ Area	Material ID	Material & Description	Material Location(s)	Quantity	Recommended Sample Locations	KGSNE Sample ID	Asbestos Percent Type
Interior	20	Drywall	Walls, ceilings, in-fill panels, around ductwork. Throughout building. Sometimes multiple layers. Includes rooms: 3, 6, 7, 12, 13, 14, 17, 18, 20, 21, 25, 26, 23/24 hallway, 27/bathroom hallway, 28, 30-37 hallway; 30, 31, 32, 33, 34, 35, 36, 37, basement stairs	~6,400 SF	Rooms 3, 7, 12, 14, 18, 21, 34 (2 samples in each room)	A-017a-R03	--
						A-017b-R03	--
						A-039a-R07	--
						A-039b-R07	--
						A-040a-R12	--
						A-040b-R12	--
						A-041a-R14	--
						A-041b-R14	--
						A-042a-R18	--
						A-042b-R18	--
						A-043a-R21	--
						A-043b-R21	--
						A-044a-R34	--
						A-044b-R34	--
	21	Joint compound	Rooms 6, 7, 12, 13, 14, 26, basement stair landing (where drywall is painted)	~900 SF	Room 6, 7, 14	A-020a-R06	2% Chrysotile
						A-020b-R06	Positve Stop
						A-035a-R07	2% Chrysotile
						A-035b-R07	Positve Stop
						A-036a-R12	--
						A-036b-R12	--
						A-037a-R14	--
						A-037b-R14	--
						A-038a-R28	--
						A-038b-R28	--
	22	Joint compound	Room 3 (patch)	5 SF	Room 3 (all samples)		
	23	Sprinkler fitting thread sealant	Room 20, 21, 26 (closet)	<1 SF, several	Room 20, 21	A-012a-R20	--
						A-012b-R21	--
	24	Beige mastic	Room 13, 14, on wood floor	284 SF	Room 13, 14	A-014a-R13	--
						A-014b-R14	--
	25	White sub-floor plaster-like filler	Room 14, under wood floor	Max 230 SF	Room 14	A-005a-R14	--
						A-005b-R14	--
	26	Carpet mastic	Room 12, remnant fibers on wood floor	Max 360 SF	Room 12	A-015a-R12	--
						A-015b-R12	--
	27	Yellow mastic	Room 22, 27, 30-37, on concrete	~3,900 SF	Room 22, 27	A-001a-R22	--
						A-001b-R27	--
	28	Black mastic	Room 18, on underside of VFT	340 SF	Room 18	A-013a-R18	10% Chrysotile
						A-013b-R18	Positive Stop
	29	Leveling compound	Room 27, 34	80 SF	Room 27, 34	A-011a-R34	--
						A-011b-R27	--
						A-011c-R27	--
	30	Ceramic Tile thinset	Room 23, floor	100 SF	Room 23	A-010a-R23	--
						A-010b-R23	--
	31	Ceramic Tile grout	Room 23, floor	100 SF	Room 23	A-004a-R23	--
						A-004b-R23	--
	32	Ceramic Tile	Room 23, floor	100 SF	Room 23	A-009a-R23	--
						A-009b-R23	--
		Materials, if any, beneath Ceramic Tile	Room 23, floor	100 SF	Room 23		
	33	Gray battleship linoleum	Room 15	75 SF	Room 15	A-007a-R15	--
						A-007b-R15	--
		Brown mastic assoc. with old "Battleship" linoleum				A-008a-R15	--
						A-008b-R15	--

Table 2-3
Asbestos Sample Results
St. Johnsbury Armory
St. Johnsbury Vermont

Medium/ Area	Material ID	Material & Description	Material Location(s)	Quantity	Recommended Sample Locations	KGSNE Sample ID	Asbestos Percent Type
Exterior		Foundation Waterproofing	Exterior of foundation	Unknown	Exterior of foundation		
		Materials behind brick façade, if any (paper, mastic, insulation)	Behind brick façade	Unknown	3 samples of each identified material		
Additional KGSNE Samples	N/A	Gray adhesive associated with brown, faux wood wall paneling	Behind wall panneling in Room 5		Room 5	A-006a-R5	5% Chrysotile
						A-006b-R5	Positive Stop
						A-006c-R5	Positive Stop
	N/A	Brick mortar	Exterior on all sides		N/A	A-018a-N	--
						A-018b-W	--
						A-018c-S	--
	N/A	Concrete Slab in basement	N/A		Room 32	A-019a-R32[1]	--
					Room 37	A-019b-R37	--
					Room 28	A-019c-R28	--
	N/A	Silver paint associated with metal roofing; Reference Material #3	Exterior; Southwest loading dock		N/A	A-022a	3% Chrysotile
						A-022b	Positive Stop
						A-022c	Positive Stop
	N/A	Gray caulking on east facing window of patch roof; Reference Material #8 & 9	Exterior		N/A	A-033a	--
						A-033b	--
	N/A	Built up roofing under flat roof (#12)	Exterior		N/A	A-034a	2% Chrysotile
						A-034b	Positive Stop

Notes:
1. Sample was labeled A-019a-R23 in the field but was collected from Room 32.
Material IDs and Room numbers from Atlas Technical Consultants *Workplan for Additional Hazardous Building Materials Sampling*, 2023
LF = linear feet
SF = square feet
'--' = indicates the results for that sample were non-detect.
Red shading indicates the material did not exist

Table 2-4
PCB Bulk Material Sample Results
St. Johnsbury Armory
St. Johnsbury Vermont

KGSNE Sample ID	Material Type / Material ID	Material Description	Material Location	Quantity of Material	Location(s) of Samples	Arolclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total Aroclors
	Caulk / #1	Caulk bead – characteristics unknown	Exterior - Between back edge of soffit and brick wall; north and south sides of building; a portion is hanging down on north side	70 LF	North side of building										
				70 LF	South side of building										
P-275-Ex	Caulk / #2	White	Exterior – Roofline intersection (sloping portion) between east and west portions of building, at top of metal flashing and in joint between roof and wall.	30 LF	North side of building	<0.70	<0.70	<0.70	<0.70	<0.70	5.9	<0.70	<0.70	<0.70	5.9
P-276-Ex						<3.6	<3.6	<3.6	<3.6	<3.6	17	<3.6	<3.6	<3.6	17
P-277-Ex						<3.7	<3.7	<3.7	<3.7	<3.7	10	<3.7	<3.7	<3.7	10
P-278-Ex	Caulk / #3	White	Exterior – Small roof over southwest loading ramp roofline intersection with brick wall, at top of metal flashing.	10 LF	Southwest side of building over loading ramp	<0.77	<0.77	<0.77	<0.77	<0.77	1.4	<0.77	<0.77	<0.77	1.4
P-279-Ex						<0.76	<0.76	<0.76	<0.76	<0.76	1.6	<0.76	<0.76	<0.76	1.6
P-280-Ex						<0.78	<0.78	<0.78	<0.78	<0.78	<0.78	<0.78	<0.78	<0.78	-
	Caulk (if present) / #4	Characteristics Unknown	Exterior – Small roof over central steps to basement; at roofline intersection with brick wall.	15 LF	Small roof over north central stair to basement										
P-281-Ex	Caulk / #5	White	Chimney – Copper Flashing – along top edge	1 LF	Chimney	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	-
P-282-Ex						<0.73	<0.73	<0.73	<0.73	<0.73	0.8	<0.73	<0.73	<0.73	0.8
P-283-Ex						<0.71	<0.71	<0.71	<0.71	<0.71	<0.71	<0.71	<0.71	<0.71	-
P-284-R6	Celotex board / #14	Brown fibrous board	Room 6 (loose panels), Room 10 (walls of closet). Collect samples of unpainted material.	100 SF	Room 6 (loose panels), Room 10 (walls of closet)	<0.89	<0.89	<0.89	<0.89	<0.89	2.6	<0.89	<0.89	<0.89	2.6
P-285-R6						<0.98	<0.98	<0.98	<0.98	<0.98	2.2 J	<0.98	<0.98	<0.98	2.2
P-286-R10						<0.90	<0.90	<0.90	<0.90	<0.90	1.6	<0.90	<0.90	<0.90	1.6
	Black Paper / #19	Black	Room 5, behind wood paneling? (observed in gap between window trim and paneling)	Up to 480 SF	Room 5										
P-287-R13	Beige Mastic / #24	Beige	Room 13, 14, on wood floor	284 SF	Room 13, 14	<0.96	<0.96	<0.96	<0.96	<0.96	4.3	<0.96	<0.96	<0.96	4.3
P-288-R13						<0.88	<0.88	<0.88	<0.88	<0.88	2.2	<0.88	<0.88	<0.88	2.2
P-289-R14						<2.0	<2.0	<2.0	<2.0	<2.0	11	<2.0	<2.0	<2.0	11
P-290-R12	Carpet Mastic / #26	Remnant carpet mastic	Room 12, remnant carpet fibers on wood floor	Up to 360 SF	Room 12	<0.93	<0.93	<0.93	<0.93	<0.93	3.3	<0.93	<0.93	<0.93	3.3
P-291-R12						<0.74	<0.74	<0.74	<0.74	<0.74	2.7	<0.74	<0.74	<0.74	2.7
P-292-R12						<0.97	<0.97	<0.97	<0.97	<0.97	3.4	<0.97	<0.97	<0.97	3.4
P-293-R18	Black Mastic / #28	Black, VCT mastic	Room 18, on underside of VFT	340 SF	Room 18	<970	<970	<970	<970	<970	5,700	<970	<970	<970	5,700
P-294-R18						<800	<800	<800	<800	<800	4,600	<800	<800	<800	4,600
P-295-R18						<960	<960	<960	<960	<960	6,800	<960	<960	<960	6,800
P-296-R15	Old Linoleum Mastic / #33	Unknown	Room 15, may be present beneath old “Battleship” linoleum	75 SF	Room 15	<0.93	<0.93	<0.93	<0.93	<0.93	7.6	<0.93	<0.93	<0.93	7.6
P-297-R15						<0.93	<0.93	<0.93	<0.93	<0.93	13	<0.93	<0.93	<0.93	13
P-298-R15						<0.90	<0.90	<0.90	<0.90	<0.90	12	<0.90	<0.90	<0.90	12

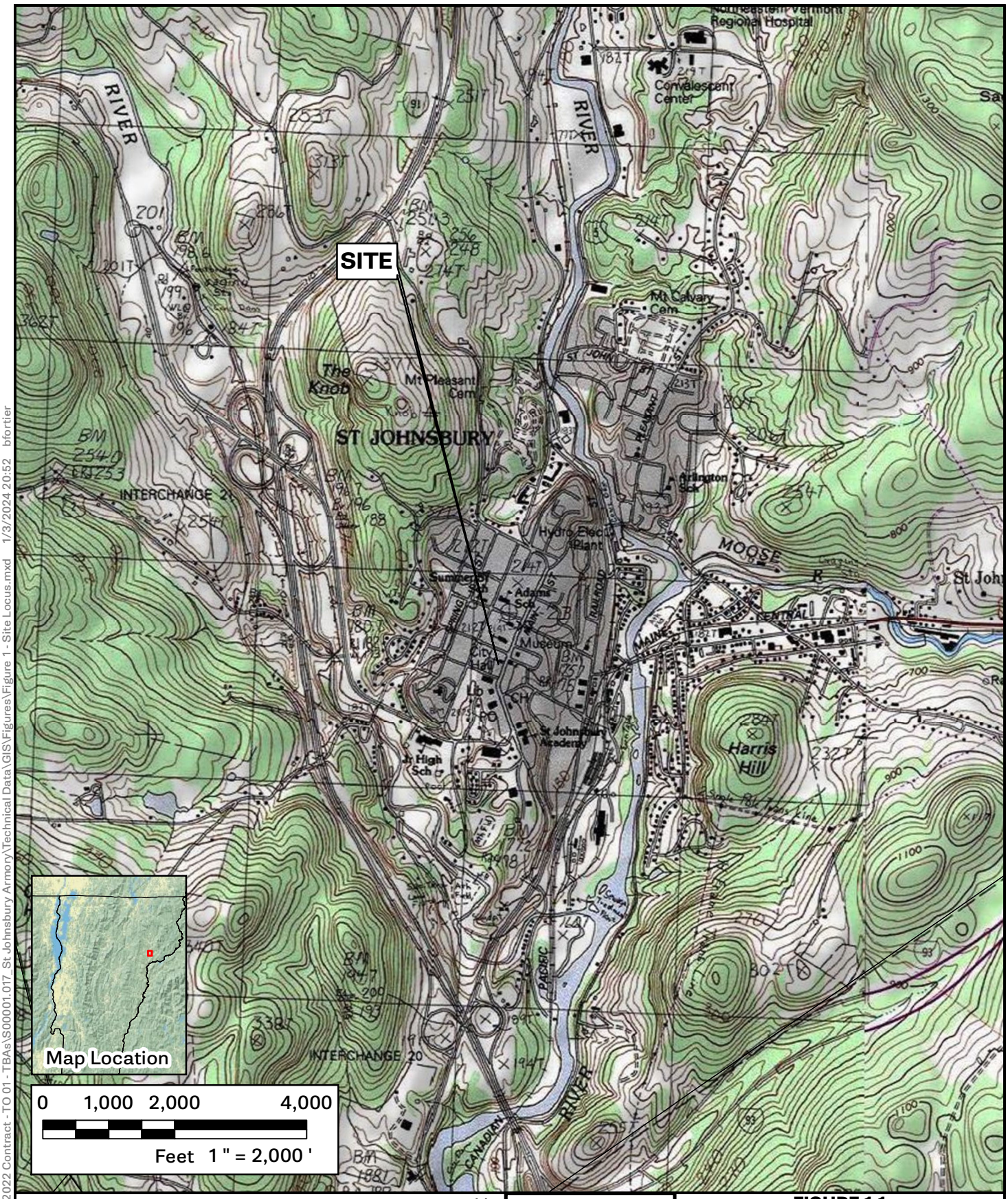
Notes:
Material IDs and Room numbers from Atlas Technical Consultants *Workplan for Additional Hazardous Building Materials Sampling* , 2023
LF = linear feet
SF = square feet
All results reported in ppm
Red shading indicates the material did not exist
Tan shading indicates the material contains a total PCB concentration over 50 ppm
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the samples.

Table 2-5
PCB Soil Sample Results
St. Johnsbury Armory
St. Johnsbury Vermont

Boring ID	KGSNE Sample ID	Depth (Ft. bgs)	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Aroclor-1262	Aroclor-1268	Total PCBs
SUBSLAB SOIL SAMPLES												
P-269	P-269-R23SS	0	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	--
P-270	P-270-R27SS	0	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	--
P-271	P-271-R25ASS	0	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	--
P-272	P-272-R21SS	0	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	--
P-273	P-273-R31SS	0	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	--
EXTERIOR SOIL SAMPLES												
P-305-Ex	P-305-Ex-000.5	0 - 0.5	<0.084	<0.084	<0.084	<0.084	<0.084	<0.084	<0.084	<0.084	<0.084	--
P-306-Ex	P-306-Ex-000.5	0 - 0.5	<0.078	<0.078	<0.078	<0.078	<0.078	<0.078	<0.078	<0.078	<0.078	--
P-307-Ex	P-307-Ex-000.5	0 - 0.5	<0.086	<0.086	<0.086	<0.086	<0.086	<0.086	<0.086	<0.086	<0.086	--
P-308-Ex	P-308-Ex-000.5	0 - 0.5	<0.090	<0.090	<0.090	<0.090	<0.090	0.22	<0.090	<0.090	<0.090	0.22
	P-308-Ex-0.501	0.5 - 1	<0.084	<0.084	<0.084	<0.084	<0.084	<0.084	<0.084	<0.084	<0.084	--
P-309-Ex	P-309-Ex-000.5	0 - 0.5	<0.084	<0.084	<0.084	<0.084	<0.084	<0.084	<0.084	<0.084	<0.084	--
P-310-Ex	P-310-Ex-000.5	0 - 0.5	<0.081	<0.081	<0.081	<0.081	<0.081	<0.081	<0.081	<0.081	<0.081	--
P-311-Ex	P-311-Ex-000.5	0 - 0.5	<0.082	<0.082	<0.082	<0.082	<0.082	<0.082	<0.082	<0.082	<0.082	--
P-312-Ex	P-312-Ex-000.5	0 - 0.5	<0.084	<0.084	<0.084	<0.084	<0.084	<0.084	<0.084	<0.084	<0.084	--
P-313-Ex	P-313-Ex-000.5	0 - 0.5	<0.090	<0.090	<0.090	<0.090	<0.090	0.13	<0.090	<0.090	<0.090	0.13
	P-313-Ex-0.501	0.5 - 1	<0.083	<0.083	<0.083	<0.083	<0.083	0.15	<0.083	<0.083	<0.083	0.15
	P-313-Ex-0101.5	1 - 1.5	<0.088	<0.088	<0.088	<0.088	<0.088	<0.088	<0.088	<0.088	<0.088	--
P-314-Ex	P-314-Ex-000.5	0 - 0.5	<0.093	<0.093	<0.093	<0.093	<0.093	0.29 J	<0.093	<0.093	<0.093	0.29
	P-314-Ex-0.501	0.5-1	<0.087	<0.087	<0.087	<0.087	<0.087	0.10	<0.087	<0.087	<0.087	0.10
P-315-Ex	P-315-Ex-000.5	0 - 0.5	<0.45	<0.45	<0.45	<0.45	<0.45	1.3 J	3.1	<0.45	<0.45	4.4
	P-315-Ex-0.501	0.5 - 1	<0.085	<0.085	<0.085	<0.085	<0.085	<0.085	1.3	<0.085	<0.085	1.3
	P-315-Ex-0101.5	1 - 1.5	<0.087	<0.087	<0.087	<0.087	<0.087	<0.087	0.097	<0.087	<0.087	0.097
P-316-Ex	P-316-Ex-000.5	0 - 0.5	<0.090	<0.090	<0.090	<0.090	<0.090	0.32	<0.090	<0.090	<0.090	0.32
	P-316-Ex-0.501	0.5 - 1	<0.086	<0.086	<0.086	<0.086	<0.086	0.11	<0.086	<0.086	<0.086	0.11
P-317-Ex	P-317-Ex-000.5	0 - 0.5	<0.083	<0.083	<0.083	<0.083	<0.083	<0.083	<0.083	<0.083	<0.083	--
P-318-Ex	P-318-Ex-000.5	0 - 0.5	<0.089	<0.089	<0.089	<0.089	<0.089	<0.089	<0.089	<0.089	<0.089	--
P-319-Ex	P-319-Ex-000.5	0 - 0.5	<0.089	<0.089	<0.089	<0.089	<0.089	<0.089	<0.089	<0.089	<0.089	--
P-320-Ex	P-320-Ex-000.5	0 - 0.5	<0.086	<0.086	<0.086	<0.086	<0.086	<0.086	<0.086	<0.086	<0.086	--
P-321-Ex	P-321-Ex-000.5	0 - 0.5	<0.080	<0.080	<0.080	<0.080	<0.080	0.36	<0.080	<0.080	<0.080	0.36
	P-321-Ex-0.501	0.5 - 1	<0.083	<0.083	<0.083	<0.083	<0.083	0.20	<0.083	<0.083	<0.083	0.20
P-322-Ex	P-322-Ex-000.5	0 - 0.5	<0.085	<0.085	<0.085	<0.085	<0.085	<0.085	<0.085	<0.085	<0.085	--
P-323-Ex	P-323-Ex-000.5	0 - 0.5	<0.085	<0.085	<0.085	<0.085	<0.085	0.52	<0.085	<0.085	<0.085	0.52
	P-323-Ex-0.501	0.5 - 1	<0.083	<0.083	<0.083	<0.083	<0.083	0.23	<0.083	<0.083	<0.083	0.23
P-324-Ex	P-324-Ex-000.5	0 - 0.5	<0.083	<0.083	<0.083	<0.083	<0.083	<0.083	<0.083	<0.083	<0.083	--
P-325-Ex	P-325-Ex-000.5	0 - 0.5	<0.083	<0.083	<0.083	<0.083	<0.083	0.096	<0.083	<0.083	<0.083	--
P-326-Ex	P-326-Ex-000.5	0 - 0.5	<0.084	<0.084	<0.084	<0.084	<0.084	0.17	<0.084	<0.084	<0.084	0.17
	P-326-Ex-0.501	0.5 - 1	<0.082	<0.082	<0.082	<0.082	<0.082	<0.082	<0.082	<0.082	<0.082	--
P-327-Ex	P-327-Ex-000.5	0 - 0.5	<0.081	<0.081	<0.081	<0.081	<0.081	<0.081	<0.081	<0.081	<0.081	--
P-328-Ex	P-328-Ex-0606.5	6 - 6.5	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	--

Notes:
All results reported in ppm
The intervals at the end of the KGSNE Sample ID correspond to the depth interval, in feet (eg 000.5 corresponds to 0-0.5 interval)
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the samples.

FIGURES



USGS Topographic Map
St. Johnsbury Vermont
Revised 1983

N

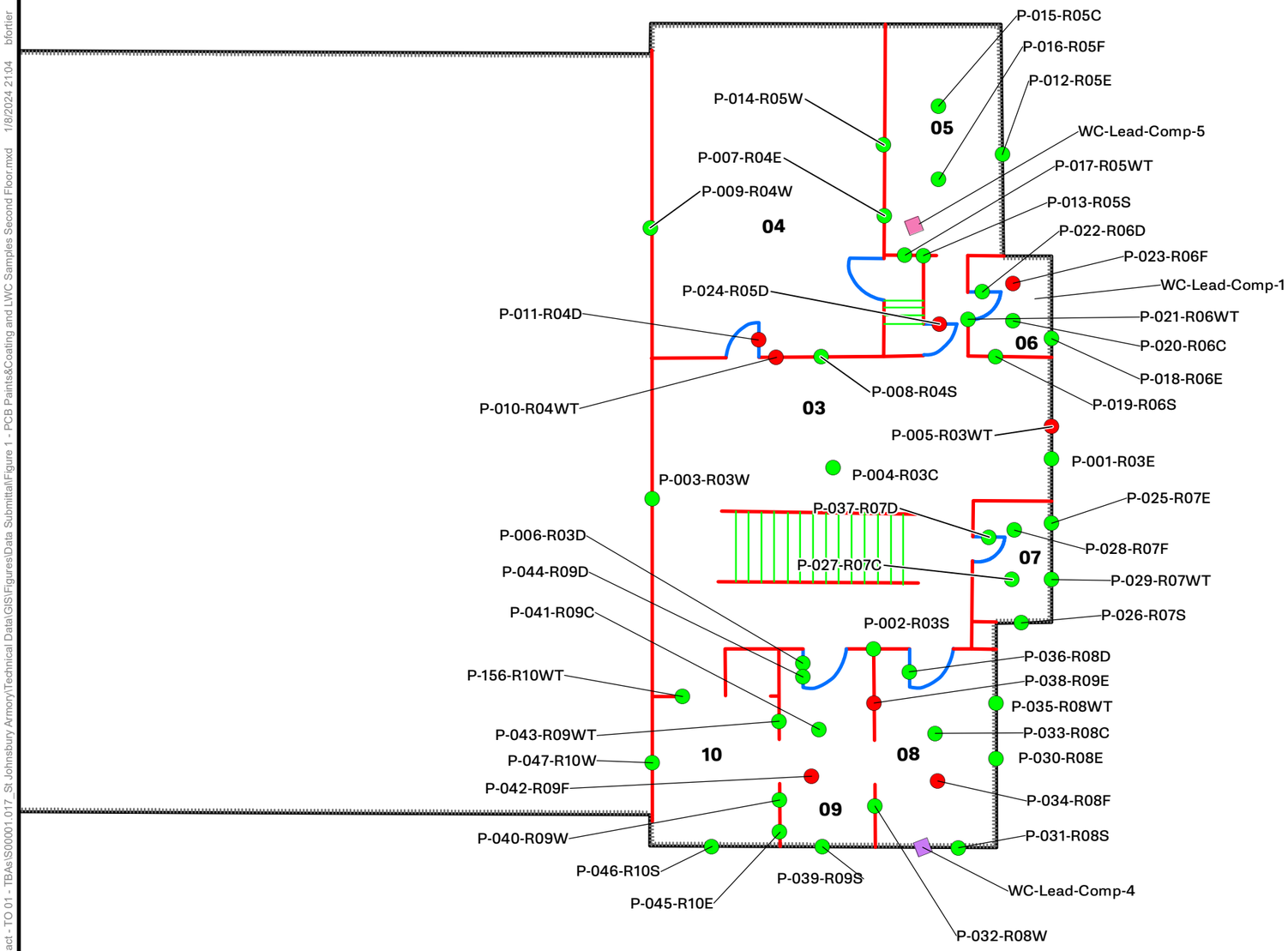
KGSNE

FIGURE 1-1

SITE LOCUS
ST JOHNSBURY ARMORY
1249 MAIN STREET
ST. JOHNSBURY VT

PREPARED BY: BF	CHECKED BY: TA
PROJECT NO. S00001.017	DATE: JANUARY 2024

J:\S00001.000-START 2022 Contract - TO 01 - TBAs\S00001.017_St Johnsbury Armory\Technical Data\GIS\Figures\Figure 1 - Site Locus.mxd 1/3/2024 20:52 bfortier



Notes:

1.Locations of site features depicted hereon are approximate and given for illustrative purposes only.

2. Room numbers derived from figures in Atlas Technical Consultants, Workplan for Additional Hazardous Building Materials Sampling, 2023. Numbers are shown in bold.

Legend

Lead Composite Samples

- WC-Lead-Comp-1
- WC-Lead-Comp-4
- WC-Lead-Comp-5

PCB Paints/Coating Samples

- Total PCBs < 50 ppm
- Total PCBs > 50 ppm
- Building Footprint

Building Layout

- 2nd Floor Door
- 2nd Floor Stairs
- 2nd Floor Wall

0 5 10 20

Feet
1 inch = 10 feet

N

KGSNE

FIGURE 2-1a

PCB PAINTS & COATINGS
AND LEAD COMPOSITE SAMPLES
SECOND FLOOR
ST. JOHNSBURY ARMORY
ST. JOHNSBURY, VERMONT

PREPARED BY: BF	CHECKED BY: TA
PROJECT NO. S00001.017	DATE: JANUARY 2024

J:\S00001.000-START 2022 Contract - TO 01 - TBAs\S00001.017_St Johnsbury Armory\Technical Data\GIS\Figures\Data Submittal\Figure 1 - PCB Paints&Coating and LWC Samples Second Floor.mxd 1/8/2024 21:04 bfortier

J:\S00001.000-START 2022 Contract - TO 01 - TBAs\S00001.017_St Johnsbury Armory\Technical Data\GIS\Figures\Data Submittal\Figure 2 - PCB Paints&Coating and LWC Samples First Floor.mxd 1/8/2024 12:33 bfortier

P-163-R14WDW
P-243-R12NDW
P-240-R13D
P-242-R12-CP
P-247-R12NP
P-232-R13F
P-213-R12CPB
P-216-R13CP
P-214-R12CDW
P-230-R13CWP
P-136-GN
P-233-R13E
P-225-R13S
13
P-145-EWP1
P-148-EPB1
P-151-EP1
P-218-R13WT
P-137-GFN
14
P-219-R14EDW
P-193-GC
12
P-227-R14EP
P-195-GC
P-206-R17W
P-249-R14WP
P-229-R14CDW
P-194-GC
P-251-R12EW
P-160-R14CWP
P-142-GFDG
P-244-R12EDW
P-208-R14CP
P-146-EWP2
P-149-EPB2
P-152-EP2
P-144-GFW
P-234-R12F
P-154-R14F
P-255-R14SP
P-141-GFC
P-162-R12SDW
P-226-R14SDW
P-205-R17W
P-164-R11WP
P-258-R11WDW
P-159-R14WT
P-199
P-201
P-202
P-228-R12WT
P-200
P-157-R11F
11
P-254-R11CDW
17
P-250-R11D
P-138-GFE
P-231-R11CP
P-158-R11EDW
P-140-GFW
P-248-R11WT
P-223-S12N
P-212-R11EP
P-217-R11SDW
WC-Lead-Comp-5
P-143-GFLG
P-274-S12R
15
P-253-R15D
P-220-S12C
P-265-R17EC1
P-267-R17EC3
P-259-R15E
P-147-EWP3
P-150-EPB3
P-153-EP3
P-211-R15CP
P-139-GFS
P-221-R15WT
P-204-R17W
P-198-GC
16
P-215-R15CPW
P-155-S12F
P-236-R15S
P-197-GC
WC-Lead-Comp-1
P-196-GC
P-257-S12S
P-165-R16D
WC-Lead-Comp-4
P-222-R16NP
P-134-R16EW
P-266-R17EC2
P-268-R17EC4
P-210-R16NWP
P-133-R16EP
P-252-R17S
P-207-R16C
P-135-R16WT
P-161-R16SWP
P-209-R16SP

Notes:

1.Locations of site features depicted hereon are approximate and given for illustrative purposes only.

2. Room numbers derived from figures in Atlas Technical Consultants, Workplan for Additional Hazardous Building Materials Sampling, 2023. Numbers are shown in bold.

Legend

PCB Paints/Coating Samples

- Total PCBs < 50 ppm
- Total PCBs > 50 ppm

Lead Composite Samples

- WC-Lead-Comp-1
- WC-Lead-Comp-4
- WC-Lead-Comp-5
- Building Footprint

Building Layout

- 1st Floor Door
- 1st Floor Stairs
- 1st Floor Wall

0 5 10 20
Feet
1 inch = 10 feet

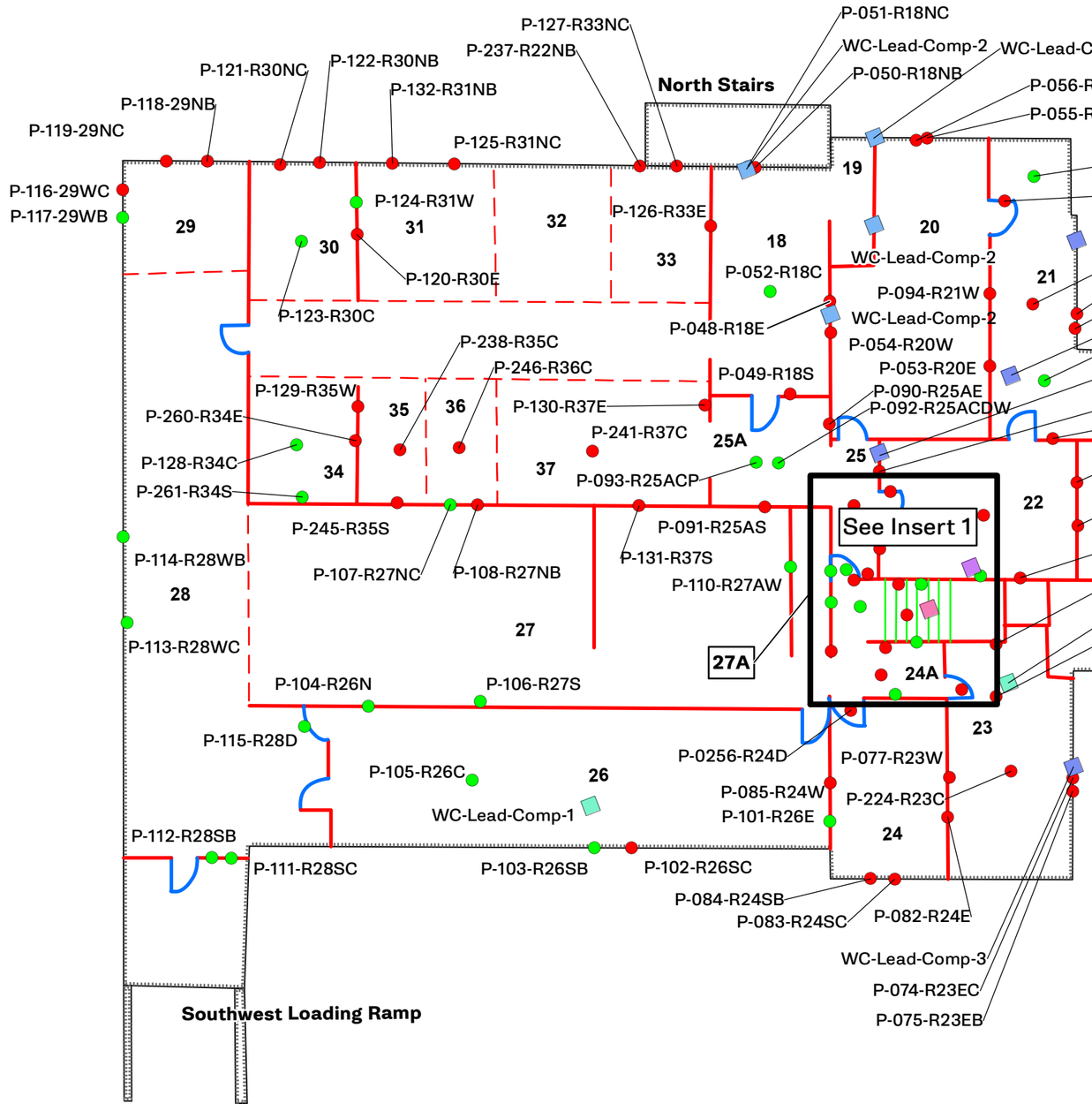
N

KGSNE

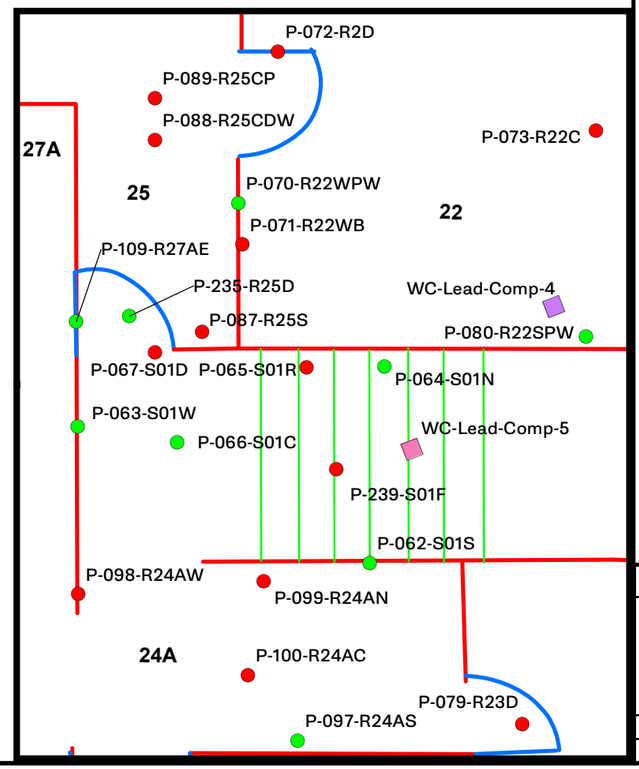
FIGURE 2-1b

PCB PAINTS & COATINGS
AND LEAD COMPOSITE SAMPLES
FIRST FLOOR
ST. JOHNSBURY ARMORY
ST. JOHNSBURY, VERMONT

PREPARED BY: BF	CHECKED BY: TA
PROJECT NO. S00001.017	DATE: JANUARY 2024



Insert 1



Notes:

1. Locations of site features depicted hereon are approximate and given for illustrative purposes only.

2. Room numbers derived from figures in Atlas Technical Consultants, Workplan for Additional Hazardous Building Materials Sampling, 2023. Numbers are shown in bold.

Legend

PCB Paints/Coating Samples

- Total PCBs < 50 ppm
- Total PCBs > 50 ppm

Lead Composite Samples

- WC-Lead-Comp-1
- WC-Lead-Comp-2
- WC-Lead-Comp-3
- WC-Lead-Comp-4
- WC-Lead-Comp-5
- Basement Footprint

Building Layout

- Basement Door
- Basement Stairs
- Basement Wall
- Former Basement Wall

0 7.5 15 30

Feet

1 inch = 15 feet

N

KGSNE

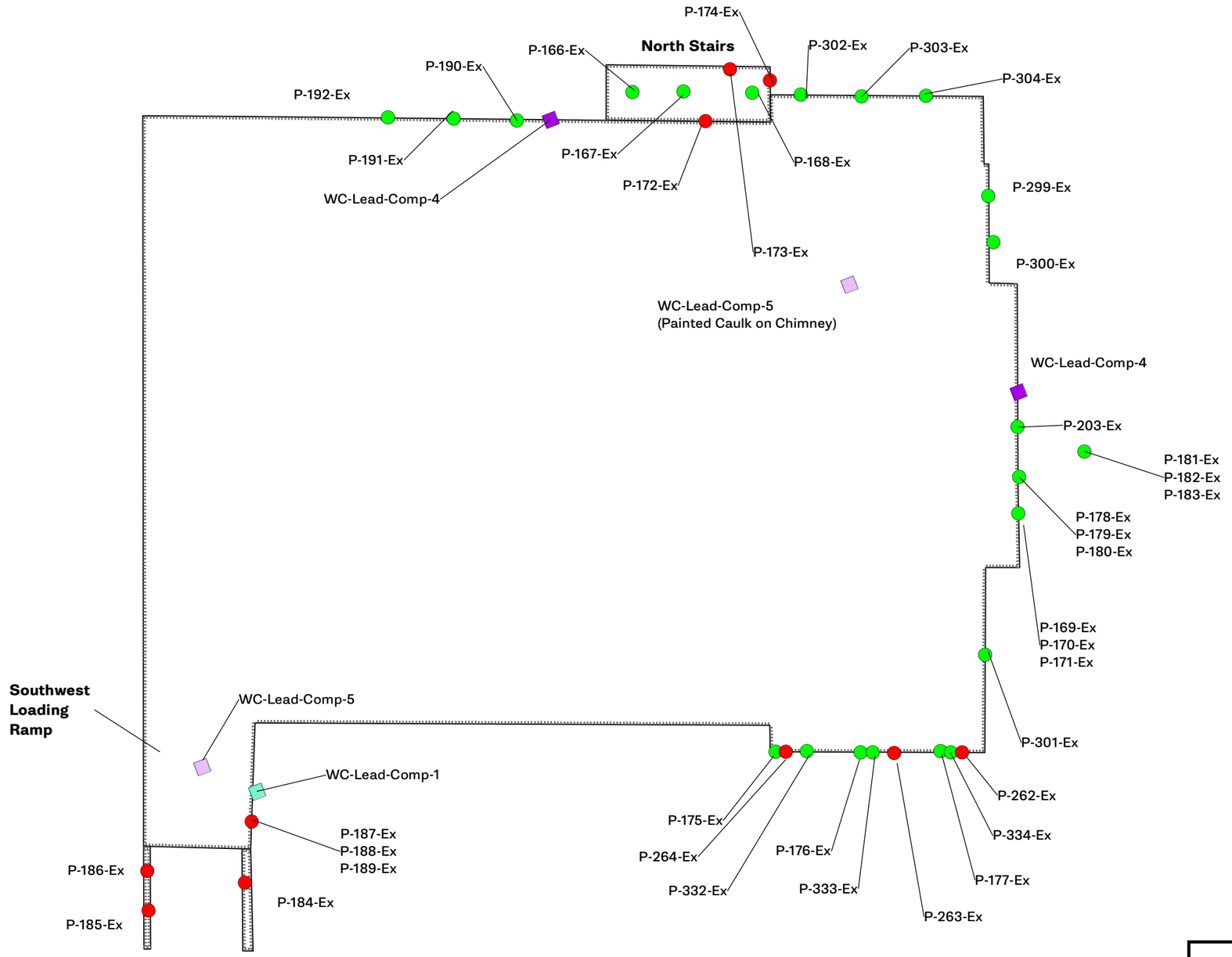
FIGURE 2-1c

PCB PAINTS & COATINGS
AND LEAD COMPOSITE SAMPLES
BASEMENT
ST. JOHNSBURY ARMORY
ST. JOHNSBURY, VERMONT

PREPARED BY: BF	CHECKED BY: TA
PROJECT NO. S00001.017	DATE: JANUARY 2024

J:\S00001.000-START 2022 Contract - TO 01 - TBAs\S00001.017_St Johnsbury Armory\Technical Data\GIS\Figures\Data Submittal\Figure 3 - PCB Paints&Coating and LWC Samples Basement.mxd 1/8/2024 12:59 bfortier

J:\S00001.000-START 2022 Contract - TO 01 - TBAs\S00001.017_St Johnsbury Armory\Technical Data\GIS\Figures\Data Submittal\Figure 4 - PCB Paints&Coating and LWC Samples Roof and Exterior.mxd 1/3/2024 21:05 bfortier



Notes:

1. Locations of site features depicted hereon are approximate and given for illustrative purposes only.

Legend

PCB Paints/Coating Samples

- Total PCBs > 50 ppm
- Total PCBs < 50 ppm

Lead Composite Samples

- WC-Lead-Comp-1
- WC-Lead-Comp-4
- WC-Lead-Comp-5
- Basement Footprint

0 7.5 15 30

Feet

1 inch = 15 feet

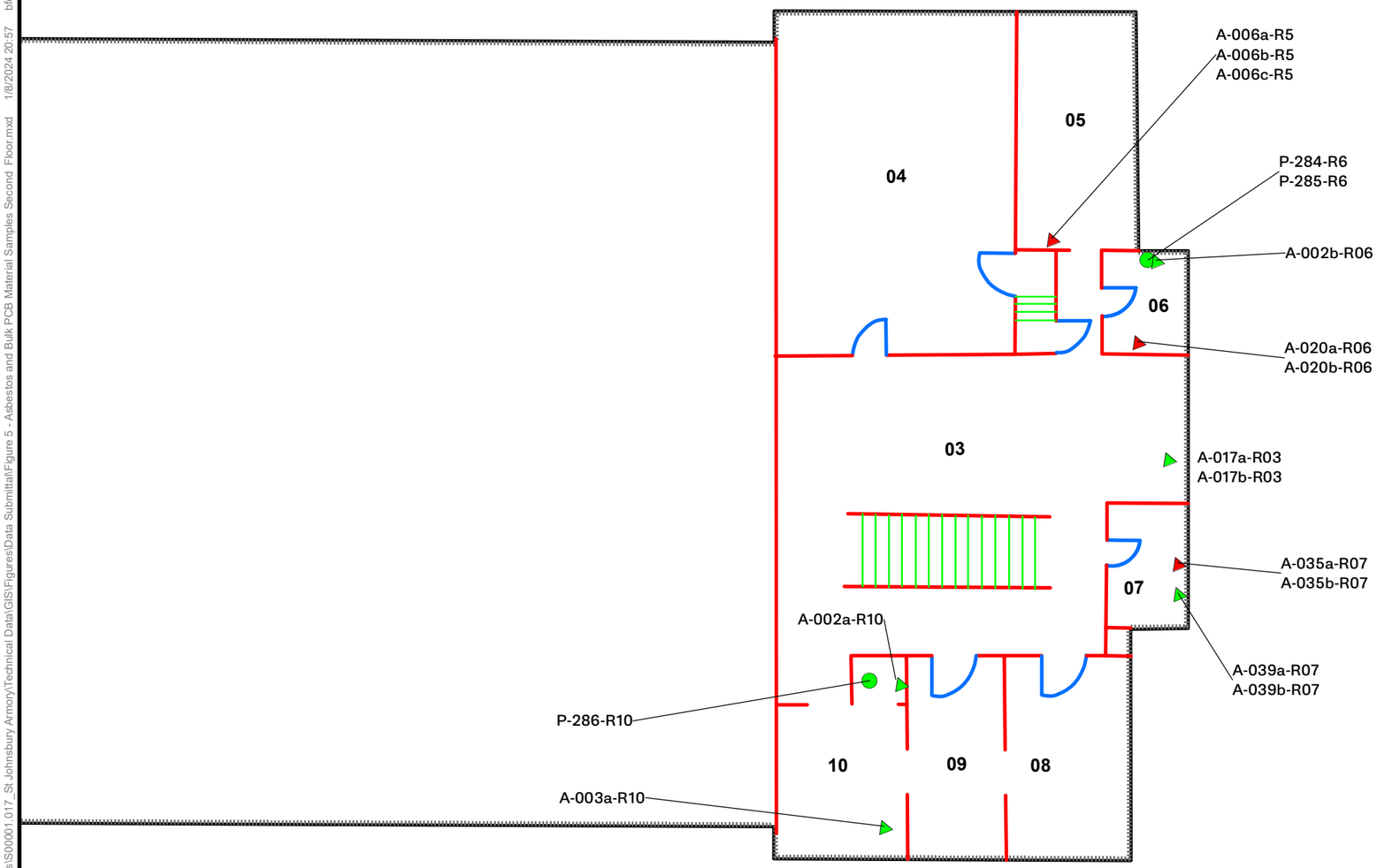
N

KGSNE

FIGURE 2-1d

PCB PAINTS & COATINGS
AND LEAD COMPOSITE SAMPLES
EXTERIOR AND ROOF
ST. JOHNSBURY ARMORY
ST. JOHNSBURY, VERMONT

PREPARED BY: BF	CHECKED BY: TA
PROJECT NO. S00001.017	DATE: JANUARY 2024



Notes:

1.Locations of site features depicted hereon are approximate and given for illustrative purposes only.

2. Room numbers derived from figures in Atlas Technical Consultants, Workplan for Additional Hazardous Building Materials Sampling, 2023. Numbers are shown in bold.

Legend

Asbestos Samples

- Non-Asbestos Containing Material
- Asbestos Containing Material

Bulk Material PCB Samples

- Total PCBs < 50 ppm

Building Footprint

Building Layout

- 2nd Floor Door
- 2nd Floor Stairs
- 2nd Floor Wall

0 5 10 20

Feet
1 inch = 10 feet

N

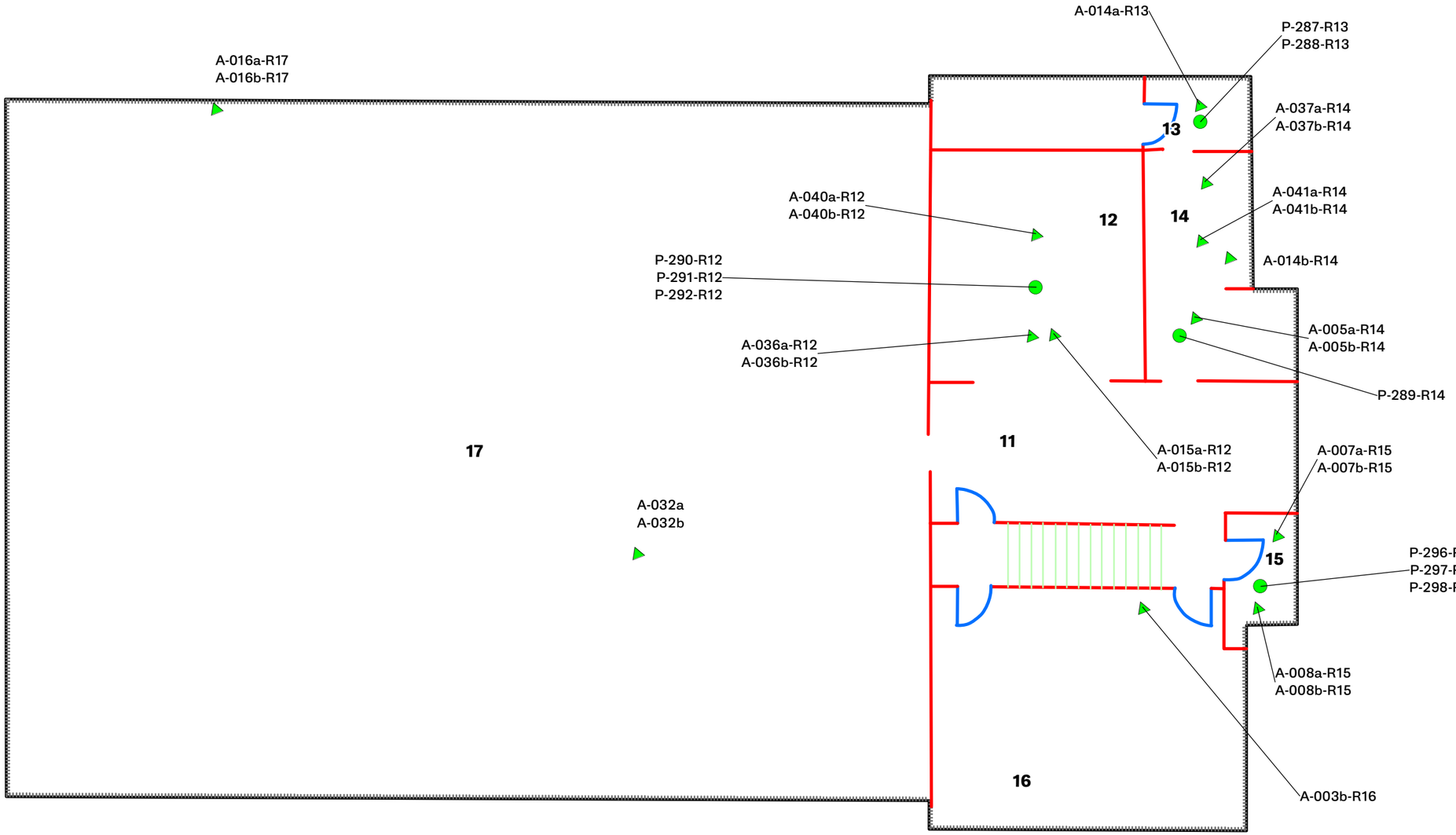
KGSNE

FIGURE 2-2a

ASBESTOS AND PCB BULK MATERIAL SAMPLES
SECOND FLOOR
ST. JOHNSBURY ARMORY
ST. JOHNSBURY, VERMONT

PREPARED BY: BF	CHECKED BY: TA
PROJECT NO. S00001.017	DATE: JANUARY 2024

J:\S00001.000-START 2022 Contract - TO 01 - TBAs\S00001.017_St Johnsbury Armory\Technical Data\GIS\Figures\Data Submittal\Figure 5 - Asbestos and Bulk PCB Material Samples Second Floor.mxd 1/8/2024 20:57 bfortier



Notes:

1.Locations of site features depicted hereon are approximate and given for illustrative purposes only.

2. Room numbers derived from figures in Atlas Technical Consultants, Workplan for Additional Hazardous Building Materials Sampling, 2023. Numbers are shown in bold.

Legend

Asbestos Samples

- Non-Asbestos Containing Material

Bulk Material PCB Samples

- Total PCBs < 50 ppm
- Building Footprint

Building Layout

- 1st Floor Door
- 1st Floor Stairs
- 1st Floor Wall

0 5 10 20

Feet
1 inch = 10 feet

N

KGSNE

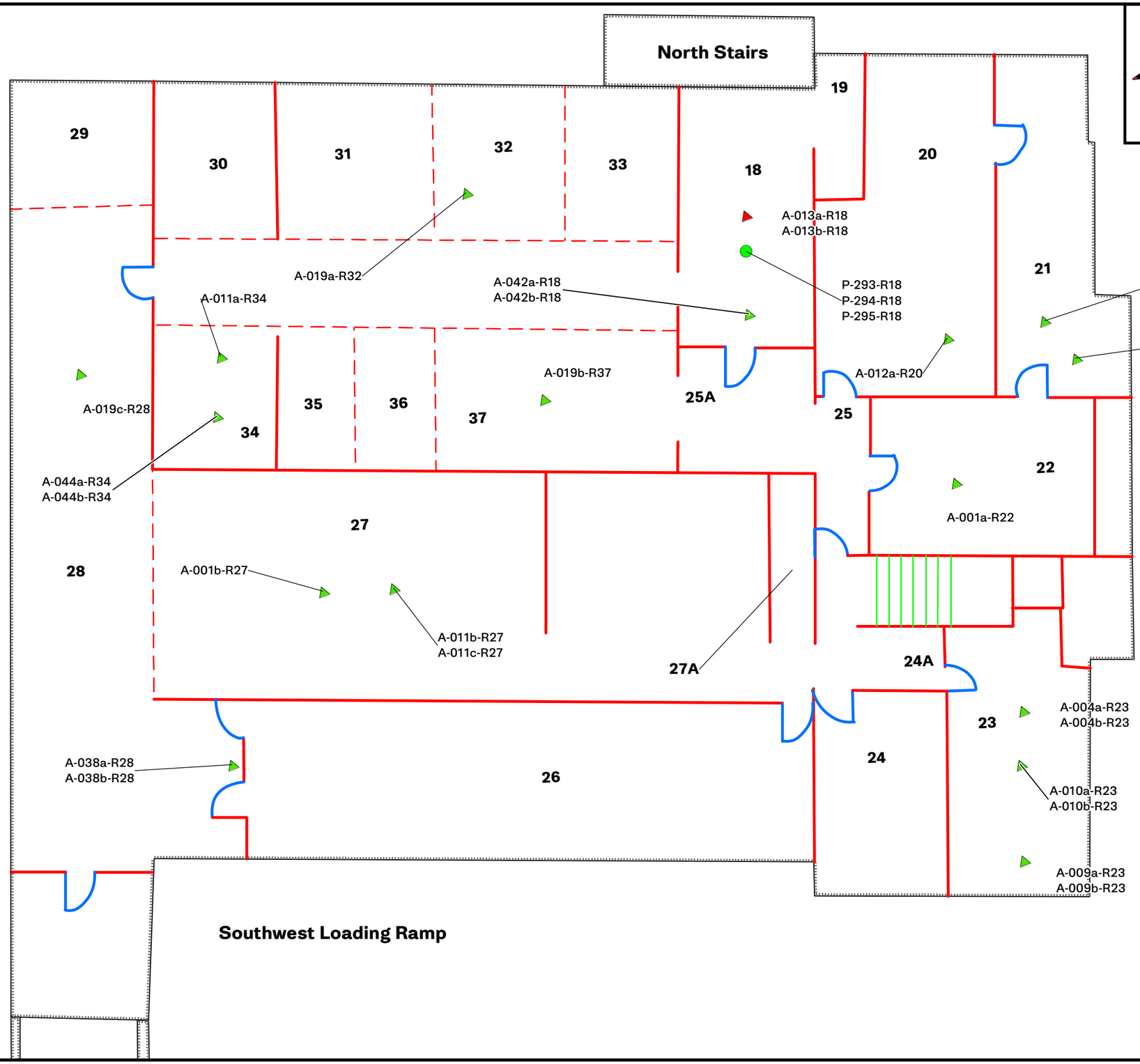
FIGURE 2-2b

ASBESTOS AND PCB BULK MATERIAL SAMPLES
FIRST FLOOR
ST. JOHNSBURY ARMORY
ST. JOHNSBURY, VERMONT

PREPARED BY: BF	CHECKED BY: TA
PROJECT NO. S00001.017	DATE: JANUARY 2024

J:\S00001.000-START 2022 Contract - TO 01 - TBAs\S00001.017_St Johnsbury Armory\Technical Data\GIS\Figures\Data Submittal\Figure 6 - Asbestos and Bulk PCB Material Samples First Floor.mxd 1/3/2024 21:08 bfortier

J:\S00001.000-START 2022 Contract - TO 01 - TBAs\S00001.017_St Johnsbury Armory\Technical Data\GIS\Figures\Data Submittal\Figure 7 - Asbestos and Bulk PCB Material Samples Basement.mxd 1/8/2024 14:15 bfortier



KGSNE

Notes:

1. Locations of site features depicted hereon are approximate and given for illustrative purposes only.

2. Room numbers derived from figures in Atlas Technical Consultants, Workplan for Additional Hazardous Building Materials Sampling, 2023. Numbers are shown in bold.

Legend

Asbestos Samples

- Non-Asbestos Containing Material
- Asbestos Containing Material

Bulk Material PCB Samples

- Total PCBs < 50 ppm

Building Layout

- Basement Footprint
- Basement Door
- Basement Stairs
- Basement Wall
- Former Basement Wall

0 5 10 20

Feet

1 inch = 10 feet

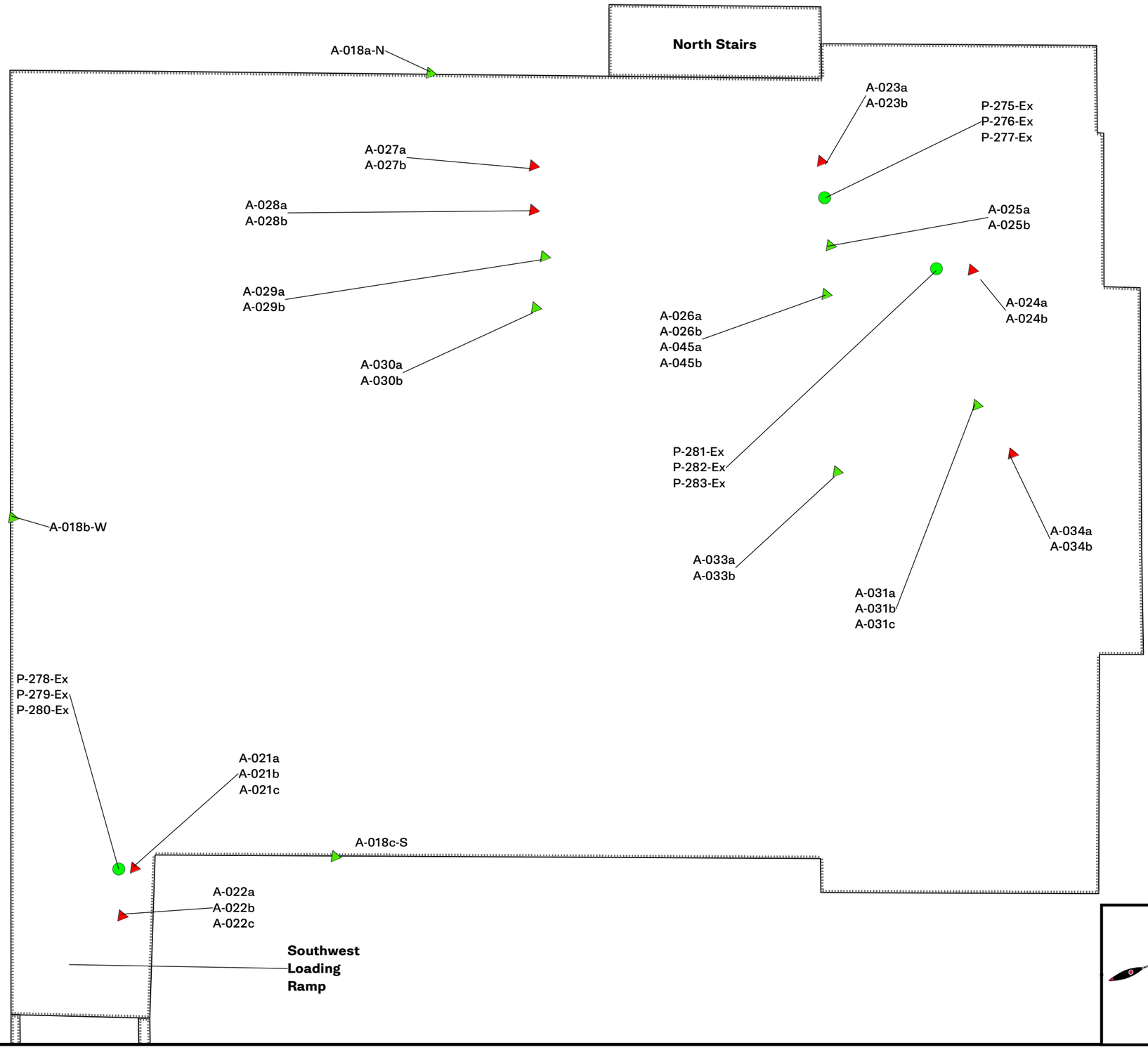
N

FIGURE 2-2c

ASBESTOS AND PCB BULK MATERIAL SAMPLES BASEMENT
ST. JOHNSBURY ARMORY
ST. JOHNSBURY, VERMONT

PREPARED BY: BF	CHECKED BY: TA
PROJECT NO. S00001.017	DATE: JANUARY 2024

J:\S00001.000-START 2022 Contract - TO 01 - TBAs\S00001.017_St Johnsbury Armory\Technical Data\GIS\Figures\Data Submittal\Figure 8 - Asbesols and Bulk PCB Material Samples Roof and Exterior.mxd 1/8/2024 14:26 bfortier



Notes:

1. Locations of site features depicted hereon are approximate and given for illustrative purposes only.

Legend

Bulk Material PCB Samples

- Total PCBs > 50 ppm
- Total PCBs < 50 ppm

Asbestos Samples

- Non-Asbestos Containing Material
- Asbestos Containing Material
- Building Footprint

0 5 10 20

Feet

1 inch = 10 feet

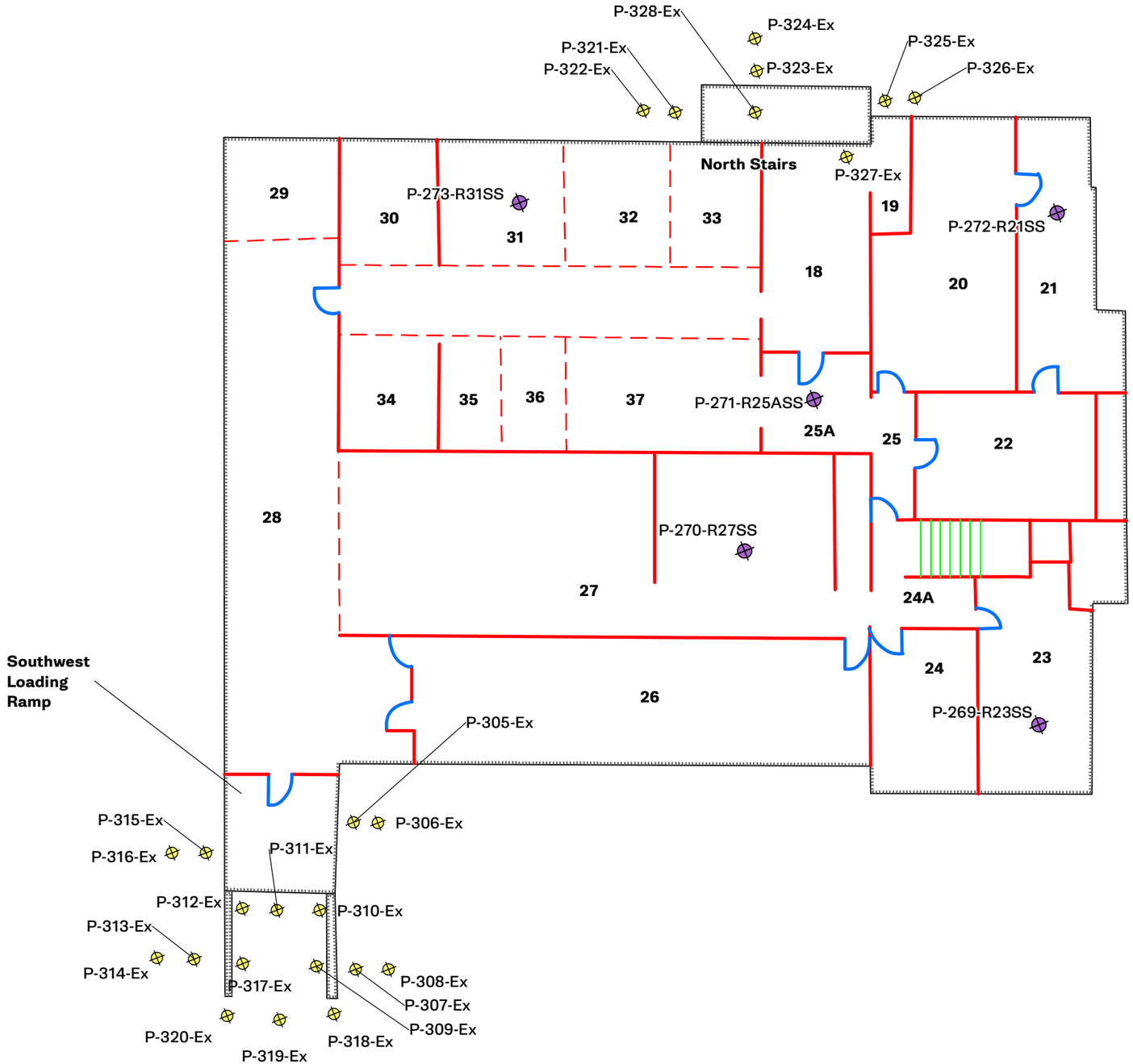
N

KGSNE

FIGURE 2-2d

ASBESTOS AND PCB BULK MATERIAL SAMPLES EXTERIOR AND ROOF ST. JOHNSBURY ARMORY ST. JOHNSBURY, VERMONT

PREPARED BY: BF	CHECKED BY: TA
PROJECT NO. S00001.017	DATE: JANUARY 2024



Notes:

1. Locations of site features depicted hereon are approximate and given for illustrative purposes only.

2. Room numbers derived from figures in Atlas Technical Consultants, Workplan for Additional Hazardous Building Materials Sampling, 2023. Numbers are shown in bold.

Legend

- Soil Borings
- Sub-slab locations
- Basement Footprint

Building Layout

- Basement Door
- Basement Stairs
- Basement Wall
- Former Basement Wall

0 7.5 15 30

Feet

1 inch = 15 feet

N

KGSNE

FIGURE 2-3

PCB SOIL SAMPLE LOCATIONS
ST. JOHNSBURY ARMORY
ST. JOHNSBURY, VERMONT

PREPARED BY: BF	CHECKED BY: TA
PROJECT NO. S00001.017	DATE: JANUARY 2024

J:\S00001.000-START 2022 Contract - TO 01 - TBAs\S00001.017_St Johnsbury Armory\Technical Data\GIS\Figures\Data Submittal\Figure 9 - Soil Samples.mxd 1/3/2024 21:12 bfortier

APPENDICES

APPENDIX A

INSPECTION REPORT

For

Asbestos Containing Materials
Polychlorinated Biphenyls (PCB's)

of

St. Johnsbury Armory
1249 Main Street
St. Johnsbury, Vermont

Prepared for:

Mr. Clarence "Tim" Andrews
Nobis Engineering, Inc.
Nobis Group
585 Middlesex Street
Lowell Massachusetts 01851

November 21, 2023

KDAI Project No: -001

KD ASSOCIATES, INC.
Environmental Consulting & Contracting
41 IDX Drive, Suite 209, South Burlington, Vermont 05403-7757 (802) 862-7490

CONTENTS

INTRODUCTION 1

EXCLUSIONS 3

1.0 ASBESTOS CONTAINING BUILDING MATERIALS 4

1.1 SCOPE OF WORK
1.2 FINDINGS
Table 1 • List of Materials Testing Positive for Asbestos
Table 2 • List of Materials Testing Negative for Asbestos
1.3 ASBESTOS CONCLUSIONS

2.0 POLYCHLORINATED BIPHENYLS (PCBS)

2.1 SCOPE OF WORK
2.2 FINDINGS
Table 3 • Results of PCB Sampling
2.3 PCB CONCLUSIONS

3.0 APPENDIX

3.1 PCB Laboratory Analysis Reports
3.2 Asbestos Laboratory Analysis Reports
3.3 Sampling Photo Log
3.4 Consultant Certifications

4.0 DATA EVALUATION MEMORANDA

INTRODUCTION

Nobis Engineering, Inc. (Nobis) retained K-D Associates, Inc. (KDAI) to conduct additional sampling of suspect building materials as described in the Work Plan for Additional Hazardous Materials Sampling, dated February 21. 2023 and revised March 20, 2023, prepared by Atlas Technical Consultants. Additional guidance and sampling protocols were provided by the Quality Assurance Project Plan Addendum for St. Johnsbury Armory dated July 10, 2023.

The scope of work addressed in this report includes the collection of specific bulk samples of suspect asbestos containing building materials to be tested for asbestos and additional suspect building materials and surface coatings to be tested for polychlorinated biphenyls (PCBs), at the former St. Johnsbury Armory, 1249 Main Street, St. Johnsbury, Vermont. This sampling is being conducted as a supplement and follow-up to previous sampling at this building and is not intended to be a comprehensive assessment on its own. Field operations, inspection activities and sample collection have been conducted by qualified and certified environmental professionals in accordance with the standard operating procedures identified in the QAPP prepared by KGSNE JV II, LLC. Field work to collect the bulk samples was conducted on August 14, 15, and 16, 2023 with additional sampling on October 25, 2023.

Sub-slab sampling of soil for PCB's, described in the Scope of Work, was conducted by a separate company, and is not included as part of this report.

Asbestos

Additional suspect building materials to be sampled for asbestos were previously identified and tabulated in Table 3 of the Atlas Work plan to supplement the asbestos assessment work previously completed. Oversight, as well as direction on additional sample collection, was provided by ClayPoint Associates, Inc. while on-site. Exploratory investigation was made behind the brick façade of the building to assess potential hidden suspect asbestos containing materials in two locations on both the East and West sides of the building. No additional suspect materials were observed within the wall structure.

K-D Associates, Inc was assisted in the collection of roof samples by Rodd Roofing, who patched and repaired all roof penetrations and provided access to materials above ground level.

Polychlorinated Biphenyls (PCBs)

PCB source materials sampling (Phase 1) was conducted to supplement previous source sampling completed by a separate firm. The required sampling is described in Section 5 of the report prepared by Atlas Technical Consultants.

Exclusions

K-D Associates, Inc. endeavored to conduct a thorough sampling of the required materials and all additional materials identified in the field that were not previously sampled. Additional limitations may have impacted our ability to inspect all locations such as poor lighting, height constraints, unusual building features and stored materials that block access to suspect materials.

Our sampling addressed building materials not sampled as part of the previous asbestos inspections. This assessment did not attempt to identify all suspect asbestos containing building materials as this was beyond our Scope of Work.

This report includes the results of the laboratory analysis for the samples collected along with a comparison to relevant regulatory limits which can impact future renovation/demolition activities. This report does not intend to provide guidance on meeting any regulatory or reporting requirements potentially initiated by these findings.

1.0 Asbestos Containing Building Materials

1.1 Scope of Work - Multiple samples of each selected homogenous building material were collected using hand tools to remove and place suspect material in a separate and clean sampling bag for transport to the laboratory. Apart from the roofing materials and exterior caulking, sampling locations did not require repair. The number and location of samples, for each suspect material, was prescribed by the Scope of Work and Quality Assurance Plan. Two exploratory removals of the brick façade were made on the Eastern and Western sides of the building. These removals were repaired with an appropriate cement patch material for exterior masonry. 100 bulk samples of suspect asbestos containing building material were collected and submitted to EMSL Analytical, Inc. for analysis via AHERA Method 40CFR 763 Subpart E, Appendix E Supplemented with EPA 600/R-93/116 using Polarized Light Microscopy. For each homogeneous sampling group, the laboratory analyzed samples until a positive result was obtained (i.e. greater than one percent asbestos) or until all samples were analyzed. If one sample indicates an asbestos content greater than one percent, the entire homogenous area must be considered to be an ACM.

1.2 Finding

Table 1. Asbestos Containing (>1%) Building Materials

Sample No./Atlas Designation	Material	Location	Asbestos
A-006A-R5	Gray Adhesive on Brown Paneling	Room 5	Chrysotile 5%
A-013A-R18	Black Mastic	Room 18	Chrysotile 10%
A-020A-R06	Joint Compound	Room 06	Chrysotile 2%
A-035A-R07	Joint Compound	Room 07	Chrysotile 2%
A-021A	Flashing Caulk	Exterior	Chrysotile 2%
A-022A	Silver Paint	Exterior	Chrysotile 3%
A-023A	White Caulk	Exterior	Chrysotile 2%
A-024A	Light Gray Caulk	Exterior	Chrysotile 3%
A-027A	Built-up Tar Paper	Exterior	Chrysotile 10%
A-028A	Asphalt Layer	Exterior	Chrysotile 6%
A-034A	Built-up Roofing	Exterior	Chrysotile 2%

Table 2. Non - Asbestos Containing (≤ 1%) Building Material

Sample No./Atlas Designation	Material	Location	Asbestos
A-016a-R17/#6 A-016b-R17/#6	Yellow caulking around door trim	Room 17, north side of gymnasium	Non ACM
A-025a/#7 A-025b/#7	Asphalt shingle	Eastern end of western portion of building, roof level	Non ACM
A-026a/#8 and #9 A-026b/#8 and #9	Roof paper, brown	Eastern end of western portion of building, roof level	Non ACM
A-045a/#8 and #9 A-045b/#8 and #9	Roof paper, black	Eastern end of western portion of building, roof level	Non ACM
A029a/#10b A029b/#10b	Rubber roofing membrane	Gambrel roof, under slate	Non ACM
A030a/#10c A030b/#10c	Fiberboard	Gambrel roof, under slate	Non ACM
A031a/#12 A031b/#12 A031c/#12	Rubber roof patch adhesive	Flat roof, eastern portion	Non ACM
A-002a-R10/#14 A-002b-R06/#14	Cellotex board	Room 6, 10	Non ACM
A-003a-R10/#15 A-003b-R16/#15	Thin wall panels	Room 6, 16	Non ACM
A-032a/#16 A-032b/#16	Ceiling panels	Room 17, gym	Non ACM
A-017a-R03/#20 A-017b-R03/#20	Drywall	Room 3	Non ACM
A-039a-R07/#20 A-039b-R07/#20	Drywall	Room 7	Non ACM
A-040a-R12/#20 A-040b-R12/#20	Drywall	Room 12	Non ACM
A-041a-R14/#20 A-041b-R14/#20	Drywall	Room 14	Non ACM
A-042a-R18/#20 A-042b-R18/#20	Drywall	Room 18	Non ACM
A-043a-R21/#20 A-043b-R21/#20	Drywall	Room 21	Non ACM
A-044a-R34/#20 A-044b-R34/#20	Drywall	Room 34	Non ACM
A-036a-R12/#21 A-036b-R12/#21	Joint compound	Room 12	Non ACM
A-037a-R14/#21 A-037b-R14/#21	Joint compound	Room 14	Non ACM
A-038a-R26/#21 A-038b-R26/#21	Joint compound	Room 26	Non ACM
A-012a-R20/#23 A-012b-R23/#23	Sprinkler fitting thread sealant	Room 20, 21, 26 (closet)	Non ACM
A-014a-R13/#24 A-014b-R14/#24	Beige mastic	Room 13, 14, 0n wood floor	Non ACM

Sample No./Atlas Designation	Material	Location	Asbestos
A-005a-R14/#25 A-005b-R14/#25	White, sub floor plaster like filler	Room 14, under wood floor	Non ACM
A-015a-R12/#26 A-015b-R12/#26	Carpet mastic, remnant fibers on wood floor	Room 12	Non ACM
A-001a-R22/#27 A-001b-R22/#27	Yellow mastic on concrete	Room 22, 27, 30-37	Non ACM
A-011a-R34/#29 A-011b-R27/#29 A-011c-R27/#29	Leveling compound	Room 27, 34	Non ACM
A-011a-R23/#30 A-011b-R23/#30	Ceramic tile thin set on floor	Room 23	Non ACM
A-004a-R23/#31 A-004b-R23/#31	Ceramic tile grout on floor	Room 23	Non ACM
A-009a-R23/#32 A-009b-R23/#32	Ceramic tile on floor	Room 23	Non ACM
A-007a-R15/#33 A-007b-R15/#33	Gray battleship linoleum	Room15	Non ACM
A-008a-R15/#33 A-008b-R15/#33	Brown mastic associated with gray battleship linoleum	Room15	Non ACM
A-018a-N/#35 A-018b-W/#35 A-018c-S/#35	Brick mortar	Exterior on all sides	Non ACM
A-019a-R23/#36 A-019b-R23/#37 A-019c-R23/#28	Concrete slab	Basement	Non ACM
A-033a/#38 A-033b/#38	Grey caulking	East window of sloped roof	Non ACM

1.3 Asbestos Conclusions - As part of this assessment, asbestos was found to be present at a concentration greater than 1%, in 10 of the building materials sampled. In general, these materials include adhesive paneling, mastic on floors, joint compound on walls and ceilings exterior caulking, and exterior roofing materials at various locations. The Environmental Protection Agency (EPA), Vermont Occupational Safety and Health Administration (VOSHA), and the Vermont Department of Health (VDOH) have established rules and regulations affecting any operations that may affect asbestos containing materials including renovation or demolition activities.

2.0 POLYCHLORINATED BIPHENYLS (PCBs)

2.1 Scope of Work - For each homogenous paint/coating and sealant material identified for PCB sampling, a minimum of 10 grams of material were collected. The collection surface was first cleaned with a wetted paper towel to remove dust or surface grime. Samples were collected of the full thickness of wall paint (all layers). Sample locations were identified with a unique sampling number and a photograph taken to further document the location. Exterior caulking sample locations were repaired with appropriate grey caulking sealant.

Sampling tools were decontaminated between samples by first removing gross contamination, and then performing a final wipe using a clean hexane wetted paper towel. Samples were placed in a 4 oz amber colored glass jar for transport to the laboratory. Custody of samples was transferred directly to Nobis Group for transport to a laboratory under a

chain-of-custody. Samples were submitted for analysis to Con-Test via EPA 3540C Soxhlet Extraction method and SW-846 8082 Arcolor analytical method.

Quality control samples collected included field duplicates and matrix spike duplicates were collected and submitted in accordance with the 1 per 20 duplicate frequencies.

2.2 Findings

Exterior/ Interior	Floor	Room	Direction/ component	Substrate	Color	ID	Total PCB's
Interior	2nd	3		Wood Trim	Salmon	P-005-R03WT	58
		4			Drk. Beige	P-010-R04WT	51
		4		Door	Drk. Beige	P-011-R04D	50
		5		Door	Robin's Egg Blue	P-024-R05D	72
		6	Floor	Hardwood	Brown	P-023-R06F	52
		8	Floor	Hardwood	Brown	P-034-R08F	51
		9	East	Plaster/ Lath	Blue/White	P-038-R09E	50
		9	Floor	Hardwood	Brown	P-042-R09F	56
Interior	1st	Stairwell 1-2	South	Plaster/ Lath	White/Salmon	P-257-S12S	55
		Stairwell 1-2	North	Plaster/ Lath	White	P-223-S12N	64
		Stairwell 1-2	Wood Rails		Beige	P-274-S12R	50
		Stairwell 1-2	Floor	Wood Steps	Lt. Green/Orange/ Blue	P-155-S12F	65
		11	Door		White/Beige/Blue	P-250-R11D	50
		15	East	Plaster/ Lath	Pink/Green/White, Brown	P-259-R15E	56
		15	South	Plaster/ Lath	Pink/Green/White/ Brown	P-236-R15S	59
		15	Wood Trim		Lt. Brown/Blue/ White	P-221-R15WT	63
Interior	Basement	Stairwell 0-1	Wood Rails		Drk. Green	P-065-S01R	81
Interior	Basement	Stairwell 0-1	Door		White/ Drk. Green	P-067-S01D	65
Interior	Basement	Stairwell 0-1	Floor	Wood Steps	White/Drk. Green/ Black/Brown/ Lt. Blue	P-239-S01F	110
Interior	Basement	18	East	Brick	Lt. Blue/Salmon/ Brown	P-048-R18E	180

Interior	Basement	18	South	Brick	Lt. Blue/ White	P-049-R18S	330
Interior	Basement	18	North	Concrete	White/Green/Drk. Grey	P-051-R18NC	290
Interior	Basement	18		Brick	White/Beige	P-050-R18NB	110
Interior	Basement	20	East	Brick	White/Dark Grey	P-053-R20E	4000
Interior	Basement	20	West	Brick	Lt. Green	P-054-R20W	5100
Interior	Basement	20	North	Concrete	Beige/Drk. Grey	P-056-R20NC	6400
Interior	Basement	20		Brick	Lt. Green	P-055-R20NB	1300
Interior	Basement	21	East	Concrete	Lt. Blue/ Brown	P-057-R21EC	86
Interior	Basement	21		Brick	Pink/Lt. Green/ Brown	P-058-R21EB	52
Interior	Basement	21	South	Brick	White/Lt. Blue	P-059-R21S	380
Interior	Basement	21	West	Brick	Blue/Lt. Green	P-094-R21W	51
Interior	Basement	21	Ceiling	Drywall over ??	White	P-060-R21C	50
Interior	Basement	21	Door		Lt. Blue/White/ Green/Orange/ Yellow	P-061-R21D	52
Interior	Basement	22	East	Painted Drywall	Yellow/White	P-068-R22EDW	52
Interior	Basement	22	East	Concrete Foundation	Brown	P-069-R22EC	460
Interior	Basement	22	South	Brick	Lt. Blue	P-081-R22SB	400
Interior	Basement	22	West	Brick	Lt. Blue	P-071-R22WB	280
Interior	Basement	22	Ceiling	2x4 wood	White	P-073-R22C	67
Interior	Basement	22	Door		White	P-072-R2D	200
Interior	Basement	23	East	Concrete	Salmon/Drk. Green	P-074-R23EC	150
Interior	Basement	23		Brick	Salmon/Lt. Green/ White	P-075-R23EB	65
Interior	Basement	23	West	Brick	Salmon/Lt. Green	P-077-R23W	120
Interior	Basement	23	North	Brick	Salmon	P-078-R23N	150
Interior	Basement	23	Ceiling	Pressed tin over lath	White	P-224-R23C	950
Interior	Basement	23	Wood Trim		Drk. Green/White	P-076-R23EWT	92
Interior	Basement	23	Door		White/Drk. Blue	P-079-R23D	75

Interior	Basement	24	East	Brick	Salmon/White/ Lt. Green	P-082-R24E	120
Interior	Basement	24	South	Concrete	Beige/ Lt. Green	P-083-R24SC	130
Interior	Basement	24		Brick	Beige/ Lt. Green	P-084-R24SB	130
Interior	Basement	24	West	Brick	White/Lt. Green	P-085-R24W	110
Interior	Basement	24	Door		White/Beige	P-256-R24D	60
Interior	Basement	24A	West	Brick	White/Lt. Green	P-098-R24AW	200
Interior	Basement	24A	North	Brick	Beige/ Lt. Green	P-099-R24AN	150
Interior	Basement	24A	Ceiling	Drywall over ??		P-100-R24AC	110
Interior	Basement	25	East	Brick	White/ Lt. Green/ Maroon	P-086-R25E	300
Interior	Basement	25	South	Brick		P-087-R25S	90
Interior	Basement	25	Ceiling	Drywall	Beige	P-088-R2SCDW	66
Interior	Basement	25	Ceiling	Plaster/ Lath	Beige	P-089-R2SCP	56
Interior	Basement	25A	East	Brick	Lt. Green	P-090-R25AE	350
Interior	Basement	25A	South	Brick	Lt. Green	P-091-R25AS	380
Interior	Basement	26	South	Concrete	White	P-102-R26SC	80
Interior	Basement	27	North	Brick	White	P-108-R27NB	50
Interior	Basement	29	West	Concrete		P-116-29WC	60
Interior	Basement	29	North	Concrete		P-119-29NC	77
Interior	Basement	29		Brick	Lt. Green/Yellow	P-118-29NB	72
Interior	Basement	30	East	Brick	Lt. Green/White	P-120-R30E	170
Interior	Basement	30	North	Concrete	Lt. Green/White	P-121-R30NC	130
Interior	Basement	30		Brick	Lt. Green/White	P-122-R30NB	94
Interior	Basement	31	North	Concrete	White	P-125-R31NC	160
Interior	Basement	31		Brick	White	P-132-R31NB	250
Interior	Basement	33	East	Brick	Lt. Green	P-126-R33E	300
Interior	Basement	33	North	Concrete	Lt. Green/White	P-127-R33NC	310
Interior	Basement	33		Brick	Lt. Green	P-237-R33NB	320
Interior	Basement	34	East	Brick	Lt. Green	P-260-R34E	200

Interior	Basement	35	South	Brick	White/Lt. Green	P-245-R35S	220
Interior	Basement	35	West	Brick	White/Lt. Green	P-129-R35W	180
Interior	Basement	35	Ceiling	Pressed tin over lath	White/ Brown	P-238-R35C	130
Interior	Basement	36	Ceiling	Pressed tin over lath		P-246-R36C	130
Interior	Basement	37	East	Brick	Lt. Green	P-130-R37E	400
Interior	Basement	37	South	Brick	Lt. Green	P-131-R37S	270
Interior	Basement	37	Ceiling	Pressed tin over lath	White/Brown	P-241-R37C	210
Interior	Basement	North basement stairwell		Concrete	Multi-color painted	P-172-Ex	210
						P-173-Ex	210
						P-174-Ex	210
Interior	Basement	Window Sashes		Wood	Dark Green painted	P-262-Ex	210
						P-263-Ex	210
						P-264-Ex	210
Interior	Basement	Southwest Loading Ramp		Concrete	Gray painted	P-184-Ex	210
						P-185-Ex	210
						P-186-Ex	210
Interior	Basement	Southwest Loading Ramp		Wood Trim/ Soffit/Door & Sheet Metal walls	White painted	P-188-Ex	210
Interior	Basement	Southwest Loading Ramp		Wood Trim/ Soffit/Door & Sheet Metal walls	White painted	P-189-Ex	210
Interior	Basement	Stairwell 0-1	Wood Rails		Drk. Green	P-FD-03	210
Interior	Basement	33	North	Concrete	Lt. Green/White	P-FD-05	210
Exterior	N/A	Window Sashes		Wood	Dark Green painted	P-FD-09	210
Interior	Basement	37	South	Brick	Lt. Green	P-FD-011	210

2.3 PCB Conclusions - PCB's in a concentration greater than 50 ppm were found to be present in a significant number of the bulk samples collected. EPA regulations implementing the Toxic Substances Control Act (TSCA) prohibit the use of PCBs in caulk and other building materials manufactured with PCBs at levels greater than or equal to 50 ppm, including the continued use of such materials that are already in place.

APPENDIX B

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

September 5, 2023

Tim Andrews
Nobis Engineering
585 Middlesex Street
Lowell, MA 01851

Project Location: St. Johnsbury, VT
Client Job Number:
Project Number: S00001.017
Laboratory Work Order Number: 23H3248

Enclosed are results of analyses for samples as received by the laboratory on August 22, 2023. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Rebecca Faust
Project Manager

Table of Contents

Sample Summary 4

Case Narrative 5

Sample Results 6

23H3248-01 6

23H3248-02 7

23H3248-03 8

23H3248-04 9

23H3248-05 10

23H3248-06 11

23H3248-07 12

23H3248-08 13

23H3248-09 14

23H3248-10 15

23H3248-11 16

23H3248-12 17

23H3248-13 18

23H3248-14 19

23H3248-15 20

23H3248-16 21

23H3248-17 22

23H3248-18 23

23H3248-19 24

23H3248-20 25

Sample Preparation Information 26

QC Data 27

Table of Contents (continued)

Polychlorinated Biphenyls with 3540 Soxhlet Extraction 27

B350677 27

Dual Column RPD Report 29

Flag/Qualifier Summary 53

Certifications 54

Chain of Custody/Sample Receipt 55

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Nobis Engineering
585 Middlesex Street
Lowell, MA 01851
ATTN: Tim Andrews

REPORT DATE: 9/5/2023

PURCHASE ORDER NUMBER:

PROJECT NUMBER: S00001.017

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23H3248

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: St. Johnsbury, VT

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
P-001-R03E	23H3248-01	Paint		SW-846 8082A	
P-002-R03S	23H3248-02	Paint		SW-846 8082A	
P-003-R03W	23H3248-03	Paint		SW-846 8082A	
P-004-R03C	23H3248-04	Paint		SW-846 8082A	
P-005-R03WT	23H3248-05	Paint		SW-846 8082A	
P-006-R03D	23H3248-06	Paint		SW-846 8082A	
P-007-R04E	23H3248-07	Paint		SW-846 8082A	
P-008-R04S	23H3248-08	Paint		SW-846 8082A	
P-009-R04W	23H3248-09	Paint		SW-846 8082A	
P-010-R04WT	23H3248-10	Paint		SW-846 8082A	
P-011-R04D	23H3248-11	Paint		SW-846 8082A	
P-012-RO5E	23H3248-12	Paint		SW-846 8082A	
P-013-R05S	23H3248-13	Paint		SW-846 8082A	
P-014-R05W	23H3248-14	Paint		SW-846 8082A	
P-015-R05C	23H3248-15	Paint		SW-846 8082A	
P-016-R05F	23H3248-16	Paint		SW-846 8082A	
P-017-R05WT	23H3248-17	Paint		SW-846 8082A	
P-018-R06E	23H3248-18	Paint		SW-846 8082A	
P-019-R06S	23H3248-19	Paint		SW-846 8082A	
P-020-R06C	23H3248-20	Paint		SW-846 8082A	

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

SW-846 8082A

Qualifications:

MS-21

Matrix spike and/or spike duplicate recovery bias high due to contribution of other Aroclors present in the source sample.

Analyte & Samples(s) Qualified:

Aroclor-1016
B350677-MS1, B350677-MSD1

Aroclor-1016 [2C]
B350677-MS1, B350677-MSD1

Aroclor-1260
B350677-MS1, B350677-MSD1

Aroclor-1260 [2C]
B350677-MS1, B350677-MSD1

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Lisa A. Worthington
Technical Representative

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3248

Date Received: 8/22/2023

Field Sample #: P-001-R03E | Sampled: 8/14/2023 09:20

Sample ID: 23H3248-01

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 7:34	TG
Aroclor-1221 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 7:34	TG
Aroclor-1232 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 7:34	TG
Aroclor-1242 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 7:34	TG
Aroclor-1248 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 7:34	TG
Aroclor-1254 [2]	37	3.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 7:34	TG
Aroclor-1260 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 7:34	TG
Aroclor-1262 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 7:34	TG
Aroclor-1268 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 7:34	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	91.5	30-150		9/4/23 7:34
Decachlorobiphenyl [2]	95.6	30-150		9/4/23 7:34
Tetrachloro-m-xylene [1]	94.2	30-150		9/4/23 7:34
Tetrachloro-m-xylene [2]	91.8	30-150		9/4/23 7:34

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3248

Date Received: 8/22/2023

Field Sample #: P-002-R03S | Sampled: 8/14/2023 09:21

Sample ID: 23H3248-02

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 7:51	TG
Aroclor-1221 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 7:51	TG
Aroclor-1232 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 7:51	TG
Aroclor-1242 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 7:51	TG
Aroclor-1248 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 7:51	TG
Aroclor-1254 [2]	46	4.8	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 7:51	TG
Aroclor-1260 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 7:51	TG
Aroclor-1262 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 7:51	TG
Aroclor-1268 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 7:51	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	85.2	30-150		9/4/23 7:51
Decachlorobiphenyl [2]	85.3	30-150		9/4/23 7:51
Tetrachloro-m-xylene [1]	82.6	30-150		9/4/23 7:51
Tetrachloro-m-xylene [2]	81.7	30-150		9/4/23 7:51

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3248

Date Received: 8/22/2023

Field Sample #: P-003-R03W | Sampled: 8/14/2023 09:22

Sample ID: 23H3248-03

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.2	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 8:09	TG
Aroclor-1221 [1]	ND	4.2	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 8:09	TG
Aroclor-1232 [1]	ND	4.2	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 8:09	TG
Aroclor-1242 [1]	ND	4.2	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 8:09	TG
Aroclor-1248 [1]	ND	4.2	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 8:09	TG
Aroclor-1254 [2]	43	4.2	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 8:09	TG
Aroclor-1260 [1]	ND	4.2	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 8:09	TG
Aroclor-1262 [1]	ND	4.2	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 8:09	TG
Aroclor-1268 [1]	ND	4.2	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 8:09	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual		
Decachlorobiphenyl [1]	88.3	30-150		9/4/23	8:09
Decachlorobiphenyl [2]	88.8	30-150		9/4/23	8:09
Tetrachloro-m-xylene [1]	81.8	30-150		9/4/23	8:09
Tetrachloro-m-xylene [2]	85.3	30-150		9/4/23	8:09

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3248

Date Received: 8/22/2023

Field Sample #: P-004-R03C | Sampled: 8/14/2023 09:23

Sample ID: 23H3248-04

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	3.8	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 8:26	TG
Aroclor-1221 [1]	ND	3.8	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 8:26	TG
Aroclor-1232 [1]	ND	3.8	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 8:26	TG
Aroclor-1242 [1]	ND	3.8	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 8:26	TG
Aroclor-1248 [1]	ND	3.8	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 8:26	TG
Aroclor-1254 [1]	29	3.8	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 8:26	TG
Aroclor-1260 [1]	ND	3.8	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 8:26	TG
Aroclor-1262 [1]	ND	3.8	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 8:26	TG
Aroclor-1268 [1]	ND	3.8	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 8:26	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual		
Decachlorobiphenyl [1]	92.8	30-150		9/4/23	8:26
Decachlorobiphenyl [2]	92.4	30-150		9/4/23	8:26
Tetrachloro-m-xylene [1]	76.1	30-150		9/4/23	8:26
Tetrachloro-m-xylene [2]	87.8	30-150		9/4/23	8:26

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3248

Date Received: 8/22/2023

Field Sample #: P-005-R03WT | Sampled: 8/14/2023 09:24

Sample ID: 23H3248-05

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 8:43	TG
Aroclor-1221 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 8:43	TG
Aroclor-1232 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 8:43	TG
Aroclor-1242 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 8:43	TG
Aroclor-1248 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 8:43	TG
Aroclor-1254 [1]	58	4.8	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 8:43	TG
Aroclor-1260 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 8:43	TG
Aroclor-1262 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 8:43	TG
Aroclor-1268 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 8:43	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	88.8	30-150		9/4/23 8:43
Decachlorobiphenyl [2]	89.0	30-150		9/4/23 8:43
Tetrachloro-m-xylene [1]	85.8	30-150		9/4/23 8:43
Tetrachloro-m-xylene [2]	84.8	30-150		9/4/23 8:43

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3248

Date Received: 8/22/2023

Field Sample #: P-006-R03D | Sampled: 8/14/2023 09:25

Sample ID: 23H3248-06

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	5.0	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 9:00	TG
Aroclor-1221 [1]	ND	5.0	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 9:00	TG
Aroclor-1232 [1]	ND	5.0	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 9:00	TG
Aroclor-1242 [1]	ND	5.0	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 9:00	TG
Aroclor-1248 [1]	ND	5.0	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 9:00	TG
Aroclor-1254 [2]	41	5.0	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 9:00	TG
Aroclor-1260 [1]	ND	5.0	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 9:00	TG
Aroclor-1262 [1]	ND	5.0	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 9:00	TG
Aroclor-1268 [1]	ND	5.0	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 9:00	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	65.8	30-150		9/4/23 9:00
Decachlorobiphenyl [2]	66.0	30-150		9/4/23 9:00
Tetrachloro-m-xylene [1]	53.0	30-150		9/4/23 9:00
Tetrachloro-m-xylene [2]	61.5	30-150		9/4/23 9:00

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3248

Date Received: 8/22/2023

Field Sample #: P-007-R04E | Sampled: 8/14/2023 09:30

Sample ID: 23H3248-07

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 9:17	TG
Aroclor-1221 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 9:17	TG
Aroclor-1232 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 9:17	TG
Aroclor-1242 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 9:17	TG
Aroclor-1248 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 9:17	TG
Aroclor-1254 [1]	23	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 9:17	TG
Aroclor-1260 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 9:17	TG
Aroclor-1262 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 9:17	TG
Aroclor-1268 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 9:17	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	92.4	30-150		9/4/23 9:17
Decachlorobiphenyl [2]	92.6	30-150		9/4/23 9:17
Tetrachloro-m-xylene [1]	90.8	30-150		9/4/23 9:17
Tetrachloro-m-xylene [2]	89.6	30-150		9/4/23 9:17

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3248

Date Received: 8/22/2023

Field Sample #: P-008-R04S | Sampled: 8/14/2023 09:31

Sample ID: 23H3248-08

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.3	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 9:34	TG
Aroclor-1221 [1]	ND	4.3	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 9:34	TG
Aroclor-1232 [1]	ND	4.3	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 9:34	TG
Aroclor-1242 [1]	ND	4.3	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 9:34	TG
Aroclor-1248 [1]	ND	4.3	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 9:34	TG
Aroclor-1254 [1]	17	4.3	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 9:34	TG
Aroclor-1260 [1]	ND	4.3	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 9:34	TG
Aroclor-1262 [1]	ND	4.3	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 9:34	TG
Aroclor-1268 [1]	ND	4.3	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 9:34	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	88.7	30-150		9/4/23 9:34
Decachlorobiphenyl [2]	89.4	30-150		9/4/23 9:34
Tetrachloro-m-xylene [1]	86.8	30-150		9/4/23 9:34
Tetrachloro-m-xylene [2]	85.6	30-150		9/4/23 9:34

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3248

Date Received: 8/22/2023

Field Sample #: P-009-R04W | Sampled: 8/14/2023 09:32

Sample ID: 23H3248-09

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 9:51	TG
Aroclor-1221 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 9:51	TG
Aroclor-1232 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 9:51	TG
Aroclor-1242 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 9:51	TG
Aroclor-1248 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 9:51	TG
Aroclor-1254 [1]	24	4.4	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 9:51	TG
Aroclor-1260 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 9:51	TG
Aroclor-1262 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 9:51	TG
Aroclor-1268 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 9:51	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	93.5	30-150		9/4/23 9:51
Decachlorobiphenyl [2]	94.2	30-150		9/4/23 9:51
Tetrachloro-m-xylene [1]	94.3	30-150		9/4/23 9:51
Tetrachloro-m-xylene [2]	91.9	30-150		9/4/23 9:51

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3248

Date Received: 8/22/2023

Field Sample #: P-010-R04WT | Sampled: 8/14/2023 09:33

Sample ID: 23H3248-10

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 10:09	TG
Aroclor-1221 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 10:09	TG
Aroclor-1232 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 10:09	TG
Aroclor-1242 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 10:09	TG
Aroclor-1248 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 10:09	TG
Aroclor-1254 [1]	51	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 10:09	TG
Aroclor-1260 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 10:09	TG
Aroclor-1262 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 10:09	TG
Aroclor-1268 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 10:09	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	80.8	30-150		9/4/23 10:09
Decachlorobiphenyl [2]	81.5	30-150		9/4/23 10:09
Tetrachloro-m-xylene [1]	80.4	30-150		9/4/23 10:09
Tetrachloro-m-xylene [2]	81.5	30-150		9/4/23 10:09

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3248

Date Received: 8/22/2023

Field Sample #: P-011-R04D | Sampled: 8/14/2023 09:34

Sample ID: 23H3248-11

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 11:29	TG
Aroclor-1221 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 11:29	TG
Aroclor-1232 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 11:29	TG
Aroclor-1242 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 11:29	TG
Aroclor-1248 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 11:29	TG
Aroclor-1254 [1]	50	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 11:29	TG
Aroclor-1260 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 11:29	TG
Aroclor-1262 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 11:29	TG
Aroclor-1268 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 11:29	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	71.7	30-150		9/4/23 11:29
Decachlorobiphenyl [2]	72.4	30-150		9/4/23 11:29
Tetrachloro-m-xylene [1]	70.5	30-150		9/4/23 11:29
Tetrachloro-m-xylene [2]	70.5	30-150		9/4/23 11:29

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3248

Date Received: 8/22/2023

Field Sample #: P-012-RO5E | Sampled: 8/14/2023 09:50

Sample ID: 23H3248-12

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 11:47	TG
Aroclor-1221 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 11:47	TG
Aroclor-1232 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 11:47	TG
Aroclor-1242 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 11:47	TG
Aroclor-1248 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 11:47	TG
Aroclor-1254 [2]	18	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 11:47	TG
Aroclor-1260 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 11:47	TG
Aroclor-1262 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 11:47	TG
Aroclor-1268 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 11:47	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	89.2	30-150		9/4/23 11:47
Decachlorobiphenyl [2]	89.5	30-150		9/4/23 11:47
Tetrachloro-m-xylene [1]	62.2	30-150		9/4/23 11:47
Tetrachloro-m-xylene [2]	87.0	30-150		9/4/23 11:47

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3248

Date Received: 8/22/2023

Field Sample #: P-013-R05S | Sampled: 8/14/2023 09:51

Sample ID: 23H3248-13

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 12:04	TG
Aroclor-1221 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 12:04	TG
Aroclor-1232 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 12:04	TG
Aroclor-1242 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 12:04	TG
Aroclor-1248 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 12:04	TG
Aroclor-1254 [2]	31	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 12:04	TG
Aroclor-1260 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 12:04	TG
Aroclor-1262 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 12:04	TG
Aroclor-1268 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 12:04	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	94.6	30-150		9/4/23 12:04
Decachlorobiphenyl [2]	95.7	30-150		9/4/23 12:04
Tetrachloro-m-xylene [1]	90.2	30-150		9/4/23 12:04
Tetrachloro-m-xylene [2]	89.2	30-150		9/4/23 12:04

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3248

Date Received: 8/22/2023

Field Sample #: P-014-R05W | Sampled: 8/14/2023 09:52

Sample ID: 23H3248-14

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	5.0	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 12:21	TG
Aroclor-1221 [1]	ND	5.0	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 12:21	TG
Aroclor-1232 [1]	ND	5.0	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 12:21	TG
Aroclor-1242 [1]	ND	5.0	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 12:21	TG
Aroclor-1248 [1]	ND	5.0	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 12:21	TG
Aroclor-1254 [1]	22	5.0	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 12:21	TG
Aroclor-1260 [1]	ND	5.0	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 12:21	TG
Aroclor-1262 [1]	ND	5.0	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 12:21	TG
Aroclor-1268 [1]	ND	5.0	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 12:21	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	98.5	30-150		9/4/23 12:21
Decachlorobiphenyl [2]	99.2	30-150		9/4/23 12:21
Tetrachloro-m-xylene [1]	92.6	30-150		9/4/23 12:21
Tetrachloro-m-xylene [2]	92.0	30-150		9/4/23 12:21

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3248

Date Received: 8/22/2023

Field Sample #: P-015-R05C | Sampled: 8/14/2023 09:53

Sample ID: 23H3248-15

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.2	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 12:38	TG
Aroclor-1221 [1]	ND	4.2	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 12:38	TG
Aroclor-1232 [1]	ND	4.2	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 12:38	TG
Aroclor-1242 [1]	ND	4.2	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 12:38	TG
Aroclor-1248 [1]	ND	4.2	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 12:38	TG
Aroclor-1254 [2]	16	4.2	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 12:38	TG
Aroclor-1260 [1]	ND	4.2	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 12:38	TG
Aroclor-1262 [1]	ND	4.2	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 12:38	TG
Aroclor-1268 [1]	ND	4.2	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 12:38	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	75.5	30-150		9/4/23 12:38
Decachlorobiphenyl [2]	76.6	30-150		9/4/23 12:38
Tetrachloro-m-xylene [1]	75.9	30-150		9/4/23 12:38
Tetrachloro-m-xylene [2]	75.7	30-150		9/4/23 12:38

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3248

Date Received: 8/22/2023

Field Sample #: P-016-R05F | Sampled: 8/14/2023 09:54

Sample ID: 23H3248-16

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 12:55	TG
Aroclor-1221 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 12:55	TG
Aroclor-1232 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 12:55	TG
Aroclor-1242 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 12:55	TG
Aroclor-1248 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 12:55	TG
Aroclor-1254 [2]	21	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 12:55	TG
Aroclor-1260 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 12:55	TG
Aroclor-1262 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 12:55	TG
Aroclor-1268 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 12:55	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	87.8	30-150		9/4/23 12:55
Decachlorobiphenyl [2]	89.4	30-150		9/4/23 12:55
Tetrachloro-m-xylene [1]	86.3	30-150		9/4/23 12:55
Tetrachloro-m-xylene [2]	86.8	30-150		9/4/23 12:55

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3248

Date Received: 8/22/2023

Field Sample #: P-017-R05WT | Sampled: 8/14/2023 09:55

Sample ID: 23H3248-17

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.6	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 13:12	TG
Aroclor-1221 [1]	ND	4.6	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 13:12	TG
Aroclor-1232 [1]	ND	4.6	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 13:12	TG
Aroclor-1242 [1]	ND	4.6	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 13:12	TG
Aroclor-1248 [1]	ND	4.6	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 13:12	TG
Aroclor-1254 [1]	35	4.6	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 13:12	TG
Aroclor-1260 [1]	ND	4.6	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 13:12	TG
Aroclor-1262 [1]	ND	4.6	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 13:12	TG
Aroclor-1268 [1]	ND	4.6	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 13:12	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	87.1	30-150		9/4/23 13:12
Decachlorobiphenyl [2]	87.8	30-150		9/4/23 13:12
Tetrachloro-m-xylene [1]	84.2	30-150		9/4/23 13:12
Tetrachloro-m-xylene [2]	84.2	30-150		9/4/23 13:12

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3248

Date Received: 8/22/2023

Field Sample #: P-018-R06E | Sampled: 8/14/2023 10:15

Sample ID: 23H3248-18

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 13:30	TG
Aroclor-1221 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 13:30	TG
Aroclor-1232 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 13:30	TG
Aroclor-1242 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 13:30	TG
Aroclor-1248 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 13:30	TG
Aroclor-1254 [2]	23	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 13:30	TG
Aroclor-1260 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 13:30	TG
Aroclor-1262 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 13:30	TG
Aroclor-1268 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 13:30	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	90.9	30-150		9/4/23 13:30
Decachlorobiphenyl [2]	91.6	30-150		9/4/23 13:30
Tetrachloro-m-xylene [1]	89.6	30-150		9/4/23 13:30
Tetrachloro-m-xylene [2]	88.2	30-150		9/4/23 13:30

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3248

Date Received: 8/22/2023

Field Sample #: P-019-R06S | Sampled: 8/14/2023 10:16

Sample ID: 23H3248-19

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.6	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 13:47	TG
Aroclor-1221 [1]	ND	4.6	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 13:47	TG
Aroclor-1232 [1]	ND	4.6	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 13:47	TG
Aroclor-1242 [1]	ND	4.6	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 13:47	TG
Aroclor-1248 [1]	ND	4.6	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 13:47	TG
Aroclor-1254 [1]	21	4.6	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 13:47	TG
Aroclor-1260 [1]	ND	4.6	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 13:47	TG
Aroclor-1262 [1]	ND	4.6	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 13:47	TG
Aroclor-1268 [1]	ND	4.6	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 13:47	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	88.5	30-150		9/4/23 13:47
Decachlorobiphenyl [2]	89.0	30-150		9/4/23 13:47
Tetrachloro-m-xylene [1]	83.3	30-150		9/4/23 13:47
Tetrachloro-m-xylene [2]	83.2	30-150		9/4/23 13:47

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3248

Date Received: 8/22/2023

Field Sample #: P-020-R06C | Sampled: 8/14/2023 10:17

Sample ID: 23H3248-20

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 14:04	TG
Aroclor-1221 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 14:04	TG
Aroclor-1232 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 14:04	TG
Aroclor-1242 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 14:04	TG
Aroclor-1248 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 14:04	TG
Aroclor-1254 [1]	18	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 14:04	TG
Aroclor-1260 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 14:04	TG
Aroclor-1262 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 14:04	TG
Aroclor-1268 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 14:04	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	89.1	30-150		9/4/23 14:04
Decachlorobiphenyl [2]	89.6	30-150		9/4/23 14:04
Tetrachloro-m-xylene [1]	83.9	30-150		9/4/23 14:04
Tetrachloro-m-xylene [2]	83.2	30-150		9/4/23 14:04

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method:SW-846 3540C **Analytical Method:SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23H3248-01 [P-001-R03E]	B350677	0.259	10.0	08/31/23
23H3248-02 [P-002-R03S]	B350677	0.209	10.0	08/31/23
23H3248-03 [P-003-R03W]	B350677	0.240	10.0	08/31/23
23H3248-04 [P-004-R03C]	B350677	0.261	10.0	08/31/23
23H3248-05 [P-005-R03WT]	B350677	0.209	10.0	08/31/23
23H3248-06 [P-006-R03D]	B350677	0.202	10.0	08/31/23
23H3248-07 [P-007-R04E]	B350677	0.206	10.0	08/31/23
23H3248-08 [P-008-R04S]	B350677	0.230	10.0	08/31/23
23H3248-09 [P-009-R04W]	B350677	0.228	10.0	08/31/23
23H3248-10 [P-010-R04WT]	B350677	0.214	10.0	08/31/23
23H3248-11 [P-011-R04D]	B350677	0.214	10.0	08/31/23
23H3248-12 [P-012-RO5E]	B350677	0.213	10.0	08/31/23
23H3248-13 [P-013-R05S]	B350677	0.213	10.0	08/31/23
23H3248-14 [P-014-R05W]	B350677	0.202	10.0	08/31/23
23H3248-15 [P-015-R05C]	B350677	0.235	10.0	08/31/23
23H3248-16 [P-016-R05F]	B350677	0.213	10.0	08/31/23
23H3248-17 [P-017-R05WT]	B350677	0.220	10.0	08/31/23
23H3248-18 [P-018-R06E]	B350677	0.212	10.0	08/31/23
23H3248-19 [P-019-R06S]	B350677	0.218	10.0	08/31/23
23H3248-20 [P-020-R06C]	B350677	0.204	10.0	08/31/23

con-test® A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B350677 - SW-846 3540C										
Blank (B350677-BLK1)				Prepared: 08/31/23 Analyzed: 09/04/23						
Aroclor-1016	ND	0.42	mg/Kg							
Aroclor-1016 [2C]	ND	0.42	mg/Kg							
Aroclor-1221	ND	0.42	mg/Kg							
Aroclor-1221 [2C]	ND	0.42	mg/Kg							
Aroclor-1232	ND	0.42	mg/Kg							
Aroclor-1232 [2C]	ND	0.42	mg/Kg							
Aroclor-1242	ND	0.42	mg/Kg							
Aroclor-1242 [2C]	ND	0.42	mg/Kg							
Aroclor-1248	ND	0.42	mg/Kg							
Aroclor-1248 [2C]	ND	0.42	mg/Kg							
Aroclor-1254	ND	0.42	mg/Kg							
Aroclor-1254 [2C]	ND	0.42	mg/Kg							
Aroclor-1260	ND	0.42	mg/Kg							
Aroclor-1260 [2C]	ND	0.42	mg/Kg							
Aroclor-1262	ND	0.42	mg/Kg							
Aroclor-1262 [2C]	ND	0.42	mg/Kg							
Aroclor-1268	ND	0.42	mg/Kg							
Aroclor-1268 [2C]	ND	0.42	mg/Kg							
Surrogate: Decachlorobiphenyl	*7.35*		mg/Kg	8.42		87.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	*7.67*		mg/Kg	8.42		91.1	30-150			
Surrogate: Tetrachloro-m-xylene	*7.23*		mg/Kg	8.42		85.8	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*7.51*		mg/Kg	8.42		89.1	30-150			
LCS (B350677-BS1)				Prepared: 08/31/23 Analyzed: 09/04/23						
Aroclor-1016	1.9	0.46	mg/Kg	2.32		81.7	40-140			
Aroclor-1016 [2C]	2.0	0.46	mg/Kg	2.32		87.5	40-140			
Aroclor-1260	1.7	0.46	mg/Kg	2.32		74.4	40-140			
Aroclor-1260 [2C]	1.8	0.46	mg/Kg	2.32		78.5	40-140			
Surrogate: Decachlorobiphenyl	*7.76*		mg/Kg	9.29		83.5	30-150			
Surrogate: Decachlorobiphenyl [2C]	*8.25*		mg/Kg	9.29		88.9	30-150			
Surrogate: Tetrachloro-m-xylene	*7.46*		mg/Kg	9.29		80.3	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*7.96*		mg/Kg	9.29		85.6	30-150			
LCS Dup (B350677-BSD1)				Prepared: 08/31/23 Analyzed: 09/04/23						
Aroclor-1016	1.6	0.43	mg/Kg	2.15		74.8	40-140	16.4	30	
Aroclor-1016 [2C]	1.9	0.43	mg/Kg	2.15		87.0	40-140	8.21	30	
Aroclor-1260	1.6	0.43	mg/Kg	2.15		76.1	40-140	5.33	30	
Aroclor-1260 [2C]	1.8	0.43	mg/Kg	2.15		83.2	40-140	1.72	30	
Surrogate: Decachlorobiphenyl	*7.42*		mg/Kg	8.61		86.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	*7.92*		mg/Kg	8.61		92.0	30-150			
Surrogate: Tetrachloro-m-xylene	*7.44*		mg/Kg	8.61		86.5	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*7.81*		mg/Kg	8.61		90.7	30-150			

con-test® A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B350677 - SW-846 3540C											
Matrix Spike (B350677-MS1)	**Source: 23H3248-19**			Prepared: 08/31/23 Analyzed: 09/04/23							
Aroclor-1016	7.7	4.8	mg/Kg	2.41	ND	**319**	*	40-140			MS-21
Aroclor-1016 [2C]	12	4.8	mg/Kg	2.41	ND	**510**	*	40-140			MS-21
Aroclor-1260	5.5	4.8	mg/Kg	2.41	ND	**228**	*	40-140			MS-21
Aroclor-1260 [2C]	5.9	4.8	mg/Kg	2.41	ND	**245**	*	40-140			MS-21
Surrogate: Decachlorobiphenyl	*8.56*		mg/Kg	9.62		89.0		30-150			
Surrogate: Decachlorobiphenyl [2C]	*8.59*		mg/Kg	9.62		89.3		30-150			
Surrogate: Tetrachloro-m-xylene	*7.98*		mg/Kg	9.62		82.9		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*7.85*		mg/Kg	9.62		81.6		30-150			
Matrix Spike Dup (B350677-MSD1)	**Source: 23H3248-19**			Prepared: 08/31/23 Analyzed: 09/04/23							
Aroclor-1016	7.3	4.8	mg/Kg	2.42	ND	**303**	*	40-140	4.41	50	MS-21
Aroclor-1016 [2C]	12	4.8	mg/Kg	2.42	ND	**477**	*	40-140	5.91	50	MS-21
Aroclor-1260	5.1	4.8	mg/Kg	2.42	ND	**210**	*	40-140	7.53	50	MS-21
Aroclor-1260 [2C]	5.0	4.8	mg/Kg	2.42	ND	**205**	*	40-140	16.7	50	MS-21
Surrogate: Decachlorobiphenyl	*8.40*		mg/Kg	9.69		86.6		30-150			
Surrogate: Decachlorobiphenyl [2C]	*8.43*		mg/Kg	9.69		86.9		30-150			
Surrogate: Tetrachloro-m-xylene	*7.72*		mg/Kg	9.69		79.6		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*7.71*		mg/Kg	9.69		79.5		30-150			

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-001-R03E

Lab Sample ID: 23H3248-01

Date(s) Analyzed: 09/04/2023 09/04/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	37	
	2	0.000	0.000	0.000	37	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-002-R03S

Lab Sample ID: 23H3248-02 Date(s) Analyzed: 09/04/2023 09/04/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	44	
	2	0.000	0.000	0.000	46	4.4

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-003-R03W

Lab Sample ID: 23H3248-03

Date(s) Analyzed: 09/04/2023 09/04/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	42	
	2	0.000	0.000	0.000	43	2.4

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-004-R03C

Lab Sample ID: 23H3248-04

Date(s) Analyzed: 09/04/2023 09/04/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	29	
	2	0.000	0.000	0.000	28	3.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-005-R03WT

Lab Sample ID: 23H3248-05

Date(s) Analyzed: 09/04/2023 09/04/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	58	
	2	0.000	0.000	0.000	54	7.1

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-006-R03D

Lab Sample ID: 23H3248-06

Date(s) Analyzed: 09/04/2023 09/04/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	40	
	2	0.000	0.000	0.000	41	2.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-007-R04E

Lab Sample ID: 23H3248-07

Date(s) Analyzed: 09/04/2023 09/04/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	23	
	2	0.000	0.000	0.000	21	9.1

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-008-R04S

Lab Sample ID: 23H3248-08

Date(s) Analyzed: 09/04/2023 09/04/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	17	
	2	0.000	0.000	0.000	15	12.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-009-R04W

Lab Sample ID: 23H3248-09

Date(s) Analyzed: 09/04/2023 09/04/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	24	
	2	0.000	0.000	0.000	21	13.3

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-010-R04WT

Lab Sample ID: 23H3248-10 Date(s) Analyzed: 09/04/2023 09/04/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	51	
	2	0.000	0.000	0.000	43	17.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-011-R04D

Lab Sample ID: 23H3248-11

Date(s) Analyzed: 09/04/2023 09/04/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	50	
	2	0.000	0.000	0.000	49	2.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-012-RO5E

Lab Sample ID: 23H3248-12

Date(s) Analyzed: 09/04/2023 09/04/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	17	
	2	0.000	0.000	0.000	18	5.7

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-013-R05S

Lab Sample ID: 23H3248-13

Date(s) Analyzed: 09/04/2023 09/04/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	29	
	2	0.000	0.000	0.000	31	6.7

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-014-R05W

Lab Sample ID: 23H3248-14 Date(s) Analyzed: 09/04/2023 09/04/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	22	
	2	0.000	0.000	0.000	21	4.7

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-015-R05C

Lab Sample ID: 23H3248-15

Date(s) Analyzed: 09/04/2023 09/04/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	15	
	2	0.000	0.000	0.000	16	6.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-016-R05F

Lab Sample ID: 23H3248-16

Date(s) Analyzed: 09/04/2023 09/04/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	19	
	2	0.000	0.000	0.000	21	10.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-017-R05WT

Lab Sample ID: 23H3248-17 Date(s) Analyzed: 09/04/2023 09/04/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	35	
	2	0.000	0.000	0.000	34	2.9

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-018-R06E

Lab Sample ID: 23H3248-18

Date(s) Analyzed: 09/04/2023 09/04/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	22	
	2	0.000	0.000	0.000	23	4.4

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-019-R06S

Lab Sample ID: 23H3248-19

Date(s) Analyzed: 09/04/2023 09/04/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	21	
	2	0.000	0.000	0.000	20	4.9

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-020-R06C

Lab Sample ID: 23H3248-20

Date(s) Analyzed: 09/04/2023 09/04/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	18	
	2	0.000	0.000	0.000	17	5.7

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B350677-BS1 Date(s) Analyzed: 09/04/2023 09/04/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	1.9	
	2	0.000	0.000	0.000	2.0	5.1
Aroclor-1260	1	0.000	0.000	0.000	1.7	
	2	0.000	0.000	0.000	1.8	5.7

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B350677-BSD1 Date(s) Analyzed: 09/04/2023 09/04/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	1.6	
	2	0.000	0.000	0.000	1.9	17.1
Aroclor-1260	1	0.000	0.000	0.000	1.6	
	2	0.000	0.000	0.000	1.8	11.8

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike

Lab Sample ID: B350677-MS1 Date(s) Analyzed: 09/04/2023 09/04/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	7.7	
	2	0.000	0.000	0.000	12	43.7
Aroclor-1260	1	0.000	0.000	0.000	5.5	
	2	0.000	0.000	0.000	5.9	7.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike Dup

Lab Sample ID: B350677-MSD1 Date(s) Analyzed: 09/04/2023 09/04/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	7.3	
	2	0.000	0.000	0.000	12	47.4
Aroclor-1260	1	0.000	0.000	0.000	5.1	
	2	0.000	0.000	0.000	5.0	2.0

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
MS-21	Matrix spike and/or spike duplicate recovery bias high due to contribution of other Aroclors present in the source sample.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications

No certified Analyses included in this Report

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires

23H3248 RF

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time
7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
1	P-001-R03E	8/14/2023	9:20	GRAB	O	U		1				x
2	P-002-R03S	8/14/2023	9:21	GRAB	O	U		1				x
3	P-003-R03W	8/14/2023	9:22	GRAB	O	U		1				x
4	P-004-R03C	8/14/2023	9:23	GRAB	O	U		1				x
5	P-005-R03WT	8/14/2023	9:24	GRAB	O	U		1				x
6	P-006-R03D	8/14/2023	9:25	GRAB	O	U		1				x
7	P-007-R04E	8/14/2023	9:30	GRAB	O	U		1				x
8	P-008-R04S	8/14/2023	9:31	GRAB	O	U		1				x
9	P-009-R04W	8/14/2023	9:32	GRAB	O	U		1				x
10	P-010-R04WT	8/14/2023	9:33	GRAB	O	U		1				x

[2] Preservation Code
Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N
*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time:	1358
Received by: (signature)	Date/Time:	1258
Relinquished by: (signature)	Date/Time:	1744
Received by: (signature) 3.8, 2.2, 3.9	Date/Time:	
Relinquished by: (signature) 2.6, 5.6	Date/Time:	1746
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

23H3248 RF

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time
7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
11	P-011-R04D	8/14/2023	9:34	GRAB	O	U		1				x
12	P-012-R05E	8/14/2023	9:50	GRAB	O	U		1				x
13	P-013-R05S	8/14/2023	9:51	GRAB	O	U		1				x
14	P-014-R05W	8/14/2023	9:52	GRAB	O	U		1				x
15	P-015-R05C	8/14/2023	9:53	GRAB	O	U		1				x
16	P-016-R05F	8/14/2023	9:54	GRAB	O	U		1				x
17	P-017-R05WT	8/14/2023	9:55	GRAB	O	U		1				x
18	P-018-R06E	8/14/2023	10:15	GRAB	O	U		1				x
19	P-019-R06S	8/14/2023	10:16	GRAB	O	U		3				x
20	P-020-R06C	8/14/2023	10:17	GRAB	O	U		1				x

[2] Preservation Code
Courier Use Only
Total Number Of:
VIALS
GLASS
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time: 8/22/23 1158	Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS
Received by: (signature)	Date/Time: 8/22/23 1258	
Relinquished by: (signature)	Date/Time: 8/22/23 1748	
Received by: (signature) 3.8, 2.2, 3.9	Date/Time: 8/22/23	
Relinquished by: (signature) 2.6, 5.6	Date/Time: 17 46	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist
	Effective Date: 07/13/2023

Log In Back-Sheet

Client Nobis Group

Project St Johnsbury Armory

MCP/RCP Required no

Deliverable Package Requirement none

Location St. Johnsbury, VT

PWSID# (When Applicable) n/a

Arrival Method:

Courier ☑ Fed Ex ☐ Walk In ☐ Other ☐

Received By / Date / Time ER 8/22/23 1746

Back-Sheet By / Date / Time Mem 8/22/23 2217

Temperature Method Gun # 5

Temp < 6° C Actual Temperature 22.26, 38.39.56

Rush Samples: Yes / No Notify No

Short Hold: Yes / No Notify No

Notes regarding Samples/COC outside of SOP:

* Sample split into fifteen separate work orders

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy) Any False statement will be brought to the attention of the Client – True or False

	True	False
Received on Ice	☑	☐
Received in Cooler	☑	☐
Custody Seal: DATE TIME	☐	☑
COC Relinquished	☑	☐
COC/Samples Labels Agree	☑	☐
All Samples in Good Condition	☑	☐
Samples Received within Holding Time	☑	☐
Is there enough Volume	☑	☐
Proper Media/Container Used	☑	☐
Splitting Samples Required	☑ see notes	☐
MS/MSD	☑	☐
Trip Blanks	☐	☑
Lab to Filters	☐	☑
COC Legible	☑	☐

COC Included: (Check all included)

Client ☑ Analysis ☑ Sampler Name ☑

Project ☑ IDs ☑ Collection Date/Time ☑

All Samples Proper pH: N/A ☐ ☐

Additional Container Notes

Note: West Virginia requires all samples to have their temperature taken. Note any outliers.

Qualtrax ID: 120836

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist	Effective Date: 07/13/2023

Sample	Soils Jars (Circle Amb/Clear)			Ambers				Plastics												VOA Vials						Other / Fill in				
	16oz Amb/Clear	8oz Amb/Clear	4oz Amb/Clear	2oz Amb/Clear	1 Liter		250mL		100mL	1 Liter		500mL	250mL																	
					Unpreserved	HCL	Sulfuric	Sulfuric	Phosphoric	HCl	Unpreserved	Unpreserved	Sulfuric	Unpreserved	Trizma	Sulfuric	Nitric	NaOH	Ammonium Acetate	NaOH/Zinc	Unpreserved	HCl	MeOH	D.I. Water	Bisulfate	Col/Bact					
1			—																											
2																														
3																														
4																														
5																														
6																														
7																														
8																														
9																														
10																														
11																														
12																														
13																														
14																														
15																														
16																														
17																														
18			✓																											
19			3																											
20			1																											

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

September 6, 2023

Tim Andrews
Nobis Engineering
585 Middlesex Street
Lowell, MA 01851

Project Location: St. Johnsbury, VT
Client Job Number:
Project Number: S00001.017
Laboratory Work Order Number: 23H3250

Enclosed are results of analyses for samples as received by the laboratory on August 22, 2023. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Rebecca Faust
Project Manager

Table of Contents

Sample Summary 4

Case Narrative 5

Sample Results 6

23H3250-01 6

23H3250-02 7

23H3250-03 8

23H3250-04 9

23H3250-05 10

23H3250-06 11

23H3250-07 12

23H3250-08 13

23H3250-09 14

23H3250-10 15

23H3250-11 16

23H3250-12 17

23H3250-13 18

23H3250-14 19

23H3250-15 20

23H3250-16 21

23H3250-17 22

23H3250-18 23

23H3250-19 24

23H3250-20 25

Sample Preparation Information 26

QC Data 27

Table of Contents (continued)

Polychlorinated Biphenyls with 3540 Soxhlet Extraction 27

B350678 27

Dual Column RPD Report 28

Flag/Qualifier Summary 50

Certifications 51

Chain of Custody/Sample Receipt 52

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Nobis Engineering
585 Middlesex Street
Lowell, MA 01851
ATTN: Tim Andrews

REPORT DATE: 9/6/2023

PURCHASE ORDER NUMBER:

PROJECT NUMBER: S00001.017

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23H3250

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: St. Johnsbury, VT

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
P-021-R06WT	23H3250-01	Paint		SW-846 8082A	
P-022-R06D	23H3250-02	Paint		SW-846 8082A	
P-023-R06F	23H3250-03	Paint		SW-846 8082A	
P-024-R05D	23H3250-04	Paint		SW-846 8082A	
P-025-R07E	23H3250-05	Paint		SW-846 8082A	
P-026-R07S	23H3250-06	Paint		SW-846 8082A	
P-027-R07C	23H3250-07	Paint		SW-846 8082A	
P-028-R07F	23H3250-08	Paint		SW-846 8082A	
P-029-R07WT	23H3250-09	Paint		SW-846 8082A	
P-030-R09E	23H3250-10	Paint		SW-846 8082A	
P-031-R09S	23H3250-11	Paint		SW-846 8082A	
P-032-R09S	23H3250-12	Paint		SW-846 8082A	
P-033-R08C	23H3250-13	Paint		SW-846 8082A	
P-034-R08F	23H3250-14	Paint		SW-846 8082A	
P-035-R08WT	23H3250-15	Paint		SW-846 8082A	
P-036-R08D	23H3250-16	Paint		SW-846 8082A	
P-037-R07D	23H3250-17	Paint		SW-846 8082A	
P-038-R09E	23H3250-18	Paint		SW-846 8082A	
P-039-R09S	23H3250-19	Paint		SW-846 8082A	
P-040-R09W	23H3250-20	Paint		SW-846 8082A	

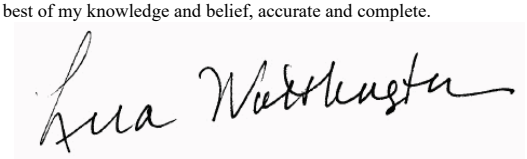
con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Lisa A. Worthington
Technical Representative

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3250

Date Received: 8/22/2023

Field Sample #: P-021-R06WT | Sampled: 8/14/2023 10:18

Sample ID: 23H3250-01

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 17:22	TG
Aroclor-1221 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 17:22	TG
Aroclor-1232 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 17:22	TG
Aroclor-1242 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 17:22	TG
Aroclor-1248 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 17:22	TG
Aroclor-1254 [2]	38	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 17:22	TG
Aroclor-1260 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 17:22	TG
Aroclor-1262 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 17:22	TG
Aroclor-1268 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 17:22	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	69.7	30-150		9/4/23 17:22
Decachlorobiphenyl [2]	71.3	30-150		9/4/23 17:22
Tetrachloro-m-xylene [1]	69.5	30-150		9/4/23 17:22
Tetrachloro-m-xylene [2]	70.7	30-150		9/4/23 17:22

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3250

Date Received: 8/22/2023

Field Sample #: P-022-R06D | Sampled: 8/14/2023 10:19

Sample ID: 23H3250-02

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	3.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 17:39	TG
Aroclor-1221 [1]	ND	3.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 17:39	TG
Aroclor-1232 [1]	ND	3.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 17:39	TG
Aroclor-1242 [1]	ND	3.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 17:39	TG
Aroclor-1248 [1]	ND	3.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 17:39	TG
Aroclor-1254 [1]	49	3.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 17:39	TG
Aroclor-1260 [1]	ND	3.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 17:39	TG
Aroclor-1262 [1]	ND	3.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 17:39	TG
Aroclor-1268 [1]	ND	3.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 17:39	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	74.5	30-150		9/4/23 17:39
Decachlorobiphenyl [2]	75.5	30-150		9/4/23 17:39
Tetrachloro-m-xylene [1]	74.1	30-150		9/4/23 17:39
Tetrachloro-m-xylene [2]	73.1	30-150		9/4/23 17:39

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3250

Date Received: 8/22/2023

Field Sample #: P-023-R06F | Sampled: 8/14/2023 10:20

Sample ID: 23H3250-03

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 17:56	TG
Aroclor-1221 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 17:56	TG
Aroclor-1232 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 17:56	TG
Aroclor-1242 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 17:56	TG
Aroclor-1248 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 17:56	TG
Aroclor-1254 [1]	52	4.8	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 17:56	TG
Aroclor-1260 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 17:56	TG
Aroclor-1262 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 17:56	TG
Aroclor-1268 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 17:56	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	67.2	30-150		9/4/23 17:56
Decachlorobiphenyl [2]	68.2	30-150		9/4/23 17:56
Tetrachloro-m-xylene [1]	65.0	30-150		9/4/23 17:56
Tetrachloro-m-xylene [2]	64.0	30-150		9/4/23 17:56

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3250

Date Received: 8/22/2023

Field Sample #: P-024-R05D | Sampled: 8/14/2023 10:30

Sample ID: 23H3250-04

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 18:14	TG
Aroclor-1221 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 18:14	TG
Aroclor-1232 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 18:14	TG
Aroclor-1242 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 18:14	TG
Aroclor-1248 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 18:14	TG
Aroclor-1254 [2]	72	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 18:14	TG
Aroclor-1260 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 18:14	TG
Aroclor-1262 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 18:14	TG
Aroclor-1268 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 18:14	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	67.9	30-150		9/4/23 18:14
Decachlorobiphenyl [2]	68.9	30-150		9/4/23 18:14
Tetrachloro-m-xylene [1]	67.0	30-150		9/4/23 18:14
Tetrachloro-m-xylene [2]	65.7	30-150		9/4/23 18:14

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3250

Date Received: 8/22/2023

Field Sample #: P-025-R07E | Sampled: 8/14/2023 11:00

Sample ID: 23H3250-05

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 18:31	TG
Aroclor-1221 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 18:31	TG
Aroclor-1232 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 18:31	TG
Aroclor-1242 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 18:31	TG
Aroclor-1248 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 18:31	TG
Aroclor-1254 [1]	22	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 18:31	TG
Aroclor-1260 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 18:31	TG
Aroclor-1262 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 18:31	TG
Aroclor-1268 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 18:31	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	83.1	30-150		9/4/23 18:31
Decachlorobiphenyl [2]	83.9	30-150		9/4/23 18:31
Tetrachloro-m-xylene [1]	79.9	30-150		9/4/23 18:31
Tetrachloro-m-xylene [2]	78.2	30-150		9/4/23 18:31

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3250

Date Received: 8/22/2023

Field Sample #: P-026-R07S | Sampled: 8/14/2023 11:01

Sample ID: 23H3250-06

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.5	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 18:48	TG
Aroclor-1221 [1]	ND	4.5	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 18:48	TG
Aroclor-1232 [1]	ND	4.5	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 18:48	TG
Aroclor-1242 [1]	ND	4.5	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 18:48	TG
Aroclor-1248 [1]	ND	4.5	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 18:48	TG
Aroclor-1254 [2]	14	4.5	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 18:48	TG
Aroclor-1260 [1]	ND	4.5	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 18:48	TG
Aroclor-1262 [1]	ND	4.5	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 18:48	TG
Aroclor-1268 [1]	ND	4.5	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 18:48	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	87.0	30-150		9/4/23 18:48
Decachlorobiphenyl [2]	88.2	30-150		9/4/23 18:48
Tetrachloro-m-xylene [1]	83.2	30-150		9/4/23 18:48
Tetrachloro-m-xylene [2]	82.4	30-150		9/4/23 18:48

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3250

Date Received: 8/22/2023

Field Sample #: P-027-R07C | Sampled: 8/14/2023 11:02

Sample ID: 23H3250-07

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.6	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 19:05	TG
Aroclor-1221 [1]	ND	4.6	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 19:05	TG
Aroclor-1232 [1]	ND	4.6	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 19:05	TG
Aroclor-1242 [1]	ND	4.6	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 19:05	TG
Aroclor-1248 [1]	ND	4.6	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 19:05	TG
Aroclor-1254 [1]	33	4.6	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 19:05	TG
Aroclor-1260 [1]	ND	4.6	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 19:05	TG
Aroclor-1262 [1]	ND	4.6	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 19:05	TG
Aroclor-1268 [1]	ND	4.6	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 19:05	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	83.2	30-150		9/4/23 19:05
Decachlorobiphenyl [2]	84.7	30-150		9/4/23 19:05
Tetrachloro-m-xylene [1]	77.6	30-150		9/4/23 19:05
Tetrachloro-m-xylene [2]	78.5	30-150		9/4/23 19:05

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3250

Date Received: 8/22/2023

Field Sample #: P-028-R07F | Sampled: 8/14/2023 11:03

Sample ID: 23H3250-08

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.1	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 19:22	TG
Aroclor-1221 [1]	ND	4.1	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 19:22	TG
Aroclor-1232 [1]	ND	4.1	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 19:22	TG
Aroclor-1242 [1]	ND	4.1	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 19:22	TG
Aroclor-1248 [1]	ND	4.1	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 19:22	TG
Aroclor-1254 [2]	36	4.1	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 19:22	TG
Aroclor-1260 [1]	ND	4.1	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 19:22	TG
Aroclor-1262 [1]	ND	4.1	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 19:22	TG
Aroclor-1268 [1]	ND	4.1	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 19:22	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	60.5	30-150		9/4/23 19:22
Decachlorobiphenyl [2]	60.9	30-150		9/4/23 19:22
Tetrachloro-m-xylene [1]	59.4	30-150		9/4/23 19:22
Tetrachloro-m-xylene [2]	59.7	30-150		9/4/23 19:22

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3250

Date Received: 8/22/2023

Field Sample #: P-029-R07WT | Sampled: 8/14/2023 11:04

Sample ID: 23H3250-09

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 19:39	TG
Aroclor-1221 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 19:39	TG
Aroclor-1232 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 19:39	TG
Aroclor-1242 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 19:39	TG
Aroclor-1248 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 19:39	TG
Aroclor-1254 [2]	35	4.4	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 19:39	TG
Aroclor-1260 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 19:39	TG
Aroclor-1262 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 19:39	TG
Aroclor-1268 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 19:39	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	79.2	30-150		9/4/23 19:39
Decachlorobiphenyl [2]	79.8	30-150		9/4/23 19:39
Tetrachloro-m-xylene [1]	78.6	30-150		9/4/23 19:39
Tetrachloro-m-xylene [2]	77.4	30-150		9/4/23 19:39

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3250

Date Received: 8/22/2023

Field Sample #: P-030-R09E | Sampled: 8/14/2023 11:15

Sample ID: 23H3250-10

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 19:57	TG
Aroclor-1221 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 19:57	TG
Aroclor-1232 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 19:57	TG
Aroclor-1242 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 19:57	TG
Aroclor-1248 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 19:57	TG
Aroclor-1254 [2]	20	4.8	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 19:57	TG
Aroclor-1260 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 19:57	TG
Aroclor-1262 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 19:57	TG
Aroclor-1268 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 19:57	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	93.7	30-150		9/4/23 19:57
Decachlorobiphenyl [2]	94.2	30-150		9/4/23 19:57
Tetrachloro-m-xylene [1]	87.4	30-150		9/4/23 19:57
Tetrachloro-m-xylene [2]	89.1	30-150		9/4/23 19:57

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3250

Date Received: 8/22/2023

Field Sample #: P-031-R09S | Sampled: 8/14/2023 11:16

Sample ID: 23H3250-11

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	3.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 21:17	TG
Aroclor-1221 [1]	ND	3.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 21:17	TG
Aroclor-1232 [1]	ND	3.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 21:17	TG
Aroclor-1242 [1]	ND	3.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 21:17	TG
Aroclor-1248 [1]	ND	3.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 21:17	TG
Aroclor-1254 [2]	16	3.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 21:17	TG
Aroclor-1260 [1]	ND	3.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 21:17	TG
Aroclor-1262 [1]	ND	3.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 21:17	TG
Aroclor-1268 [1]	ND	3.7	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 21:17	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	84.7	30-150		9/4/23 21:17
Decachlorobiphenyl [2]	85.6	30-150		9/4/23 21:17
Tetrachloro-m-xylene [1]	79.9	30-150		9/4/23 21:17
Tetrachloro-m-xylene [2]	79.9	30-150		9/4/23 21:17

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3250

Date Received: 8/22/2023

Field Sample #: P-032-R09S | Sampled: 8/14/2023 11:17

Sample ID: 23H3250-12

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.3	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 21:34	TG
Aroclor-1221 [1]	ND	4.3	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 21:34	TG
Aroclor-1232 [1]	ND	4.3	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 21:34	TG
Aroclor-1242 [1]	ND	4.3	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 21:34	TG
Aroclor-1248 [1]	ND	4.3	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 21:34	TG
Aroclor-1254 [1]	11	4.3	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 21:34	TG
Aroclor-1260 [1]	ND	4.3	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 21:34	TG
Aroclor-1262 [1]	ND	4.3	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 21:34	TG
Aroclor-1268 [1]	ND	4.3	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 21:34	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	96.6	30-150		9/4/23 21:34
Decachlorobiphenyl [2]	97.0	30-150		9/4/23 21:34
Tetrachloro-m-xylene [1]	96.1	30-150		9/4/23 21:34
Tetrachloro-m-xylene [2]	95.5	30-150		9/4/23 21:34

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3250

Date Received: 8/22/2023

Field Sample #: P-033-R08C | Sampled: 8/14/2023 11:18

Sample ID: 23H3250-13

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.2	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 21:51	TG
Aroclor-1221 [1]	ND	4.2	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 21:51	TG
Aroclor-1232 [1]	ND	4.2	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 21:51	TG
Aroclor-1242 [1]	ND	4.2	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 21:51	TG
Aroclor-1248 [1]	ND	4.2	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 21:51	TG
Aroclor-1254 [2]	20	4.2	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 21:51	TG
Aroclor-1260 [1]	ND	4.2	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 21:51	TG
Aroclor-1262 [1]	ND	4.2	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 21:51	TG
Aroclor-1268 [1]	ND	4.2	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 21:51	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	74.2	30-150		9/4/23 21:51
Decachlorobiphenyl [2]	74.8	30-150		9/4/23 21:51
Tetrachloro-m-xylene [1]	74.4	30-150		9/4/23 21:51
Tetrachloro-m-xylene [2]	74.8	30-150		9/4/23 21:51

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3250

Date Received: 8/22/2023

Field Sample #: P-034-R08F | Sampled: 8/14/2023 11:19

Sample ID: 23H3250-14

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 22:08	TG
Aroclor-1221 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 22:08	TG
Aroclor-1232 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 22:08	TG
Aroclor-1242 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 22:08	TG
Aroclor-1248 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 22:08	TG
Aroclor-1254 [2]	51	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 22:08	TG
Aroclor-1260 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 22:08	TG
Aroclor-1262 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 22:08	TG
Aroclor-1268 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 22:08	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	90.0	30-150		9/4/23 22:08
Decachlorobiphenyl [2]	91.1	30-150		9/4/23 22:08
Tetrachloro-m-xylene [1]	87.7	30-150		9/4/23 22:08
Tetrachloro-m-xylene [2]	86.0	30-150		9/4/23 22:08

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3250

Date Received: 8/22/2023

Field Sample #: P-035-R08WT | Sampled: 8/14/2023 11:20

Sample ID: 23H3250-15

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 22:25	TG
Aroclor-1221 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 22:25	TG
Aroclor-1232 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 22:25	TG
Aroclor-1242 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 22:25	TG
Aroclor-1248 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 22:25	TG
Aroclor-1254 [2]	34	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 22:25	TG
Aroclor-1260 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 22:25	TG
Aroclor-1262 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 22:25	TG
Aroclor-1268 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 22:25	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	79.4	30-150		9/4/23 22:25
Decachlorobiphenyl [2]	79.8	30-150		9/4/23 22:25
Tetrachloro-m-xylene [1]	77.0	30-150		9/4/23 22:25
Tetrachloro-m-xylene [2]	77.4	30-150		9/4/23 22:25

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3250

Date Received: 8/22/2023

Field Sample #: P-036-R08D | Sampled: 8/14/2023 11:21

Sample ID: 23H3250-16

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 22:43	TG
Aroclor-1221 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 22:43	TG
Aroclor-1232 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 22:43	TG
Aroclor-1242 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 22:43	TG
Aroclor-1248 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 22:43	TG
Aroclor-1254 [2]	45	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 22:43	TG
Aroclor-1260 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 22:43	TG
Aroclor-1262 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 22:43	TG
Aroclor-1268 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 22:43	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	96.6	30-150		9/4/23 22:43
Decachlorobiphenyl [2]	97.1	30-150		9/4/23 22:43
Tetrachloro-m-xylene [1]	92.0	30-150		9/4/23 22:43
Tetrachloro-m-xylene [2]	91.2	30-150		9/4/23 22:43

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3250

Date Received: 8/22/2023

Field Sample #: P-037-R07D | Sampled: 8/14/2023 11:30

Sample ID: 23H3250-17

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	8/31/23	9/5/23 10:34	TG
Aroclor-1221 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	8/31/23	9/5/23 10:34	TG
Aroclor-1232 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	8/31/23	9/5/23 10:34	TG
Aroclor-1242 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	8/31/23	9/5/23 10:34	TG
Aroclor-1248 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	8/31/23	9/5/23 10:34	TG
Aroclor-1254 [1]	19	4.8	mg/Kg	10		SW-846 8082A	8/31/23	9/5/23 10:34	TG
Aroclor-1260 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	8/31/23	9/5/23 10:34	TG
Aroclor-1262 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	8/31/23	9/5/23 10:34	TG
Aroclor-1268 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	8/31/23	9/5/23 10:34	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	84.2	30-150		9/5/23 10:34
Decachlorobiphenyl [2]	86.0	30-150		9/5/23 10:34
Tetrachloro-m-xylene [1]	82.9	30-150		9/5/23 10:34
Tetrachloro-m-xylene [2]	81.4	30-150		9/5/23 10:34

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3250

Date Received: 8/22/2023

Field Sample #: P-038-R09E | Sampled: 8/14/2023 11:31

Sample ID: 23H3250-18

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 23:18	TG
Aroclor-1221 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 23:18	TG
Aroclor-1232 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 23:18	TG
Aroclor-1242 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 23:18	TG
Aroclor-1248 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 23:18	TG
Aroclor-1254 [2]	50	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 23:18	TG
Aroclor-1260 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 23:18	TG
Aroclor-1262 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 23:18	TG
Aroclor-1268 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 23:18	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	78.9	30-150		9/4/23 23:18
Decachlorobiphenyl [2]	79.6	30-150		9/4/23 23:18
Tetrachloro-m-xylene [1]	74.7	30-150		9/4/23 23:18
Tetrachloro-m-xylene [2]	74.3	30-150		9/4/23 23:18

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3250

Date Received: 8/22/2023

Field Sample #: P-039-R09S | Sampled: 8/14/2023 11:32

Sample ID: 23H3250-19

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 23:35	TG
Aroclor-1221 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 23:35	TG
Aroclor-1232 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 23:35	TG
Aroclor-1242 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 23:35	TG
Aroclor-1248 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 23:35	TG
Aroclor-1254 [2]	17	4.8	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 23:35	TG
Aroclor-1260 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 23:35	TG
Aroclor-1262 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 23:35	TG
Aroclor-1268 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 23:35	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	94.4	30-150		9/4/23 23:35
Decachlorobiphenyl [2]	95.5	30-150		9/4/23 23:35
Tetrachloro-m-xylene [1]	87.6	30-150		9/4/23 23:35
Tetrachloro-m-xylene [2]	86.6	30-150		9/4/23 23:35

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3250

Date Received: 8/22/2023

Field Sample #: P-040-R09W | Sampled: 8/14/2023 11:33

Sample ID: 23H3250-20

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 23:52	TG
Aroclor-1221 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 23:52	TG
Aroclor-1232 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 23:52	TG
Aroclor-1242 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 23:52	TG
Aroclor-1248 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 23:52	TG
Aroclor-1254 [2]	16	4.4	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 23:52	TG
Aroclor-1260 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 23:52	TG
Aroclor-1262 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 23:52	TG
Aroclor-1268 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	8/31/23	9/4/23 23:52	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	86.7	30-150		9/4/23 23:52
Decachlorobiphenyl [2]	87.6	30-150		9/4/23 23:52
Tetrachloro-m-xylene [1]	81.8	30-150		9/4/23 23:52
Tetrachloro-m-xylene [2]	81.6	30-150		9/4/23 23:52

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method:SW-846 3540C **Analytical Method:SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23H3250-01 [P-021-R06WT]	B350678	0.214	10.0	08/31/23
23H3250-02 [P-022-R06D]	B350678	0.269	10.0	08/31/23
23H3250-03 [P-023-R06F]	B350678	0.208	10.0	08/31/23
23H3250-04 [P-024-R05D]	B350678	0.203	10.0	08/31/23
23H3250-05 [P-025-R07E]	B350678	0.205	10.0	08/31/23
23H3250-06 [P-026-R07S]	B350678	0.221	10.0	08/31/23
23H3250-07 [P-027-R07C]	B350678	0.216	10.0	08/31/23
23H3250-08 [P-028-R07F]	B350678	0.242	10.0	08/31/23
23H3250-09 [P-029-R07WT]	B350678	0.230	10.0	08/31/23
23H3250-10 [P-030-R09E]	B350678	0.207	10.0	08/31/23
23H3250-11 [P-031-R09S]	B350678	0.267	10.0	08/31/23
23H3250-12 [P-032-R09S]	B350678	0.232	10.0	08/31/23
23H3250-13 [P-033-R08C]	B350678	0.239	10.0	08/31/23
23H3250-14 [P-034-R08F]	B350678	0.206	10.0	08/31/23
23H3250-15 [P-035-R08WT]	B350678	0.205	10.0	08/31/23
23H3250-16 [P-036-R08D]	B350678	0.205	10.0	08/31/23
23H3250-17 [P-037-R07D]	B350678	0.208	10.0	08/31/23
23H3250-18 [P-038-R09E]	B350678	0.204	10.0	08/31/23
23H3250-19 [P-039-R09S]	B350678	0.207	10.0	08/31/23
23H3250-20 [P-040-R09W]	B350678	0.228	10.0	08/31/23

con-test® A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B350678 - SW-846 3540C										
Blank (B350678-BLK1)				Prepared: 08/31/23 Analyzed: 09/04/23						
Aroclor-1016	ND	0.43	mg/Kg							
Aroclor-1016 [2C]	ND	0.43	mg/Kg							
Aroclor-1221	ND	0.43	mg/Kg							
Aroclor-1221 [2C]	ND	0.43	mg/Kg							
Aroclor-1232	ND	0.43	mg/Kg							
Aroclor-1232 [2C]	ND	0.43	mg/Kg							
Aroclor-1242	ND	0.43	mg/Kg							
Aroclor-1242 [2C]	ND	0.43	mg/Kg							
Aroclor-1248	ND	0.43	mg/Kg							
Aroclor-1248 [2C]	ND	0.43	mg/Kg							
Aroclor-1254	ND	0.43	mg/Kg							
Aroclor-1254 [2C]	ND	0.43	mg/Kg							
Aroclor-1260	ND	0.43	mg/Kg							
Aroclor-1260 [2C]	ND	0.43	mg/Kg							
Aroclor-1262	ND	0.43	mg/Kg							
Aroclor-1262 [2C]	ND	0.43	mg/Kg							
Aroclor-1268	ND	0.43	mg/Kg							
Aroclor-1268 [2C]	ND	0.43	mg/Kg							
Surrogate: Decachlorobiphenyl	*7.58*		mg/Kg	8.69		87.3	30-150			
Surrogate: Decachlorobiphenyl [2C]	*8.17*		mg/Kg	8.69		94.0	30-150			
Surrogate: Tetrachloro-m-xylene	*7.28*		mg/Kg	8.69		83.7	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*7.54*		mg/Kg	8.69		86.8	30-150			
LCS (B350678-BS1)				Prepared: 08/31/23 Analyzed: 09/04/23						
Aroclor-1016	6.2	0.42	mg/Kg	8.43		74.0	40-140			
Aroclor-1016 [2C]	6.8	0.42	mg/Kg	8.43		80.5	40-140			
Aroclor-1260	6.2	0.42	mg/Kg	8.43		73.1	40-140			
Aroclor-1260 [2C]	6.5	0.42	mg/Kg	8.43		77.4	40-140			
Surrogate: Decachlorobiphenyl	*7.26*		mg/Kg	8.43		86.1	30-150			
Surrogate: Decachlorobiphenyl [2C]	*7.82*		mg/Kg	8.43		92.7	30-150			
Surrogate: Tetrachloro-m-xylene	*7.02*		mg/Kg	8.43		83.3	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*7.29*		mg/Kg	8.43		86.5	30-150			
LCS Dup (B350678-BSD1)				Prepared: 08/31/23 Analyzed: 09/04/23						
Aroclor-1016	6.7	0.47	mg/Kg	9.45		71.0	40-140	7.31	30	
Aroclor-1016 [2C]	7.5	0.47	mg/Kg	9.45		79.6	40-140	10.3	30	
Aroclor-1260	6.9	0.47	mg/Kg	9.45		72.9	40-140	11.1	30	
Aroclor-1260 [2C]	7.6	0.47	mg/Kg	9.45		80.2	40-140	14.9	30	
Surrogate: Decachlorobiphenyl	*8.04*		mg/Kg	9.45		85.1	30-150			
Surrogate: Decachlorobiphenyl [2C]	*8.63*		mg/Kg	9.45		91.3	30-150			
Surrogate: Tetrachloro-m-xylene	*7.66*		mg/Kg	9.45		81.0	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*7.92*		mg/Kg	9.45		83.8	30-150			

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-021-R06WT

Lab Sample ID: 23H3250-01 Date(s) Analyzed: 09/04/2023 09/04/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	37	
	2	0.000	0.000	0.000	38	2.7

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-022-R06D

Lab Sample ID: 23H3250-02 Date(s) Analyzed: 09/04/2023 09/04/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	49	
	2	0.000	0.000	0.000	49	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-023-R06F

Lab Sample ID: 23H3250-03

Date(s) Analyzed: 09/04/2023 09/04/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	52	
	2	0.000	0.000	0.000	51	1.9

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-024-R05D

Lab Sample ID: 23H3250-04

Date(s) Analyzed: 09/04/2023 09/04/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	71	
	2	0.000	0.000	0.000	72	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-025-R07E

Lab Sample ID: 23H3250-05

Date(s) Analyzed: 09/04/2023 09/04/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	22	
	2	0.000	0.000	0.000	21	4.7

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-026-R07S

Lab Sample ID: 23H3250-06

Date(s) Analyzed: 09/04/2023 09/04/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	14	
	2	0.000	0.000	0.000	14	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-027-R07C

Lab Sample ID: 23H3250-07

Date(s) Analyzed: 09/04/2023 09/04/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	33	
	2	0.000	0.000	0.000	32	3.1

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-028-R07F

Lab Sample ID: 23H3250-08

Date(s) Analyzed: 09/04/2023 09/04/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	35	
	2	0.000	0.000	0.000	36	2.8

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-029-R07WT

Lab Sample ID: 23H3250-09

Date(s) Analyzed: 09/04/2023 09/04/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	34	
	2	0.000	0.000	0.000	35	2.9

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-030-R09E

Lab Sample ID: 23H3250-10

Date(s) Analyzed: 09/04/2023 09/04/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	19	
	2	0.000	0.000	0.000	20	5.1

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-031-R09S

Lab Sample ID: 23H3250-11

Date(s) Analyzed: 09/04/2023 09/04/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	16	
	2	0.000	0.000	0.000	16	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-032-R09S

Lab Sample ID: 23H3250-12

Date(s) Analyzed: 09/04/2023 09/04/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	11	
	2	0.000	0.000	0.000	11	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-033-R08C

Lab Sample ID: 23H3250-13

Date(s) Analyzed: 09/04/2023 09/04/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	20	
	2	0.000	0.000	0.000	20	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-034-R08F

Lab Sample ID: 23H3250-14

Date(s) Analyzed: 09/04/2023 09/04/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	49	
	2	0.000	0.000	0.000	51	4.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-035-R08WT

Lab Sample ID: 23H3250-15 Date(s) Analyzed: 09/04/2023 09/04/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	31	
	2	0.000	0.000	0.000	34	9.2

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-036-R08D

Lab Sample ID: 23H3250-16

Date(s) Analyzed: 09/04/2023 09/04/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	43	
	2	0.000	0.000	0.000	45	4.6

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-037-R07D

Lab Sample ID: 23H3250-17

Date(s) Analyzed: 09/05/2023 09/05/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	19	
	2	0.000	0.000	0.000	18	5.4

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-038-R09E

Lab Sample ID: 23H3250-18

Date(s) Analyzed: 09/04/2023 09/04/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	50	
	2	0.000	0.000	0.000	50	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-039-R09S

Lab Sample ID: 23H3250-19

Date(s) Analyzed: 09/04/2023 09/04/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	16	
	2	0.000	0.000	0.000	17	6.1

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-040-R09W

Lab Sample ID: 23H3250-20

Date(s) Analyzed: 09/04/2023 09/04/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	15	
	2	0.000	0.000	0.000	16	6.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B350678-BS1 Date(s) Analyzed: 09/04/2023 09/04/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	6.2	
	2	0.000	0.000	0.000	6.8	9.2
Aroclor-1260	1	0.000	0.000	0.000	6.2	
	2	0.000	0.000	0.000	6.5	4.7

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B350678-BSD1 Date(s) Analyzed: 09/04/2023 09/04/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	6.7	
	2	0.000	0.000	0.000	7.5	11.3
Aroclor-1260	1	0.000	0.000	0.000	6.9	
	2	0.000	0.000	0.000	7.6	9.7

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level

Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.

No results have been blank subtracted unless specified in the case narrative section.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications

No certified Analyses included in this Report

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires

23H3250 RF

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time
7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
1	P-021-R06WT	8/14/2023	10:18	GRAB	O	U		1				x
2	P-022-R06D	8/14/2023	10:19	GRAB	O	U		1				x
3	P-023-R06F	8/14/2023	10:20	GRAB	O	U		1				x
4	P-024-R05D	8/14/2023	10:30	GRAB	O	U		1				x
5	P-025-R07E	8/14/2023	11:00	GRAB	O	U		1				x
6	P-026-R07S	8/14/2023	11:01	GRAB	O	U		1				x
7	P-027-R07C	8/14/2023	11:02	GRAB	O	U		1				x
8	P-028-R07F	8/14/2023	11:03	GRAB	O	U		1				x
9	P-029-R07WT	8/14/2023	11:04	GRAB	O	U		1				x
10	P-030-R09E	8/14/2023	11:15	GRAB	O	U		1				x

[2] Preservation Code
Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time: 8/22/23 12:58	Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS
Received by: (signature)	Date/Time: 8/22/23 1258	
Relinquished by: (signature)	Date/Time: 8/22/23 1741	
Received by: (signature) 3.8 22, 3.9	Date/Time: 8/23/23	
Relinquished by: (signature) 2.6, 5.6	Date/Time: 1746	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

Pace Analytical

Phone: 612-607-6400
Fax: 612-607-6344

23H3250 RF

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time

7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
11	P-031-R09S	8/14/2023	11:16	GRAB	O	U		1				x
12	P-032-R09W	8/14/2023	11:17	GRAB	O	U		1				x
13	P-033-R08C	8/14/2023	11:18	GRAB	O	U		1				x
14	P-034-R08F	8/14/2023	11:19	GRAB	O	U		1				x
15	P-035-R08WT	8/14/2023	11:20	GRAB	O	U		1				x
16	P-036-R08D	8/14/2023	11:21	GRAB	O	U		1				x
17	P-037-R07D	8/14/2023	11:30	GRAB	O	U		1				x
18	P-038-R09E	8/14/2023	11:31	GRAB	O	U		1				x
19	P-039-R09S	8/14/2023	11:32	GRAB	O	U		1				x
20	P-040-R09W	8/14/2023	11:33	GRAB	O	U		1				x

[2] Preservation Code
Courier Use Only
Total Number Of:
VIALS
GLASS
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time: 8/22/23 1258
Received by: (signature)	Date/Time: 8/22/23 1258
Relinquished by: (signature)	Date/Time: 8/22/23 1746
Received by: (signature) 3.9, 2.2, 3.9	Date/Time: 8/22/23
Relinquished by: (signature) 2.6, 5.6	Date/Time: 1746
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other

☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist
	Effective Date: 07/13/2023

Log In Back-Sheet

Client: Nobis Group

Project: St. Johnsbury Armory

MCP/RCP Required: no

Deliverable Package Requirement: none

Location: St. Johnsbury, VT

PWSID# (When Applicable): n/a

Arrival Method:

Courier ☑ Fed Ex ☐ Walk In ☐ Other ☐

Received By / Date / Time: ER 8/22/23 1746

Back-Sheet By / Date / Time: Mcm 8/22/23 2217

Temperature Method: Gun # 5

Temp < 6° C Actual Temperature: 22.26, 38.39.56

Rush Samples: Yes / No Notify: No

Short Hold: Yes / No Notify: No

Notes regarding Samples/COC outside of SOP:

* Sample split into fifteen separate work orders

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy) Any False statement will be brought to the attention of the Client – True or False

	True	False
Received on Ice	☑	☐
Received in Cooler	☑	☐
Custody Seal: DATE TIME	☐	☑
COC Relinquished	☑	☐
COC/Samples Labels Agree	☑	☐
All Samples in Good Condition	☑	☐
Samples Received within Holding Time	☑	☐
Is there enough Volume	☑	☐
Proper Media/Container Used	☑	☐
Splitting Samples Required	☑ see notes	☐
MS/MSD	☑	☐
Trip Blanks	☐	☑
Lab to Filters	☐	☑
COC Legible	☑	☐

COC Included: (Check all included)

Client ☑ Analysis ☑ Sampler Name ☑

Project ☑ IDs ☑ Collection Date/Time ☑

All Samples Proper pH: N/A ☐ ☐

Additional Container Notes

Note: West Virginia requires all samples to have their temperature taken. Note any outliers.

Qualtrax ID: 120836

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist	Effective Date: 07/13/2023

Sample	Soils Jars (Circle Amb/Clear)				Ambers					Plastics												VOA Vials					Other / Fill in				
	16oz Amb/Clear	8oz Amb/Clear	4oz (Amb)/Clear	2oz Amb/Clear	1 Liter			250mL		100mL	1 Liter			500mL		250mL															
					Unpreserved	HCL	Sulfuric	Sulfuric	Phosphoric	HCl	Unpreserved	Unpreserved	Sulfuric	Unpreserved	Sulfuric	Unpreserved	Trizma	Sulfuric	Nitric	NaOH	Ammonium Acetate	NaOH/Zinc	Unpreserved	HCl	MeOH	D.I. Water	Bisulfate	Col/Bact				
1	1		1																												
2			1																												
3																															
4																															
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															
13																															
14																															
15																															
16																															
17																															
18																															
19																															
20			✓																												

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

September 7, 2023

Tim Andrews
Nobis Engineering
585 Middlesex Street
Lowell, MA 01851

Project Location: St. Johnsbury, VT
Client Job Number:
Project Number: S00001.017
Laboratory Work Order Number: 23H3253

Enclosed are results of analyses for samples as received by the laboratory on August 22, 2023. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Rebecca Faust
Project Manager

Table of Contents

Sample Summary 4

Case Narrative 5

Sample Results 6

23H3253-01 6

23H3253-02 7

23H3253-03 8

23H3253-04 9

23H3253-05 10

23H3253-06 11

23H3253-07 12

23H3253-08 13

23H3253-09 14

23H3253-10 15

23H3253-11 16

23H3253-12 17

23H3253-13 18

23H3253-14 19

23H3253-15 20

23H3253-16 21

23H3253-17 22

23H3253-18 23

23H3253-19 24

23H3253-20 25

Sample Preparation Information 26

QC Data 27

Table of Contents (continued)

Polychlorinated Biphenyls with 3540 Soxhlet Extraction 27

B350795 27

Dual Column RPD Report 29

Flag/Qualifier Summary 53

Certifications 54

Chain of Custody/Sample Receipt 55

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Nobis Engineering
585 Middlesex Street
Lowell, MA 01851
ATTN: Tim Andrews

REPORT DATE: 9/7/2023

PURCHASE ORDER NUMBER:

PROJECT NUMBER: S00001.017

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23H3253

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: St. Johnsbury, VT

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
P-041-R09C	23H3253-01	Paint		SW-846 8082A	
P-042-R09F	23H3253-02	Paint		SW-846 8082A	
P-043-R09WT	23H3253-03	Paint		SW-846 8082A	
P-044-R09D	23H3253-04	Paint		SW-846 8082A	
P-045-R10E	23H3253-05	Paint		SW-846 8082A	
P-046-R10S	23H3253-06	Paint		SW-846 8082A	
P-047-R10W	23H3253-07	Paint		SW-846 8082A	
P-048-R18E	23H3253-08	Paint		SW-846 8082A	
P-049-R18S	23H3253-09	Paint		SW-846 8082A	
P-050-R18NB	23H3253-10	Paint		SW-846 8082A	
P-051-R18NC	23H3253-11	Paint		SW-846 8082A	
P-052-R18C	23H3253-12	Paint		SW-846 8082A	
P-053-R20E	23H3253-13	Paint		SW-846 8082A	
P-054-R20W	23H3253-14	Paint		SW-846 8082A	
P-055-R20NB	23H3253-15	Paint		SW-846 8082A	
P-056-R20NC	23H3253-16	Paint		SW-846 8082A	
P-057-R21EC	23H3253-17	Paint		SW-846 8082A	
P-058-R21EB	23H3253-18	Paint		SW-846 8082A	
P-059-R21S	23H3253-19	Paint		SW-846 8082A	
P-060-R21C	23H3253-20	Paint		SW-846 8082A	

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

SW-846 8082A

Qualifications:

MS-21

Matrix spike and/or spike duplicate recovery bias high due to contribution of other Aroclors present in the source sample.

Analyte & Samples(s) Qualified:

Aroclor-1016
B350795-MS1, B350795-MSD1

Aroclor-1016 [2C]
B350795-MS1, B350795-MSD1

Aroclor-1260
B350795-MS1, B350795-MSD1

Aroclor-1260 [2C]
B350795-MS1, B350795-MSD1

S-01

The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

Analyte & Samples(s) Qualified:

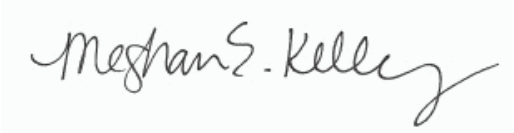
Decachlorobiphenyl
23H3253-09[P-049-R18S], 23H3253-11[P-051-R18NC], 23H3253-13[P-053-R20E], 23H3253-14[P-054-R20W], 23H3253-15[P-055-R20NB], 23H3253-16[P-056-R20NC], 23H3253-19[P-059-R21S]

Decachlorobiphenyl [2C]
23H3253-09[P-049-R18S], 23H3253-11[P-051-R18NC], 23H3253-13[P-053-R20E], 23H3253-14[P-054-R20W], 23H3253-15[P-055-R20NB], 23H3253-16[P-056-R20NC], 23H3253-19[P-059-R21S]

Tetrachloro-m-xylene
23H3253-09[P-049-R18S], 23H3253-11[P-051-R18NC], 23H3253-13[P-053-R20E], 23H3253-14[P-054-R20W], 23H3253-15[P-055-R20NB], 23H3253-16[P-056-R20NC], 23H3253-19[P-059-R21S]

Tetrachloro-m-xylene [2C]
23H3253-09[P-049-R18S], 23H3253-11[P-051-R18NC], 23H3253-13[P-053-R20E], 23H3253-14[P-054-R20W], 23H3253-15[P-055-R20NB], 23H3253-16[P-056-R20NC], 23H3253-19[P-059-R21S]

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Meghan E. Kelley
Reporting Specialist

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3253

Date Received: 8/22/2023

Field Sample #: P-041-R09C | Sampled: 8/14/2023 11:34

Sample ID: 23H3253-01

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	2.4	mg/Kg	5		SW-846 8082A	9/1/23	9/6/23 14:56	TG
Aroclor-1221 [1]	ND	2.4	mg/Kg	5		SW-846 8082A	9/1/23	9/6/23 14:56	TG
Aroclor-1232 [1]	ND	2.4	mg/Kg	5		SW-846 8082A	9/1/23	9/6/23 14:56	TG
Aroclor-1242 [1]	ND	2.4	mg/Kg	5		SW-846 8082A	9/1/23	9/6/23 14:56	TG
Aroclor-1248 [1]	ND	2.4	mg/Kg	5		SW-846 8082A	9/1/23	9/6/23 14:56	TG
Aroclor-1254 [2]	14	2.4	mg/Kg	5		SW-846 8082A	9/1/23	9/6/23 14:56	TG
Aroclor-1260 [1]	ND	2.4	mg/Kg	5		SW-846 8082A	9/1/23	9/6/23 14:56	TG
Aroclor-1262 [1]	ND	2.4	mg/Kg	5		SW-846 8082A	9/1/23	9/6/23 14:56	TG
Aroclor-1268 [1]	ND	2.4	mg/Kg	5		SW-846 8082A	9/1/23	9/6/23 14:56	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	91.2	30-150		9/6/23 14:56
Decachlorobiphenyl [2]	87.1	30-150		9/6/23 14:56
Tetrachloro-m-xylene [1]	82.3	30-150		9/6/23 14:56
Tetrachloro-m-xylene [2]	81.0	30-150		9/6/23 14:56

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3253

Date Received: 8/22/2023

Field Sample #: P-042-R09F | Sampled: 8/14/2023 11:35

Sample ID: 23H3253-02

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	5.0	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 15:14	TG
Aroclor-1221 [1]	ND	5.0	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 15:14	TG
Aroclor-1232 [1]	ND	5.0	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 15:14	TG
Aroclor-1242 [1]	ND	5.0	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 15:14	TG
Aroclor-1248 [1]	ND	5.0	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 15:14	TG
Aroclor-1254 [2]	56	5.0	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 15:14	TG
Aroclor-1260 [1]	ND	5.0	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 15:14	TG
Aroclor-1262 [1]	ND	5.0	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 15:14	TG
Aroclor-1268 [1]	ND	5.0	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 15:14	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	82.2	30-150		9/6/23 15:14
Decachlorobiphenyl [2]	79.8	30-150		9/6/23 15:14
Tetrachloro-m-xylene [1]	80.2	30-150		9/6/23 15:14
Tetrachloro-m-xylene [2]	80.4	30-150		9/6/23 15:14

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3253

Date Received: 8/22/2023

Field Sample #: P-043-R09WT | Sampled: 8/14/2023 11:36

Sample ID: 23H3253-03

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 15:31	TG
Aroclor-1221 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 15:31	TG
Aroclor-1232 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 15:31	TG
Aroclor-1242 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 15:31	TG
Aroclor-1248 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 15:31	TG
Aroclor-1254 [2]	27	4.9	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 15:31	TG
Aroclor-1260 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 15:31	TG
Aroclor-1262 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 15:31	TG
Aroclor-1268 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 15:31	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	82.1	30-150		9/6/23 15:31
Decachlorobiphenyl [2]	80.4	30-150		9/6/23 15:31
Tetrachloro-m-xylene [1]	78.1	30-150		9/6/23 15:31
Tetrachloro-m-xylene [2]	79.3	30-150		9/6/23 15:31

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3253

Date Received: 8/22/2023

Field Sample #: P-044-R09D | Sampled: 8/14/2023 11:37

Sample ID: 23H3253-04

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	5.0	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 15:49	TG
Aroclor-1221 [1]	ND	5.0	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 15:49	TG
Aroclor-1232 [1]	ND	5.0	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 15:49	TG
Aroclor-1242 [1]	ND	5.0	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 15:49	TG
Aroclor-1248 [1]	ND	5.0	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 15:49	TG
Aroclor-1254 [2]	31	5.0	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 15:49	TG
Aroclor-1260 [1]	ND	5.0	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 15:49	TG
Aroclor-1262 [1]	ND	5.0	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 15:49	TG
Aroclor-1268 [1]	ND	5.0	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 15:49	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	86.0	30-150		9/6/23 15:49
Decachlorobiphenyl [2]	84.6	30-150		9/6/23 15:49
Tetrachloro-m-xylene [1]	77.5	30-150		9/6/23 15:49
Tetrachloro-m-xylene [2]	79.0	30-150		9/6/23 15:49

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3253

Date Received: 8/22/2023

Field Sample #: P-045-R10E | Sampled: 8/14/2023 12:00

Sample ID: 23H3253-05

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	2.4	mg/Kg	5		SW-846 8082A	9/1/23	9/6/23 16:06	TG
Aroclor-1221 [1]	ND	2.4	mg/Kg	5		SW-846 8082A	9/1/23	9/6/23 16:06	TG
Aroclor-1232 [1]	ND	2.4	mg/Kg	5		SW-846 8082A	9/1/23	9/6/23 16:06	TG
Aroclor-1242 [1]	ND	2.4	mg/Kg	5		SW-846 8082A	9/1/23	9/6/23 16:06	TG
Aroclor-1248 [1]	ND	2.4	mg/Kg	5		SW-846 8082A	9/1/23	9/6/23 16:06	TG
Aroclor-1254 [2]	13	2.4	mg/Kg	5		SW-846 8082A	9/1/23	9/6/23 16:06	TG
Aroclor-1260 [1]	ND	2.4	mg/Kg	5		SW-846 8082A	9/1/23	9/6/23 16:06	TG
Aroclor-1262 [1]	ND	2.4	mg/Kg	5		SW-846 8082A	9/1/23	9/6/23 16:06	TG
Aroclor-1268 [1]	ND	2.4	mg/Kg	5		SW-846 8082A	9/1/23	9/6/23 16:06	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	93.7	30-150		9/6/23 16:06
Decachlorobiphenyl [2]	90.9	30-150		9/6/23 16:06
Tetrachloro-m-xylene [1]	85.1	30-150		9/6/23 16:06
Tetrachloro-m-xylene [2]	86.9	30-150		9/6/23 16:06

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3253

Date Received: 8/22/2023

Field Sample #: P-046-R10S | Sampled: 8/14/2023 12:01

Sample ID: 23H3253-06

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 16:24	TG
Aroclor-1221 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 16:24	TG
Aroclor-1232 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 16:24	TG
Aroclor-1242 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 16:24	TG
Aroclor-1248 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 16:24	TG
Aroclor-1254 [2]	21	4.7	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 16:24	TG
Aroclor-1260 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 16:24	TG
Aroclor-1262 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 16:24	TG
Aroclor-1268 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 16:24	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	92.8	30-150		9/6/23 16:24
Decachlorobiphenyl [2]	91.3	30-150		9/6/23 16:24
Tetrachloro-m-xylene [1]	81.2	30-150		9/6/23 16:24
Tetrachloro-m-xylene [2]	83.5	30-150		9/6/23 16:24

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3253

Date Received: 8/22/2023

Field Sample #: P-047-R10W | Sampled: 8/14/2023 12:02

Sample ID: 23H3253-07

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 16:41	TG
Aroclor-1221 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 16:41	TG
Aroclor-1232 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 16:41	TG
Aroclor-1242 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 16:41	TG
Aroclor-1248 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 16:41	TG
Aroclor-1254 [2]	19	4.9	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 16:41	TG
Aroclor-1260 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 16:41	TG
Aroclor-1262 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 16:41	TG
Aroclor-1268 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 16:41	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	100	30-150		9/6/23 16:41
Decachlorobiphenyl [2]	98.9	30-150		9/6/23 16:41
Tetrachloro-m-xylene [1]	90.8	30-150		9/6/23 16:41
Tetrachloro-m-xylene [2]	94.2	30-150		9/6/23 16:41

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3253

Date Received: 8/22/2023

Field Sample #: P-048-R18E | Sampled: 8/14/2023 12:10

Sample ID: 23H3253-08

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	9.8	mg/Kg	20		SW-846 8082A	9/1/23	9/6/23 16:59	TG
Aroclor-1221 [1]	ND	9.8	mg/Kg	20		SW-846 8082A	9/1/23	9/6/23 16:59	TG
Aroclor-1232 [1]	ND	9.8	mg/Kg	20		SW-846 8082A	9/1/23	9/6/23 16:59	TG
Aroclor-1242 [1]	ND	9.8	mg/Kg	20		SW-846 8082A	9/1/23	9/6/23 16:59	TG
Aroclor-1248 [1]	ND	9.8	mg/Kg	20		SW-846 8082A	9/1/23	9/6/23 16:59	TG
Aroclor-1254 [2]	180	9.8	mg/Kg	20		SW-846 8082A	9/1/23	9/6/23 16:59	TG
Aroclor-1260 [1]	ND	9.8	mg/Kg	20		SW-846 8082A	9/1/23	9/6/23 16:59	TG
Aroclor-1262 [1]	ND	9.8	mg/Kg	20		SW-846 8082A	9/1/23	9/6/23 16:59	TG
Aroclor-1268 [1]	ND	9.8	mg/Kg	20		SW-846 8082A	9/1/23	9/6/23 16:59	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	101	30-150		9/6/23 16:59
Decachlorobiphenyl [2]	97.5	30-150		9/6/23 16:59
Tetrachloro-m-xylene [1]	86.3	30-150		9/6/23 16:59
Tetrachloro-m-xylene [2]	89.4	30-150		9/6/23 16:59

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3253

Date Received: 8/22/2023

Field Sample #: P-049-R18S | Sampled: 8/14/2023 12:11

Sample ID: 23H3253-09

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	24	mg/Kg	50		SW-846 8082A	9/1/23	9/6/23 17:16	TG
Aroclor-1221 [1]	ND	24	mg/Kg	50		SW-846 8082A	9/1/23	9/6/23 17:16	TG
Aroclor-1232 [1]	ND	24	mg/Kg	50		SW-846 8082A	9/1/23	9/6/23 17:16	TG
Aroclor-1242 [1]	ND	24	mg/Kg	50		SW-846 8082A	9/1/23	9/6/23 17:16	TG
Aroclor-1248 [1]	ND	24	mg/Kg	50		SW-846 8082A	9/1/23	9/6/23 17:16	TG
Aroclor-1254 [1]	330	24	mg/Kg	50		SW-846 8082A	9/1/23	9/6/23 17:16	TG
Aroclor-1260 [1]	ND	24	mg/Kg	50		SW-846 8082A	9/1/23	9/6/23 17:16	TG
Aroclor-1262 [1]	ND	24	mg/Kg	50		SW-846 8082A	9/1/23	9/6/23 17:16	TG
Aroclor-1268 [1]	ND	24	mg/Kg	50		SW-846 8082A	9/1/23	9/6/23 17:16	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/6/23 17:16
Decachlorobiphenyl [2]	*	30-150	S-01	9/6/23 17:16
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/6/23 17:16
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/6/23 17:16

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3253

Date Received: 8/22/2023

Field Sample #: P-050-R18NB | Sampled: 8/14/2023 12:12

Sample ID: 23H3253-10

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	8.8	mg/Kg	20		SW-846 8082A	9/1/23	9/6/23 17:34	TG
Aroclor-1221 [1]	ND	8.8	mg/Kg	20		SW-846 8082A	9/1/23	9/6/23 17:34	TG
Aroclor-1232 [1]	ND	8.8	mg/Kg	20		SW-846 8082A	9/1/23	9/6/23 17:34	TG
Aroclor-1242 [1]	ND	8.8	mg/Kg	20		SW-846 8082A	9/1/23	9/6/23 17:34	TG
Aroclor-1248 [1]	ND	8.8	mg/Kg	20		SW-846 8082A	9/1/23	9/6/23 17:34	TG
Aroclor-1254 [1]	110	8.8	mg/Kg	20		SW-846 8082A	9/1/23	9/6/23 17:34	TG
Aroclor-1260 [1]	ND	8.8	mg/Kg	20		SW-846 8082A	9/1/23	9/6/23 17:34	TG
Aroclor-1262 [1]	ND	8.8	mg/Kg	20		SW-846 8082A	9/1/23	9/6/23 17:34	TG
Aroclor-1268 [1]	ND	8.8	mg/Kg	20		SW-846 8082A	9/1/23	9/6/23 17:34	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	86.3	30-150		9/6/23 17:34
Decachlorobiphenyl [2]	83.4	30-150		9/6/23 17:34
Tetrachloro-m-xylene [1]	77.1	30-150		9/6/23 17:34
Tetrachloro-m-xylene [2]	78.6	30-150		9/6/23 17:34

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3253

Date Received: 8/22/2023

Field Sample #: P-051-R18NC | Sampled: 8/14/2023 12:13

Sample ID: 23H3253-11

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	24	mg/Kg	50		SW-846 8082A	9/1/23	9/6/23 19:31	TG
Aroclor-1221 [1]	ND	24	mg/Kg	50		SW-846 8082A	9/1/23	9/6/23 19:31	TG
Aroclor-1232 [1]	ND	24	mg/Kg	50		SW-846 8082A	9/1/23	9/6/23 19:31	TG
Aroclor-1242 [1]	ND	24	mg/Kg	50		SW-846 8082A	9/1/23	9/6/23 19:31	TG
Aroclor-1248 [1]	ND	24	mg/Kg	50		SW-846 8082A	9/1/23	9/6/23 19:31	TG
Aroclor-1254 [1]	290	24	mg/Kg	50		SW-846 8082A	9/1/23	9/6/23 19:31	TG
Aroclor-1260 [1]	ND	24	mg/Kg	50		SW-846 8082A	9/1/23	9/6/23 19:31	TG
Aroclor-1262 [1]	ND	24	mg/Kg	50		SW-846 8082A	9/1/23	9/6/23 19:31	TG
Aroclor-1268 [1]	ND	24	mg/Kg	50		SW-846 8082A	9/1/23	9/6/23 19:31	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/6/23 19:31
Decachlorobiphenyl [2]	*	30-150	S-01	9/6/23 19:31
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/6/23 19:31
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/6/23 19:31

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3253

Date Received: 8/22/2023

Field Sample #: P-052-R18C | Sampled: 8/14/2023 12:14

Sample ID: 23H3253-12

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.3	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 19:48	TG
Aroclor-1221 [1]	ND	4.3	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 19:48	TG
Aroclor-1232 [1]	ND	4.3	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 19:48	TG
Aroclor-1242 [1]	ND	4.3	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 19:48	TG
Aroclor-1248 [1]	ND	4.3	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 19:48	TG
Aroclor-1254 [2]	19	4.3	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 19:48	TG
Aroclor-1260 [1]	ND	4.3	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 19:48	TG
Aroclor-1262 [1]	ND	4.3	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 19:48	TG
Aroclor-1268 [1]	ND	4.3	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 19:48	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	109	30-150		9/6/23 19:48
Decachlorobiphenyl [2]	103	30-150		9/6/23 19:48
Tetrachloro-m-xylene [1]	87.7	30-150		9/6/23 19:48
Tetrachloro-m-xylene [2]	87.9	30-150		9/6/23 19:48

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3253

Date Received: 8/22/2023

Field Sample #: P-053-R20E | Sampled: 8/14/2023 12:15

Sample ID: 23H3253-13

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	250	mg/Kg	500		SW-846 8082A	9/1/23	9/6/23 20:06	TG
Aroclor-1221 [1]	ND	250	mg/Kg	500		SW-846 8082A	9/1/23	9/6/23 20:06	TG
Aroclor-1232 [1]	ND	250	mg/Kg	500		SW-846 8082A	9/1/23	9/6/23 20:06	TG
Aroclor-1242 [1]	ND	250	mg/Kg	500		SW-846 8082A	9/1/23	9/6/23 20:06	TG
Aroclor-1248 [1]	ND	250	mg/Kg	500		SW-846 8082A	9/1/23	9/6/23 20:06	TG
Aroclor-1254 [1]	4000	250	mg/Kg	500		SW-846 8082A	9/1/23	9/6/23 20:06	TG
Aroclor-1260 [1]	ND	250	mg/Kg	500		SW-846 8082A	9/1/23	9/6/23 20:06	TG
Aroclor-1262 [1]	ND	250	mg/Kg	500		SW-846 8082A	9/1/23	9/6/23 20:06	TG
Aroclor-1268 [1]	ND	250	mg/Kg	500		SW-846 8082A	9/1/23	9/6/23 20:06	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/6/23 20:06
Decachlorobiphenyl [2]	*	30-150	S-01	9/6/23 20:06
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/6/23 20:06
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/6/23 20:06

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3253

Date Received: 8/22/2023

Field Sample #: P-054-R20W | Sampled: 8/14/2023 12:16

Sample ID: 23H3253-14

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	250	mg/Kg	500		SW-846 8082A	9/1/23	9/6/23 20:23	TG
Aroclor-1221 [1]	ND	250	mg/Kg	500		SW-846 8082A	9/1/23	9/6/23 20:23	TG
Aroclor-1232 [1]	ND	250	mg/Kg	500		SW-846 8082A	9/1/23	9/6/23 20:23	TG
Aroclor-1242 [1]	ND	250	mg/Kg	500		SW-846 8082A	9/1/23	9/6/23 20:23	TG
Aroclor-1248 [1]	ND	250	mg/Kg	500		SW-846 8082A	9/1/23	9/6/23 20:23	TG
Aroclor-1254 [1]	5100	250	mg/Kg	500		SW-846 8082A	9/1/23	9/6/23 20:23	TG
Aroclor-1260 [1]	ND	250	mg/Kg	500		SW-846 8082A	9/1/23	9/6/23 20:23	TG
Aroclor-1262 [1]	ND	250	mg/Kg	500		SW-846 8082A	9/1/23	9/6/23 20:23	TG
Aroclor-1268 [1]	ND	250	mg/Kg	500		SW-846 8082A	9/1/23	9/6/23 20:23	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/6/23 20:23
Decachlorobiphenyl [2]	*	30-150	S-01	9/6/23 20:23
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/6/23 20:23
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/6/23 20:23

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3253

Date Received: 8/22/2023

Field Sample #: P-055-R20NB | Sampled: 8/14/2023 12:17

Sample ID: 23H3253-15

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	90	mg/Kg	200		SW-846 8082A	9/1/23	9/6/23 20:40	TG
Aroclor-1221 [1]	ND	90	mg/Kg	200		SW-846 8082A	9/1/23	9/6/23 20:40	TG
Aroclor-1232 [1]	ND	90	mg/Kg	200		SW-846 8082A	9/1/23	9/6/23 20:40	TG
Aroclor-1242 [1]	ND	90	mg/Kg	200		SW-846 8082A	9/1/23	9/6/23 20:40	TG
Aroclor-1248 [1]	ND	90	mg/Kg	200		SW-846 8082A	9/1/23	9/6/23 20:40	TG
Aroclor-1254 [1]	1300	90	mg/Kg	200		SW-846 8082A	9/1/23	9/6/23 20:40	TG
Aroclor-1260 [1]	ND	90	mg/Kg	200		SW-846 8082A	9/1/23	9/6/23 20:40	TG
Aroclor-1262 [1]	ND	90	mg/Kg	200		SW-846 8082A	9/1/23	9/6/23 20:40	TG
Aroclor-1268 [1]	ND	90	mg/Kg	200		SW-846 8082A	9/1/23	9/6/23 20:40	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/6/23 20:40
Decachlorobiphenyl [2]	*	30-150	S-01	9/6/23 20:40
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/6/23 20:40
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/6/23 20:40

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3253

Date Received: 8/22/2023

Field Sample #: P-056-R20NC | Sampled: 8/14/2023 12:18

Sample ID: 23H3253-16

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	480	mg/Kg	1000		SW-846 8082A	9/1/23	9/6/23 20:58	TG
Aroclor-1221 [1]	ND	480	mg/Kg	1000		SW-846 8082A	9/1/23	9/6/23 20:58	TG
Aroclor-1232 [1]	ND	480	mg/Kg	1000		SW-846 8082A	9/1/23	9/6/23 20:58	TG
Aroclor-1242 [1]	ND	480	mg/Kg	1000		SW-846 8082A	9/1/23	9/6/23 20:58	TG
Aroclor-1248 [1]	ND	480	mg/Kg	1000		SW-846 8082A	9/1/23	9/6/23 20:58	TG
Aroclor-1254 [1]	6400	480	mg/Kg	1000		SW-846 8082A	9/1/23	9/6/23 20:58	TG
Aroclor-1260 [1]	ND	480	mg/Kg	1000		SW-846 8082A	9/1/23	9/6/23 20:58	TG
Aroclor-1262 [1]	ND	480	mg/Kg	1000		SW-846 8082A	9/1/23	9/6/23 20:58	TG
Aroclor-1268 [1]	ND	480	mg/Kg	1000		SW-846 8082A	9/1/23	9/6/23 20:58	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/6/23 20:58
Decachlorobiphenyl [2]	*	30-150	S-01	9/6/23 20:58
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/6/23 20:58
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/6/23 20:58

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3253

Date Received: 8/22/2023

Field Sample #: P-057-R21EC | Sampled: 8/14/2023 12:30

Sample ID: 23H3253-17

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	8.8	mg/Kg	20		SW-846 8082A	9/1/23	9/6/23 21:15	TG
Aroclor-1221 [1]	ND	8.8	mg/Kg	20		SW-846 8082A	9/1/23	9/6/23 21:15	TG
Aroclor-1232 [1]	ND	8.8	mg/Kg	20		SW-846 8082A	9/1/23	9/6/23 21:15	TG
Aroclor-1242 [1]	ND	8.8	mg/Kg	20		SW-846 8082A	9/1/23	9/6/23 21:15	TG
Aroclor-1248 [1]	ND	8.8	mg/Kg	20		SW-846 8082A	9/1/23	9/6/23 21:15	TG
Aroclor-1254 [1]	86	8.8	mg/Kg	20		SW-846 8082A	9/1/23	9/6/23 21:15	TG
Aroclor-1260 [1]	ND	8.8	mg/Kg	20		SW-846 8082A	9/1/23	9/6/23 21:15	TG
Aroclor-1262 [1]	ND	8.8	mg/Kg	20		SW-846 8082A	9/1/23	9/6/23 21:15	TG
Aroclor-1268 [1]	ND	8.8	mg/Kg	20		SW-846 8082A	9/1/23	9/6/23 21:15	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	112	30-150		9/6/23 21:15
Decachlorobiphenyl [2]	108	30-150		9/6/23 21:15
Tetrachloro-m-xylene [1]	103	30-150		9/6/23 21:15
Tetrachloro-m-xylene [2]	105	30-150		9/6/23 21:15

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3253

Date Received: 8/22/2023

Field Sample #: P-058-R21EB | Sampled: 8/14/2023 12:31

Sample ID: 23H3253-18

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 21:33	TG
Aroclor-1221 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 21:33	TG
Aroclor-1232 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 21:33	TG
Aroclor-1242 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 21:33	TG
Aroclor-1248 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 21:33	TG
Aroclor-1254 [1]	52	4.4	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 21:33	TG
Aroclor-1260 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 21:33	TG
Aroclor-1262 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 21:33	TG
Aroclor-1268 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 21:33	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	111	30-150		9/6/23 21:33
Decachlorobiphenyl [2]	106	30-150		9/6/23 21:33
Tetrachloro-m-xylene [1]	107	30-150		9/6/23 21:33
Tetrachloro-m-xylene [2]	108	30-150		9/6/23 21:33

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3253

Date Received: 8/22/2023

Field Sample #: P-059-R21S | Sampled: 8/14/2023 12:32

Sample ID: 23H3253-19

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	47	mg/Kg	100		SW-846 8082A	9/1/23	9/6/23 21:50	TG
Aroclor-1221 [1]	ND	47	mg/Kg	100		SW-846 8082A	9/1/23	9/6/23 21:50	TG
Aroclor-1232 [1]	ND	47	mg/Kg	100		SW-846 8082A	9/1/23	9/6/23 21:50	TG
Aroclor-1242 [1]	ND	47	mg/Kg	100		SW-846 8082A	9/1/23	9/6/23 21:50	TG
Aroclor-1248 [1]	ND	47	mg/Kg	100		SW-846 8082A	9/1/23	9/6/23 21:50	TG
Aroclor-1254 [1]	380	47	mg/Kg	100		SW-846 8082A	9/1/23	9/6/23 21:50	TG
Aroclor-1260 [1]	ND	47	mg/Kg	100		SW-846 8082A	9/1/23	9/6/23 21:50	TG
Aroclor-1262 [1]	ND	47	mg/Kg	100		SW-846 8082A	9/1/23	9/6/23 21:50	TG
Aroclor-1268 [1]	ND	47	mg/Kg	100		SW-846 8082A	9/1/23	9/6/23 21:50	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/6/23 21:50
Decachlorobiphenyl [2]	*	30-150	S-01	9/6/23 21:50
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/6/23 21:50
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/6/23 21:50

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3253

Date Received: 8/22/2023

Field Sample #: P-060-R21C | Sampled: 8/14/2023 12:33

Sample ID: 23H3253-20

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.6	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 22:08	TG
Aroclor-1221 [1]	ND	4.6	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 22:08	TG
Aroclor-1232 [1]	ND	4.6	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 22:08	TG
Aroclor-1242 [1]	ND	4.6	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 22:08	TG
Aroclor-1248 [1]	ND	4.6	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 22:08	TG
Aroclor-1254 [1]	50	4.6	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 22:08	TG
Aroclor-1260 [1]	ND	4.6	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 22:08	TG
Aroclor-1262 [1]	ND	4.6	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 22:08	TG
Aroclor-1268 [1]	ND	4.6	mg/Kg	10		SW-846 8082A	9/1/23	9/6/23 22:08	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	110	30-150		9/6/23 22:08
Decachlorobiphenyl [2]	105	30-150		9/6/23 22:08
Tetrachloro-m-xylene [1]	96.7	30-150		9/6/23 22:08
Tetrachloro-m-xylene [2]	97.1	30-150		9/6/23 22:08

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method:SW-846 3540C **Analytical Method:SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23H3253-01 [P-041-R09C]	B350795	0.208	10.0	09/01/23
23H3253-02 [P-042-R09F]	B350795	0.200	10.0	09/01/23
23H3253-03 [P-043-R09WT]	B350795	0.204	10.0	09/01/23
23H3253-04 [P-044-R09D]	B350795	0.200	10.0	09/01/23
23H3253-05 [P-045-R10E]	B350795	0.207	10.0	09/01/23
23H3253-06 [P-046-R10S]	B350795	0.212	10.0	09/01/23
23H3253-07 [P-047-R10W]	B350795	0.206	10.0	09/01/23
23H3253-08 [P-048-R18E]	B350795	0.204	10.0	09/01/23
23H3253-09 [P-049-R18S]	B350795	0.207	10.0	09/01/23
23H3253-10 [P-050-R18NB]	B350795	0.228	10.0	09/01/23
23H3253-11 [P-051-R18NC]	B350795	0.204	10.0	09/01/23
23H3253-12 [P-052-R18C]	B350795	0.233	10.0	09/01/23
23H3253-13 [P-053-R20E]	B350795	0.204	10.0	09/01/23
23H3253-14 [P-054-R20W]	B350795	0.203	10.0	09/01/23
23H3253-15 [P-055-R20NB]	B350795	0.222	10.0	09/01/23
23H3253-16 [P-056-R20NC]	B350795	0.209	10.0	09/01/23
23H3253-17 [P-057-R21EC]	B350795	0.227	10.0	09/01/23
23H3253-18 [P-058-R21EB]	B350795	0.226	10.0	09/01/23
23H3253-19 [P-059-R21S]	B350795	0.214	10.0	09/01/23
23H3253-20 [P-060-R21C]	B350795	0.220	10.0	09/01/23

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B350795 - SW-846 3540C										
Blank (B350795-BLK1)				Prepared: 09/01/23 Analyzed: 09/06/23						
Aroclor-1016	ND	0.50	mg/Kg							
Aroclor-1016 [2C]	ND	0.50	mg/Kg							
Aroclor-1221	ND	0.50	mg/Kg							
Aroclor-1221 [2C]	ND	0.50	mg/Kg							
Aroclor-1232	ND	0.50	mg/Kg							
Aroclor-1232 [2C]	ND	0.50	mg/Kg							
Aroclor-1242	ND	0.50	mg/Kg							
Aroclor-1242 [2C]	ND	0.50	mg/Kg							
Aroclor-1248	ND	0.50	mg/Kg							
Aroclor-1248 [2C]	ND	0.50	mg/Kg							
Aroclor-1254	ND	0.50	mg/Kg							
Aroclor-1254 [2C]	ND	0.50	mg/Kg							
Aroclor-1260	ND	0.50	mg/Kg							
Aroclor-1260 [2C]	ND	0.50	mg/Kg							
Aroclor-1262	ND	0.50	mg/Kg							
Aroclor-1262 [2C]	ND	0.50	mg/Kg							
Aroclor-1268	ND	0.50	mg/Kg							
Aroclor-1268 [2C]	ND	0.50	mg/Kg							
Surrogate: Decachlorobiphenyl	*9.40*		mg/Kg	10.0		94.0	30-150			
Surrogate: Decachlorobiphenyl [2C]	*8.64*		mg/Kg	10.0		86.4	30-150			
Surrogate: Tetrachloro-m-xylene	*9.06*		mg/Kg	10.0		90.6	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*8.73*		mg/Kg	10.0		87.3	30-150			
LCS (B350795-BS1)				Prepared: 09/01/23 Analyzed: 09/06/23						
Aroclor-1016	2.0	0.50	mg/Kg	2.50		78.8	40-140			
Aroclor-1016 [2C]	2.1	0.50	mg/Kg	2.50		86.0	40-140			
Aroclor-1260	2.1	0.50	mg/Kg	2.50		82.1	40-140			
Aroclor-1260 [2C]	2.1	0.50	mg/Kg	2.50		83.2	40-140			
Surrogate: Decachlorobiphenyl	*9.07*		mg/Kg	10.0		90.7	30-150			
Surrogate: Decachlorobiphenyl [2C]	*8.65*		mg/Kg	10.0		86.5	30-150			
Surrogate: Tetrachloro-m-xylene	*9.03*		mg/Kg	10.0		90.3	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*8.85*		mg/Kg	10.0		88.5	30-150			
LCS Dup (B350795-BSD1)				Prepared: 09/01/23 Analyzed: 09/06/23						
Aroclor-1016	2.2	0.50	mg/Kg	2.50		86.4	40-140	9.23	30	
Aroclor-1016 [2C]	1.7	0.50	mg/Kg	2.50		69.3	40-140	21.4	30	
Aroclor-1260	1.7	0.50	mg/Kg	2.50		67.1	40-140	20.0	30	
Aroclor-1260 [2C]	1.8	0.50	mg/Kg	2.50		71.0	40-140	15.9	30	
Surrogate: Decachlorobiphenyl	*7.44*		mg/Kg	10.0		74.4	30-150			
Surrogate: Decachlorobiphenyl [2C]	*7.11*		mg/Kg	10.0		71.1	30-150			
Surrogate: Tetrachloro-m-xylene	*4.62*		mg/Kg	10.0		46.2	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*4.55*		mg/Kg	10.0		45.5	30-150			

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B350795 - SW-846 3540C											
Matrix Spike (B350795-MS1)	**Source: 23H3253-03**			Prepared: 09/01/23 Analyzed: 09/06/23							
Aroclor-1016	7.2	4.9	mg/Kg	2.43	ND	**298**	*	40-140			MS-21
Aroclor-1016 [2C]	11	4.9	mg/Kg	2.43	ND	**468**	*	40-140			MS-21
Aroclor-1260	8.8	4.9	mg/Kg	2.43	ND	**363**	*	40-140			MS-21
Aroclor-1260 [2C]	9.6	4.9	mg/Kg	2.43	ND	**396**	*	40-140			MS-21
Surrogate: Decachlorobiphenyl	*8.50*		mg/Kg	9.72		87.4		30-150			
Surrogate: Decachlorobiphenyl [2C]	*8.25*		mg/Kg	9.72		84.8		30-150			
Surrogate: Tetrachloro-m-xylene	*7.91*		mg/Kg	9.72		81.4		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*8.09*		mg/Kg	9.72		83.2		30-150			
Matrix Spike Dup (B350795-MSD1)	**Source: 23H3253-03**			Prepared: 09/01/23 Analyzed: 09/06/23							
Aroclor-1016	6.9	5.0	mg/Kg	2.49	ND	**276**	*	40-140	5.29	50	MS-21
Aroclor-1016 [2C]	10	5.0	mg/Kg	2.49	ND	**422**	*	40-140	8.23	50	MS-21
Aroclor-1260	8.2	5.0	mg/Kg	2.49	ND	**330**	*	40-140	7.31	50	MS-21
Aroclor-1260 [2C]	9.0	5.0	mg/Kg	2.49	ND	**362**	*	40-140	6.81	50	MS-21
Surrogate: Decachlorobiphenyl	*8.18*		mg/Kg	9.95		82.2		30-150			
Surrogate: Decachlorobiphenyl [2C]	*7.99*		mg/Kg	9.95		80.3		30-150			
Surrogate: Tetrachloro-m-xylene	*7.74*		mg/Kg	9.95		77.7		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*7.89*		mg/Kg	9.95		79.3		30-150			

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-041-R09C

Lab Sample ID: 23H3253-01

Date(s) Analyzed: 09/06/2023 09/06/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	12	
	2	0.000	0.000	0.000	14	15.4

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-042-R09F

Lab Sample ID: 23H3253-02

Date(s) Analyzed: 09/06/2023 09/06/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	53	
	2	0.000	0.000	0.000	56	5.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-043-R09WT

Lab Sample ID: 23H3253-03 Date(s) Analyzed: 09/06/2023 09/06/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	25	
	2	0.000	0.000	0.000	27	7.7

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-044-R09D

Lab Sample ID: 23H3253-04

Date(s) Analyzed: 09/06/2023 09/06/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	27	
	2	0.000	0.000	0.000	31	13.8

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-045-R10E

Lab Sample ID: 23H3253-05

Date(s) Analyzed: 09/06/2023 09/06/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	11	
	2	0.000	0.000	0.000	13	16.7

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-046-R10S

Lab Sample ID: 23H3253-06 Date(s) Analyzed: 09/06/2023 09/06/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	21	
	2	0.000	0.000	0.000	21	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-047-R10W

Lab Sample ID: 23H3253-07 Date(s) Analyzed: 09/06/2023 09/06/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	16	
	2	0.000	0.000	0.000	19	17.1

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-048-R18E

Lab Sample ID: 23H3253-08

Date(s) Analyzed: 09/06/2023 09/06/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	170	
	2	0.000	0.000	0.000	180	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-049-R18S

Lab Sample ID: 23H3253-09 Date(s) Analyzed: 09/06/2023 09/06/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	330	
	2	0.000	0.000	0.000	330	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-050-R18NB

Lab Sample ID: 23H3253-10 Date(s) Analyzed: 09/06/2023 09/06/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	110	
	2	0.000	0.000	0.000	110	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-051-R18NC

Lab Sample ID: 23H3253-11 Date(s) Analyzed: 09/06/2023 09/06/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	290	
	2	0.000	0.000	0.000	280	3.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-052-R18C

Lab Sample ID: 23H3253-12

Date(s) Analyzed: 09/06/2023 09/06/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	18	
	2	0.000	0.000	0.000	19	5.4

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-053-R20E

Lab Sample ID: 23H3253-13

Date(s) Analyzed: 09/06/2023 09/06/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	4000	
	2	0.000	0.000	0.000	3900	2.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-054-R20W

Lab Sample ID: 23H3253-14

Date(s) Analyzed: 09/06/2023 09/06/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	5100	
	2	0.000	0.000	0.000	5000	2.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-055-R20NB

Lab Sample ID: 23H3253-15 Date(s) Analyzed: 09/06/2023 09/06/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	1300	
	2	0.000	0.000	0.000	1200	8.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-056-R20NC

Lab Sample ID: 23H3253-16

Date(s) Analyzed: 09/06/2023 09/06/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	6400	
	2	0.000	0.000	0.000	6400	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-057-R21EC

Lab Sample ID: 23H3253-17

Date(s) Analyzed: 09/06/2023 09/06/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	86	
	2	0.000	0.000	0.000	85	1.2

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-058-R21EB

Lab Sample ID: 23H3253-18 Date(s) Analyzed: 09/06/2023 09/06/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	52	
	2	0.000	0.000	0.000	51	1.9

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-059-R21S

Lab Sample ID: 23H3253-19

Date(s) Analyzed: 09/06/2023 09/06/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	380	
	2	0.000	0.000	0.000	370	2.7

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-060-R21C

Lab Sample ID: 23H3253-20

Date(s) Analyzed: 09/06/2023 09/06/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	50	
	2	0.000	0.000	0.000	48	4.1

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B350795-BS1 Date(s) Analyzed: 09/06/2023 09/06/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	2.0	
	2	0.000	0.000	0.000	2.1	4.9
Aroclor-1260	1	0.000	0.000	0.000	2.1	
	2	0.000	0.000	0.000	2.1	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B350795-BSD1 Date(s) Analyzed: 09/06/2023 09/06/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	2.2	
	2	0.000	0.000	0.000	1.7	25.6
Aroclor-1260	1	0.000	0.000	0.000	1.7	
	2	0.000	0.000	0.000	1.8	5.7

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike

Lab Sample ID: B350795-MS1 Date(s) Analyzed: 09/06/2023 09/06/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	7.2	
	2	0.000	0.000	0.000	11	40.4
Aroclor-1260	1	0.000	0.000	0.000	8.8	
	2	0.000	0.000	0.000	9.6	8.7

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike Dup

Lab Sample ID: B350795-MSD1 Date(s) Analyzed: 09/06/2023 09/06/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	6.9	
	2	0.000	0.000	0.000	10	36.7
Aroclor-1260	1	0.000	0.000	0.000	8.2	
	2	0.000	0.000	0.000	9.0	9.3

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
MS-21	Matrix spike and/or spike duplicate recovery bias high due to contribution of other Aroclors present in the source sample.
S-01	The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications

No certified Analyses included in this Report

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires

23H3253 RF

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time

7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
1	P-041-R09C	8/14/2023	11:34	GRAB	O	U		1				x
2	P-042-R09F	8/14/2023	11:35	GRAB	O	U		1				x
3	P-043-R09WT	8/14/2023	11:36	GRAB	O	U		3				x
4	P-044-R09D	8/14/2023	11:37	GRAB	O	U		1				x
5	P-045-R10E	8/14/2023	12:00	GRAB	O	U		1				x
6	P-046-R10S	8/14/2023	12:01	GRAB	O	U		1				x
7	P-047-R10W	8/14/2023	12:02	GRAB	O	U		1				x
8	P-048-R18E	8/14/2023	12:10	GRAB	O	U		1				x
9	P-049-R18S	8/14/2023	12:11	GRAB	O	U		1				x
10	P-050-R18NB	8/14/2023	12:12	GRAB	O	U		1				x

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N

Glassware in freezer? Y / N

Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time: 1258 8/15/23
Received by: (signature)	Date/Time: 8/22/23 1251
Relinquished by: (signature)	Date/Time: 8/22/23 1740
Received by: (signature) 3.8, 2.2, 3.9	Date/Time: 8/22/23
Relinquished by: (signature) 2.6, 5.6	Date/Time: 1746
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other

☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

23H3253 RF

Pace Analytical

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Engineering, INC
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time
7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
11	P-051-R18NC	8/14/2023	12:13	GRAB	O	U		1				x
12	P-052-R18C	8/14/2023	12:14	GRAB	O	U		1				x
13	P-053-R20E	8/14/2023	12:15	GRAB	O	U		1				x
14	P-054-R20W	8/14/2023	12:16	GRAB	O	U		1				x
15	P-055-R20NB	8/14/2023	12:17	GRAB	O	U		1				x
16	P-056-R20NC	8/14/2023	12:18	GRAB	O	U		1				x
17	P-057-R21EC	8/14/2023	12:30	GRAB	O	U		1				x
18	P-058-R21EB	8/14/2023	12:31	GRAB	O	U		1				x
19	P-059-R21S	8/14/2023	12:32	GRAB	O	U		1				x
20	P-060-R21C	8/14/2023	12:33	GRAB	O	U		1				x

[2] Preservation Code
Courier Use Only
Total Number Of:
VIALS
GLASS
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time: 8/22/23 1258
Received by: (signature)	Date/Time: 8/22/23 1258
Relinquished by: (signature)	Date/Time: 8-22-23 1740
Received by: (signature) 38, 22, 3.9	Date/Time: 8/22/23
Relinquished by: (signature) 2.6, 5.6	Date/Time: 1740
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist
	Effective Date: 07/13/2023

Log In Back-Sheet

Client Nobis Group

Project St Johnsbury Armory

MCP/RCP Required no

Deliverable Package Requirement none

Location St. Johnsbury, VT

PWSID# (When Applicable) n/a

Arrival Method:

Courier ☑ Fed Ex ☐ Walk In ☐ Other ☐

Received By / Date / Time ER 8/22/23 1746

Back-Sheet By / Date / Time Mcm 8/22/23 2217

Temperature Method Gun # 5

Temp < 6° C Actual Temperature 22.26, 38.39.56

Rush Samples: Yes / No Notify No

Short Hold: Yes / No Notify No

Notes regarding Samples/COC outside of SOP:

* Sample split into fifteen separate work orders

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy) Any False statement will be brought to the attention of the Client – True or False

	True	False
Received on Ice	☑	☐
Received in Cooler	☑	☐
Custody Seal: DATE TIME	☐	☑
COC Relinquished	☑	☐
COC/Samples Labels Agree	☑	☐
All Samples in Good Condition	☑	☐
Samples Received within Holding Time	☑	☐
Is there enough Volume	☑	☐
Proper Media/Container Used	☑	☐
Splitting Samples Required	☑ see notes	☐
MS/MSD	☑	☐
Trip Blanks	☐	☑
Lab to Filters	☐	☑
COC Legible	☑	☐

COC Included: (Check all included)

Client ☑ Analysis ☑ Sampler Name ☑

Project ☑ IDs ☑ Collection Date/Time ☑

All Samples Proper pH: N/A ☐ ☐

Additional Container Notes

Note: West Virginia requires all samples to have their temperature taken. Note any outliers.

Qualtrax ID: 120836

Pace ANALYTICAL SERVICES

DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist

Effective Date: 07/13/2023

Qualtrax ID: 120836

Sample	Soils Jars (Circle Amb/Clear)			Ambers					Plastics												VOA Vials					Other / Fill in					
	16oz Amb/Clear	8oz Amb/Clear	4oz Amb/Clear	2oz Amb/Clear	1 Liter Unpreserved	1 Liter HCL	1 Liter Sulfuric	250mL Sulfuric	250mL Phosphoric	250mL HCl	100mL Unpreserved	1 Liter Unpreserved	1 Liter Sulfuric	500mL Unpreserved	500mL Sulfuric	250mL Unpreserved	250mL Trizma	250mL Sulfuric	250mL Nitric	250mL NaOH	250mL Ammonium Acetate	250mL NaOH/Zinc	Unpreserved	HCl	MeOH	D.I. Water	Bisulfate	Col/Bact				
1			1																												
2			1																												
3			3																												
4			1																												
5			1																												
6			1																												
7			1																												
8			1																												
9			1																												
10			1																												
11			1																												
12			1																												
13			1																												
14			1																												
15			1																												
16			1																												
17			1																												
18			1																												
19			1																												
20			1																												

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

September 7, 2023

Tim Andrews
Nobis Engineering
585 Middlesex Street
Lowell, MA 01851

Project Location: St. Johnsbury, VT
Client Job Number:
Project Number: S00001.017
Laboratory Work Order Number: 23H3255

Enclosed are results of analyses for samples as received by the laboratory on August 22, 2023. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Rebecca Faust
Project Manager

Table of Contents

Sample Summary 4

Case Narrative 5

Sample Results 6

23H3255-01 6

23H3255-02 7

23H3255-03 8

23H3255-04 9

23H3255-05 10

23H3255-06 11

23H3255-07 12

23H3255-08 13

23H3255-09 14

23H3255-10 15

23H3255-11 16

23H3255-12 17

23H3255-13 18

23H3255-14 19

23H3255-15 20

23H3255-16 21

23H3255-17 22

23H3255-18 23

23H3255-19 24

23H3255-20 25

Sample Preparation Information 26

QC Data 27

Table of Contents (continued)

Polychlorinated Biphenyls with 3540 Soxhlet Extraction 27

B351006 27

Dual Column RPD Report 29

Flag/Qualifier Summary 53

Certifications 54

Chain of Custody/Sample Receipt 55

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Nobis Engineering
585 Middlesex Street
Lowell, MA 01851
ATTN: Tim Andrews

REPORT DATE: 9/7/2023

PURCHASE ORDER NUMBER:

PROJECT NUMBER: S00001.017

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23H3255

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: St. Johnsbury, VT

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
P-061-R21D	23H3255-01	Paint		SW-846 8082A	
P-062-S01S	23H3255-02	Paint		SW-846 8082A	
P-063-S01W	23H3255-03	Paint		SW-846 8082A	
P-064-S01N	23H3255-04	Paint		SW-846 8082A	
P-065-S01C	23H3255-05	Paint		SW-846 8082A	
P-066-S01C	23H3255-06	Paint		SW-846 8082A	
P-067-S01D	23H3255-07	Paint		SW-846 8082A	
P-068-R22EDW	23H3255-08	Paint		SW-846 8082A	
P-069-R22EC	23H3255-09	Paint		SW-846 8082A	
P-070-R22WPW	23H3255-10	Paint		SW-846 8082A	
P-071-R22WB	23H3255-11	Paint		SW-846 8082A	
P-072-R2D	23H3255-12	Paint		SW-846 8082A	
P-073-R22C	23H3255-13	Paint		SW-846 8082A	
P-074-R23EC	23H3255-14	Paint		SW-846 8082A	
P-075-R23EB	23H3255-15	Paint		SW-846 8082A	
P-076-R23EWT	23H3255-16	Paint		SW-846 8082A	
P-077-R23W	23H3255-17	Paint		SW-846 8082A	
P-078-R23N	23H3255-18	Paint		SW-846 8082A	
P-079-R23D	23H3255-19	Paint		SW-846 8082A	
P-080-R22SPW	23H3255-20	Paint		SW-846 8082A	

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

SW-846 8082A

Qualifications:

MS-21

Matrix spike and/or spike duplicate recovery bias high due to contribution of other Aroclors present in the source sample.

Analyte & Samples(s) Qualified:

Aroclor-1016
B351006-MS1, B351006-MSD1

Aroclor-1016 [2C]
B351006-MS1, B351006-MSD1

Aroclor-1260
B351006-MS1, B351006-MSD1

Aroclor-1260 [2C]
B351006-MS1, B351006-MSD1

S-01

The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

Analyte & Samples(s) Qualified:

Decachlorobiphenyl
23H3255-09[P-069-R22EC], 23H3255-11[P-071-R22WB], 23H3255-12[P-072-R2D], 23H3255-14[P-074-R23EC], 23H3255-16[P-076-R23EWT], 23H3255-17[P-077-R23W], 23H3255-18[P-078-R23N], 23H3255-19[P-079-R23D], B351006-MS1, B351006-MSD1

Decachlorobiphenyl [2C]
23H3255-09[P-069-R22EC], 23H3255-11[P-071-R22WB], 23H3255-12[P-072-R2D], 23H3255-14[P-074-R23EC], 23H3255-16[P-076-R23EWT], 23H3255-17[P-077-R23W], 23H3255-18[P-078-R23N], 23H3255-19[P-079-R23D], B351006-MS1, B351006-MSD1

Tetrachloro-m-xylene
23H3255-09[P-069-R22EC], 23H3255-11[P-071-R22WB], 23H3255-12[P-072-R2D], 23H3255-14[P-074-R23EC], 23H3255-16[P-076-R23EWT], 23H3255-17[P-077-R23W], 23H3255-18[P-078-R23N], 23H3255-19[P-079-R23D], B351006-MS1, B351006-MSD1

Tetrachloro-m-xylene [2C]
23H3255-09[P-069-R22EC], 23H3255-11[P-071-R22WB], 23H3255-12[P-072-R2D], 23H3255-14[P-074-R23EC], 23H3255-16[P-076-R23EWT], 23H3255-17[P-077-R23W], 23H3255-18[P-078-R23N], 23H3255-19[P-079-R23D], B351006-MS1, B351006-MSD1

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Lisa A. Worthington
Technical Representative

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3255

Date Received: 8/22/2023

Field Sample #: P-061-R21D | Sampled: 8/14/2023 12:34

Sample ID: 23H3255-01

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 10:33	TG
Aroclor-1221 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 10:33	TG
Aroclor-1232 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 10:33	TG
Aroclor-1242 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 10:33	TG
Aroclor-1248 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 10:33	TG
Aroclor-1254 [1]	52	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 10:33	TG
Aroclor-1260 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 10:33	TG
Aroclor-1262 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 10:33	TG
Aroclor-1268 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 10:33	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	105	30-150		9/7/23 10:33
Decachlorobiphenyl [2]	101	30-150		9/7/23 10:33
Tetrachloro-m-xylene [1]	91.8	30-150		9/7/23 10:33
Tetrachloro-m-xylene [2]	91.4	30-150		9/7/23 10:33

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3255

Date Received: 8/22/2023

Field Sample #: P-062-S01S | Sampled: 8/14/2023 12:55

Sample ID: 23H3255-02

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	9/5/23	9/7/23 10:50	TG
Aroclor-1221 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	9/5/23	9/7/23 10:50	TG
Aroclor-1232 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	9/5/23	9/7/23 10:50	TG
Aroclor-1242 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	9/5/23	9/7/23 10:50	TG
Aroclor-1248 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	9/5/23	9/7/23 10:50	TG
Aroclor-1254 [2]	18	2.0	mg/Kg	10		SW-846 8082A	9/5/23	9/7/23 10:50	TG
Aroclor-1260 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	9/5/23	9/7/23 10:50	TG
Aroclor-1262 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	9/5/23	9/7/23 10:50	TG
Aroclor-1268 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	9/5/23	9/7/23 10:50	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	59.9	30-150		9/7/23 10:50
Decachlorobiphenyl [2]	58.3	30-150		9/7/23 10:50
Tetrachloro-m-xylene [1]	52.5	30-150		9/7/23 10:50
Tetrachloro-m-xylene [2]	51.5	30-150		9/7/23 10:50

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3255

Date Received: 8/22/2023

Field Sample #: P-063-S01W | Sampled: 8/14/2023 12:56

Sample ID: 23H3255-03

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	9/5/23	9/7/23 11:08	TG
Aroclor-1221 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	9/5/23	9/7/23 11:08	TG
Aroclor-1232 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	9/5/23	9/7/23 11:08	TG
Aroclor-1242 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	9/5/23	9/7/23 11:08	TG
Aroclor-1248 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	9/5/23	9/7/23 11:08	TG
Aroclor-1254 [2]	40	2.0	mg/Kg	10		SW-846 8082A	9/5/23	9/7/23 11:08	TG
Aroclor-1260 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	9/5/23	9/7/23 11:08	TG
Aroclor-1262 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	9/5/23	9/7/23 11:08	TG
Aroclor-1268 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	9/5/23	9/7/23 11:08	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	102	30-150		9/7/23 11:08
Decachlorobiphenyl [2]	98.0	30-150		9/7/23 11:08
Tetrachloro-m-xylene [1]	95.7	30-150		9/7/23 11:08
Tetrachloro-m-xylene [2]	87.7	30-150		9/7/23 11:08

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3255

Date Received: 8/22/2023

Field Sample #: P-064-S01N | Sampled: 8/14/2023 12:57

Sample ID: 23H3255-04

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 11:25	TG
Aroclor-1221 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 11:25	TG
Aroclor-1232 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 11:25	TG
Aroclor-1242 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 11:25	TG
Aroclor-1248 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 11:25	TG
Aroclor-1254 [2]	43	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 11:25	TG
Aroclor-1260 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 11:25	TG
Aroclor-1262 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 11:25	TG
Aroclor-1268 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 11:25	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	96.7	30-150		9/7/23 11:25
Decachlorobiphenyl [2]	93.9	30-150		9/7/23 11:25
Tetrachloro-m-xylene [1]	84.0	30-150		9/7/23 11:25
Tetrachloro-m-xylene [2]	82.6	30-150		9/7/23 11:25

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3255

Date Received: 8/22/2023

Field Sample #: P-065-S01C | Sampled: 8/14/2023 13:00

Sample ID: 23H3255-05

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 11:43	TG
Aroclor-1221 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 11:43	TG
Aroclor-1232 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 11:43	TG
Aroclor-1242 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 11:43	TG
Aroclor-1248 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 11:43	TG
Aroclor-1254 [1]	81	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 11:43	TG
Aroclor-1260 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 11:43	TG
Aroclor-1262 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 11:43	TG
Aroclor-1268 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 11:43	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	84.0	30-150		9/7/23 11:43
Decachlorobiphenyl [2]	78.1	30-150		9/7/23 11:43
Tetrachloro-m-xylene [1]	79.6	30-150		9/7/23 11:43
Tetrachloro-m-xylene [2]	80.6	30-150		9/7/23 11:43

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3255

Date Received: 8/22/2023

Field Sample #: P-066-S01C | Sampled: 8/14/2023 13:01

Sample ID: 23H3255-06

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.20	mg/Kg	1		SW-846 8082A	9/5/23	9/7/23 12:00	TG
Aroclor-1221 [1]	ND	0.20	mg/Kg	1		SW-846 8082A	9/5/23	9/7/23 12:00	TG
Aroclor-1232 [1]	ND	0.20	mg/Kg	1		SW-846 8082A	9/5/23	9/7/23 12:00	TG
Aroclor-1242 [1]	ND	0.20	mg/Kg	1		SW-846 8082A	9/5/23	9/7/23 12:00	TG
Aroclor-1248 [1]	ND	0.20	mg/Kg	1		SW-846 8082A	9/5/23	9/7/23 12:00	TG
Aroclor-1254 [1]	0.33	0.20	mg/Kg	1		SW-846 8082A	9/5/23	9/7/23 12:00	TG
Aroclor-1260 [1]	ND	0.20	mg/Kg	1		SW-846 8082A	9/5/23	9/7/23 12:00	TG
Aroclor-1262 [1]	ND	0.20	mg/Kg	1		SW-846 8082A	9/5/23	9/7/23 12:00	TG
Aroclor-1268 [1]	ND	0.20	mg/Kg	1		SW-846 8082A	9/5/23	9/7/23 12:00	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	84.0	30-150		9/7/23 12:00
Decachlorobiphenyl [2]	81.7	30-150		9/7/23 12:00
Tetrachloro-m-xylene [1]	77.7	30-150		9/7/23 12:00
Tetrachloro-m-xylene [2]	78.4	30-150		9/7/23 12:00

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3255

Date Received: 8/22/2023

Field Sample #: P-067-S01D | Sampled: 8/14/2023 13:02

Sample ID: 23H3255-07

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 12:18	TG
Aroclor-1221 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 12:18	TG
Aroclor-1232 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 12:18	TG
Aroclor-1242 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 12:18	TG
Aroclor-1248 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 12:18	TG
Aroclor-1254 [2]	65	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 12:18	TG
Aroclor-1260 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 12:18	TG
Aroclor-1262 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 12:18	TG
Aroclor-1268 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 12:18	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	78.5	30-150		9/7/23 12:18
Decachlorobiphenyl [2]	78.6	30-150		9/7/23 12:18
Tetrachloro-m-xylene [1]	70.8	30-150		9/7/23 12:18
Tetrachloro-m-xylene [2]	72.6	30-150		9/7/23 12:18

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3255

Date Received: 8/22/2023

Field Sample #: P-068-R22EDW | Sampled: 8/14/2023 13:30

Sample ID: 23H3255-08

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 12:35	TG
Aroclor-1221 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 12:35	TG
Aroclor-1232 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 12:35	TG
Aroclor-1242 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 12:35	TG
Aroclor-1248 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 12:35	TG
Aroclor-1254 [1]	52	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 12:35	TG
Aroclor-1260 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 12:35	TG
Aroclor-1262 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 12:35	TG
Aroclor-1268 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 12:35	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	99.0	30-150		9/7/23 12:35
Decachlorobiphenyl [2]	97.8	30-150		9/7/23 12:35
Tetrachloro-m-xylene [1]	87.9	30-150		9/7/23 12:35
Tetrachloro-m-xylene [2]	90.0	30-150		9/7/23 12:35

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3255

Date Received: 8/22/2023

Field Sample #: P-069-R22EC | Sampled: 8/14/2023 13:31

Sample ID: 23H3255-09

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	40	mg/Kg	200		SW-846 8082A	9/5/23	9/7/23 12:53	TG
Aroclor-1221 [1]	ND	40	mg/Kg	200		SW-846 8082A	9/5/23	9/7/23 12:53	TG
Aroclor-1232 [1]	ND	40	mg/Kg	200		SW-846 8082A	9/5/23	9/7/23 12:53	TG
Aroclor-1242 [1]	ND	40	mg/Kg	200		SW-846 8082A	9/5/23	9/7/23 12:53	TG
Aroclor-1248 [1]	ND	40	mg/Kg	200		SW-846 8082A	9/5/23	9/7/23 12:53	TG
Aroclor-1254 [1]	460	40	mg/Kg	200		SW-846 8082A	9/5/23	9/7/23 12:53	TG
Aroclor-1260 [1]	ND	40	mg/Kg	200		SW-846 8082A	9/5/23	9/7/23 12:53	TG
Aroclor-1262 [1]	ND	40	mg/Kg	200		SW-846 8082A	9/5/23	9/7/23 12:53	TG
Aroclor-1268 [1]	ND	40	mg/Kg	200		SW-846 8082A	9/5/23	9/7/23 12:53	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/7/23 12:53
Decachlorobiphenyl [2]	*	30-150	S-01	9/7/23 12:53
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/7/23 12:53
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/7/23 12:53

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3255

Date Received: 8/22/2023

Field Sample #: P-070-R22WPW | Sampled: 8/14/2023 13:32

Sample ID: 23H3255-10

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	9/5/23	9/7/23 13:10	TG
Aroclor-1221 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	9/5/23	9/7/23 13:10	TG
Aroclor-1232 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	9/5/23	9/7/23 13:10	TG
Aroclor-1242 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	9/5/23	9/7/23 13:10	TG
Aroclor-1248 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	9/5/23	9/7/23 13:10	TG
Aroclor-1254 [2]	21	2.0	mg/Kg	10		SW-846 8082A	9/5/23	9/7/23 13:10	TG
Aroclor-1260 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	9/5/23	9/7/23 13:10	TG
Aroclor-1262 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	9/5/23	9/7/23 13:10	TG
Aroclor-1268 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	9/5/23	9/7/23 13:10	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	70.5	30-150		9/7/23 13:10
Decachlorobiphenyl [2]	68.7	30-150		9/7/23 13:10
Tetrachloro-m-xylene [1]	68.2	30-150		9/7/23 13:10
Tetrachloro-m-xylene [2]	69.2	30-150		9/7/23 13:10

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3255

Date Received: 8/22/2023

Field Sample #: P-071-R22WB | Sampled: 8/14/2023 13:33

Sample ID: 23H3255-11

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	20	mg/Kg	100		SW-846 8082A	9/5/23	9/7/23 10:23	TG
Aroclor-1221 [1]	ND	20	mg/Kg	100		SW-846 8082A	9/5/23	9/7/23 10:23	TG
Aroclor-1232 [1]	ND	20	mg/Kg	100		SW-846 8082A	9/5/23	9/7/23 10:23	TG
Aroclor-1242 [1]	ND	20	mg/Kg	100		SW-846 8082A	9/5/23	9/7/23 10:23	TG
Aroclor-1248 [1]	ND	20	mg/Kg	100		SW-846 8082A	9/5/23	9/7/23 10:23	TG
Aroclor-1254 [1]	280	20	mg/Kg	100		SW-846 8082A	9/5/23	9/7/23 10:23	TG
Aroclor-1260 [1]	ND	20	mg/Kg	100		SW-846 8082A	9/5/23	9/7/23 10:23	TG
Aroclor-1262 [1]	ND	20	mg/Kg	100		SW-846 8082A	9/5/23	9/7/23 10:23	TG
Aroclor-1268 [1]	ND	20	mg/Kg	100		SW-846 8082A	9/5/23	9/7/23 10:23	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/7/23 10:23
Decachlorobiphenyl [2]	*	30-150	S-01	9/7/23 10:23
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/7/23 10:23
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/7/23 10:23

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3255

Date Received: 8/22/2023

Field Sample #: P-072-R2D | Sampled: 8/14/2023 13:34

Sample ID: 23H3255-12

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	20	mg/Kg	100		SW-846 8082A	9/5/23	9/7/23 10:40	TG
Aroclor-1221 [1]	ND	20	mg/Kg	100		SW-846 8082A	9/5/23	9/7/23 10:40	TG
Aroclor-1232 [1]	ND	20	mg/Kg	100		SW-846 8082A	9/5/23	9/7/23 10:40	TG
Aroclor-1242 [1]	ND	20	mg/Kg	100		SW-846 8082A	9/5/23	9/7/23 10:40	TG
Aroclor-1248 [1]	ND	20	mg/Kg	100		SW-846 8082A	9/5/23	9/7/23 10:40	TG
Aroclor-1254 [1]	200	20	mg/Kg	100		SW-846 8082A	9/5/23	9/7/23 10:40	TG
Aroclor-1260 [1]	ND	20	mg/Kg	100		SW-846 8082A	9/5/23	9/7/23 10:40	TG
Aroclor-1262 [1]	ND	20	mg/Kg	100		SW-846 8082A	9/5/23	9/7/23 10:40	TG
Aroclor-1268 [1]	ND	20	mg/Kg	100		SW-846 8082A	9/5/23	9/7/23 10:40	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/7/23 10:40
Decachlorobiphenyl [2]	*	30-150	S-01	9/7/23 10:40
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/7/23 10:40
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/7/23 10:40

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3255

Date Received: 8/22/2023

Field Sample #: P-073-R22C | Sampled: 8/14/2023 13:35

Sample ID: 23H3255-13

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 10:57	TG
Aroclor-1221 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 10:57	TG
Aroclor-1232 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 10:57	TG
Aroclor-1242 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 10:57	TG
Aroclor-1248 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 10:57	TG
Aroclor-1254 [1]	67	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 10:57	TG
Aroclor-1260 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 10:57	TG
Aroclor-1262 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 10:57	TG
Aroclor-1268 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 10:57	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	79.1	30-150		9/7/23 10:57
Decachlorobiphenyl [2]	78.0	30-150		9/7/23 10:57
Tetrachloro-m-xylene [1]	72.7	30-150		9/7/23 10:57
Tetrachloro-m-xylene [2]	71.9	30-150		9/7/23 10:57

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3255

Date Received: 8/22/2023

Field Sample #: P-074-R23EC | Sampled: 8/14/2023 13:40

Sample ID: 23H3255-14

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	10	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 11:14	TG
Aroclor-1221 [1]	ND	10	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 11:14	TG
Aroclor-1232 [1]	ND	10	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 11:14	TG
Aroclor-1242 [1]	ND	10	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 11:14	TG
Aroclor-1248 [1]	ND	10	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 11:14	TG
Aroclor-1254 [1]	150	10	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 11:14	TG
Aroclor-1260 [1]	ND	10	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 11:14	TG
Aroclor-1262 [1]	ND	10	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 11:14	TG
Aroclor-1268 [1]	ND	10	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 11:14	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/7/23 11:14
Decachlorobiphenyl [2]	*	30-150	S-01	9/7/23 11:14
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/7/23 11:14
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/7/23 11:14

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3255

Date Received: 8/22/2023

Field Sample #: P-075-R23EB | Sampled: 8/14/2023 13:41

Sample ID: 23H3255-15

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 11:31	TG
Aroclor-1221 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 11:31	TG
Aroclor-1232 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 11:31	TG
Aroclor-1242 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 11:31	TG
Aroclor-1248 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 11:31	TG
Aroclor-1254 [1]	65	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 11:31	TG
Aroclor-1260 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 11:31	TG
Aroclor-1262 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 11:31	TG
Aroclor-1268 [1]	ND	4.0	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 11:31	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	84.2	30-150		9/7/23 11:31
Decachlorobiphenyl [2]	83.1	30-150		9/7/23 11:31
Tetrachloro-m-xylene [1]	75.2	30-150		9/7/23 11:31
Tetrachloro-m-xylene [2]	74.0	30-150		9/7/23 11:31

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3255

Date Received: 8/22/2023

Field Sample #: P-076-R23EWT | Sampled: 8/14/2023 13:42

Sample ID: 23H3255-16

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	10	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 11:48	TG
Aroclor-1221 [1]	ND	10	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 11:48	TG
Aroclor-1232 [1]	ND	10	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 11:48	TG
Aroclor-1242 [1]	ND	10	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 11:48	TG
Aroclor-1248 [1]	ND	10	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 11:48	TG
Aroclor-1254 [2]	92	10	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 11:48	TG
Aroclor-1260 [1]	ND	10	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 11:48	TG
Aroclor-1262 [1]	ND	10	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 11:48	TG
Aroclor-1268 [1]	ND	10	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 11:48	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/7/23 11:48
Decachlorobiphenyl [2]	*	30-150	S-01	9/7/23 11:48
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/7/23 11:48
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/7/23 11:48

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3255

Date Received: 8/22/2023

Field Sample #: P-077-R23W | Sampled: 8/14/2023 13:43

Sample ID: 23H3255-17

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	9.9	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 12:05	TG
Aroclor-1221 [1]	ND	9.9	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 12:05	TG
Aroclor-1232 [1]	ND	9.9	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 12:05	TG
Aroclor-1242 [1]	ND	9.9	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 12:05	TG
Aroclor-1248 [1]	ND	9.9	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 12:05	TG
Aroclor-1254 [1]	120	9.9	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 12:05	TG
Aroclor-1260 [1]	ND	9.9	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 12:05	TG
Aroclor-1262 [1]	ND	9.9	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 12:05	TG
Aroclor-1268 [1]	ND	9.9	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 12:05	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/7/23 12:05
Decachlorobiphenyl [2]	*	30-150	S-01	9/7/23 12:05
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/7/23 12:05
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/7/23 12:05

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3255

Date Received: 8/22/2023

Field Sample #: P-078-R23N | Sampled: 8/14/2023 13:44

Sample ID: 23H3255-18

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	10	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 12:22	TG
Aroclor-1221 [1]	ND	10	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 12:22	TG
Aroclor-1232 [1]	ND	10	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 12:22	TG
Aroclor-1242 [1]	ND	10	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 12:22	TG
Aroclor-1248 [1]	ND	10	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 12:22	TG
Aroclor-1254 [1]	150	10	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 12:22	TG
Aroclor-1260 [1]	ND	10	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 12:22	TG
Aroclor-1262 [1]	ND	10	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 12:22	TG
Aroclor-1268 [1]	ND	10	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 12:22	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/7/23 12:22
Decachlorobiphenyl [2]	*	30-150	S-01	9/7/23 12:22
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/7/23 12:22
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/7/23 12:22

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3255

Date Received: 8/22/2023

Field Sample #: P-079-R23D | Sampled: 8/14/2023 13:45

Sample ID: 23H3255-19

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	9.8	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 12:39	TG
Aroclor-1221 [1]	ND	9.8	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 12:39	TG
Aroclor-1232 [1]	ND	9.8	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 12:39	TG
Aroclor-1242 [1]	ND	9.8	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 12:39	TG
Aroclor-1248 [1]	ND	9.8	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 12:39	TG
Aroclor-1254 [2]	75	9.8	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 12:39	TG
Aroclor-1260 [1]	ND	9.8	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 12:39	TG
Aroclor-1262 [1]	ND	9.8	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 12:39	TG
Aroclor-1268 [1]	ND	9.8	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 12:39	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/7/23 12:39
Decachlorobiphenyl [2]	*	30-150	S-01	9/7/23 12:39
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/7/23 12:39
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/7/23 12:39

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3255

Date Received: 8/22/2023

Field Sample #: P-080-R22SPW | Sampled: 8/14/2023 13:50

Sample ID: 23H3255-20

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	9/5/23	9/7/23 12:56	TG
Aroclor-1221 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	9/5/23	9/7/23 12:56	TG
Aroclor-1232 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	9/5/23	9/7/23 12:56	TG
Aroclor-1242 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	9/5/23	9/7/23 12:56	TG
Aroclor-1248 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	9/5/23	9/7/23 12:56	TG
Aroclor-1254 [1]	25	2.0	mg/Kg	10		SW-846 8082A	9/5/23	9/7/23 12:56	TG
Aroclor-1260 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	9/5/23	9/7/23 12:56	TG
Aroclor-1262 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	9/5/23	9/7/23 12:56	TG
Aroclor-1268 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	9/5/23	9/7/23 12:56	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	89.5	30-150		9/7/23 12:56
Decachlorobiphenyl [2]	89.3	30-150		9/7/23 12:56
Tetrachloro-m-xylene [1]	85.8	30-150		9/7/23 12:56
Tetrachloro-m-xylene [2]	86.9	30-150		9/7/23 12:56

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method:SW-846 3540C **Analytical Method:SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23H3255-01 [P-061-R21D]	B351006	0.502	10.0	09/05/23
23H3255-02 [P-062-S01S]	B351006	0.505	10.0	09/05/23
23H3255-03 [P-063-S01W]	B351006	0.496	10.0	09/05/23
23H3255-04 [P-064-S01N]	B351006	0.498	10.0	09/05/23
23H3255-05 [P-065-S01C]	B351006	0.503	10.0	09/05/23
23H3255-06 [P-066-S01C]	B351006	0.500	10.0	09/05/23
23H3255-07 [P-067-S01D]	B351006	0.502	10.0	09/05/23
23H3255-08 [P-068-R22EDW]	B351006	0.504	10.0	09/05/23
23H3255-09 [P-069-R22EC]	B351006	0.499	10.0	09/05/23
23H3255-10 [P-070-R22WPW]	B351006	0.502	10.0	09/05/23
23H3255-11 [P-071-R22WB]	B351006	0.501	10.0	09/05/23
23H3255-12 [P-072-R2D]	B351006	0.498	10.0	09/05/23
23H3255-13 [P-073-R22C]	B351006	0.505	10.0	09/05/23
23H3255-14 [P-074-R23EC]	B351006	0.497	10.0	09/05/23
23H3255-15 [P-075-R23EB]	B351006	0.501	10.0	09/05/23
23H3255-16 [P-076-R23EWT]	B351006	0.498	10.0	09/05/23
23H3255-17 [P-077-R23W]	B351006	0.504	10.0	09/05/23
23H3255-18 [P-078-R23N]	B351006	0.501	10.0	09/05/23
23H3255-19 [P-079-R23D]	B351006	0.508	10.0	09/05/23
23H3255-20 [P-080-R22SPW]	B351006	0.498	10.0	09/05/23

con-test® A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B351006 - SW-846 3540C										
Blank (B351006-BLK1)				Prepared: 09/05/23 Analyzed: 09/07/23						
Aroclor-1016	ND	0.20	mg/Kg							
Aroclor-1016 [2C]	ND	0.20	mg/Kg							
Aroclor-1221	ND	0.20	mg/Kg							
Aroclor-1221 [2C]	ND	0.20	mg/Kg							
Aroclor-1232	ND	0.20	mg/Kg							
Aroclor-1232 [2C]	ND	0.20	mg/Kg							
Aroclor-1242	ND	0.20	mg/Kg							
Aroclor-1242 [2C]	ND	0.20	mg/Kg							
Aroclor-1248	ND	0.20	mg/Kg							
Aroclor-1248 [2C]	ND	0.20	mg/Kg							
Aroclor-1254	ND	0.20	mg/Kg							
Aroclor-1254 [2C]	ND	0.20	mg/Kg							
Aroclor-1260	ND	0.20	mg/Kg							
Aroclor-1260 [2C]	ND	0.20	mg/Kg							
Aroclor-1262	ND	0.20	mg/Kg							
Aroclor-1262 [2C]	ND	0.20	mg/Kg							
Aroclor-1268	ND	0.20	mg/Kg							
Aroclor-1268 [2C]	ND	0.20	mg/Kg							
Surrogate: Decachlorobiphenyl	*3.52*		mg/Kg	4.00		88.1	30-150			
Surrogate: Decachlorobiphenyl [2C]	*3.32*		mg/Kg	4.00		82.9	30-150			
Surrogate: Tetrachloro-m-xylene	*3.41*		mg/Kg	4.00		85.3	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*3.33*		mg/Kg	4.00		83.4	30-150			
LCS (B351006-BS1)				Prepared: 09/05/23 Analyzed: 09/07/23						
Aroclor-1016	0.81	0.20	mg/Kg	1.00		80.8	40-140			
Aroclor-1016 [2C]	0.81	0.20	mg/Kg	1.00		80.9	40-140			
Aroclor-1260	0.78	0.20	mg/Kg	1.00		77.8	40-140			
Aroclor-1260 [2C]	0.71	0.20	mg/Kg	1.00		70.6	40-140			
Surrogate: Decachlorobiphenyl	*3.58*		mg/Kg	4.00		89.4	30-150			
Surrogate: Decachlorobiphenyl [2C]	*3.41*		mg/Kg	4.00		85.1	30-150			
Surrogate: Tetrachloro-m-xylene	*3.42*		mg/Kg	4.00		85.5	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*3.36*		mg/Kg	4.00		84.0	30-150			
LCS Dup (B351006-BSD1)				Prepared: 09/05/23 Analyzed: 09/07/23						
Aroclor-1016	0.80	0.20	mg/Kg	0.995		79.9	40-140	1.66	30	
Aroclor-1016 [2C]	0.79	0.20	mg/Kg	0.995		78.9	40-140	3.11	30	
Aroclor-1260	0.73	0.20	mg/Kg	0.995		73.3	40-140	6.49	30	
Aroclor-1260 [2C]	0.69	0.20	mg/Kg	0.995		69.8	40-140	1.77	30	
Surrogate: Decachlorobiphenyl	*3.48*		mg/Kg	3.98		87.4	30-150			
Surrogate: Decachlorobiphenyl [2C]	*3.33*		mg/Kg	3.98		83.6	30-150			
Surrogate: Tetrachloro-m-xylene	*3.27*		mg/Kg	3.98		82.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*3.19*		mg/Kg	3.98		80.3	30-150			

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B351006 - SW-846 3540C											
Matrix Spike (B351006-MS1)	**Source: 23H3255-09**			Prepared: 09/05/23 Analyzed: 09/07/23							
Aroclor-1016	62	40	mg/Kg	1.00	ND	**6230**	*	40-140			MS-21
Aroclor-1016 [2C]	140	40	mg/Kg	1.00	ND	**13800**	*	40-140			MS-21
Aroclor-1260	100	40	mg/Kg	1.00	ND	**10000**	*	40-140			MS-21
Aroclor-1260 [2C]	93	40	mg/Kg	1.00	ND	**9310**	*	40-140			MS-21
Surrogate: Decachlorobiphenyl	*0.00*		mg/Kg	4.00			*	30-150			S-01
Surrogate: Decachlorobiphenyl [2C]	*0.00*		mg/Kg	4.00			*	30-150			S-01
Surrogate: Tetrachloro-m-xylene	*0.00*		mg/Kg	4.00			*	30-150			S-01
Surrogate: Tetrachloro-m-xylene [2C]	*0.00*		mg/Kg	4.00			*	30-150			S-01
Matrix Spike Dup (B351006-MSD1)	**Source: 23H3255-09**			Prepared: 09/05/23 Analyzed: 09/07/23							
Aroclor-1016	62	39	mg/Kg	0.987	ND	**6250**	*	40-140	1.13	50	MS-21
Aroclor-1016 [2C]	130	39	mg/Kg	0.987	ND	**13700**	*	40-140	2.18	50	MS-21
Aroclor-1260	100	39	mg/Kg	0.987	ND	**10200**	*	40-140	0.420	50	MS-21
Aroclor-1260 [2C]	92	39	mg/Kg	0.987	ND	**9370**	*	40-140	0.770	50	MS-21
Surrogate: Decachlorobiphenyl	*0.00*		mg/Kg	3.95			*	30-150			S-01
Surrogate: Decachlorobiphenyl [2C]	*0.00*		mg/Kg	3.95			*	30-150			S-01
Surrogate: Tetrachloro-m-xylene	*0.00*		mg/Kg	3.95			*	30-150			S-01
Surrogate: Tetrachloro-m-xylene [2C]	*0.00*		mg/Kg	3.95			*	30-150			S-01

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-061-R21D

Lab Sample ID: 23H3255-01 Date(s) Analyzed: 09/07/2023 09/07/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	52	
	2	0.000	0.000	0.000	49	5.9

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-062-S01S

Lab Sample ID: 23H3255-02 Date(s) Analyzed: 09/07/2023 09/07/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	18	
	2	0.000	0.000	0.000	18	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-063-S01W

Lab Sample ID: 23H3255-03 Date(s) Analyzed: 09/07/2023 09/07/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	37	
	2	0.000	0.000	0.000	40	7.8

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-064-S01N

Lab Sample ID: 23H3255-04 Date(s) Analyzed: 09/07/2023 09/07/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	42	
	2	0.000	0.000	0.000	43	2.4

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-065-S01C

Lab Sample ID: 23H3255-05

Date(s) Analyzed: 09/07/2023 09/07/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	81	
	2	0.000	0.000	0.000	80	2.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-066-S01C

Lab Sample ID: 23H3255-06 Date(s) Analyzed: 09/07/2023 09/07/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	0.33	
	2	0.000	0.000	0.000	0.30	9.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-067-S01D

Lab Sample ID: 23H3255-07 Date(s) Analyzed: 09/07/2023 09/07/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	64	
	2	0.000	0.000	0.000	65	1.6

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-068-R22EDW

Lab Sample ID: 23H3255-08 Date(s) Analyzed: 09/07/2023 09/07/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	52	
	2	0.000	0.000	0.000	52	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-069-R22EC

Lab Sample ID: 23H3255-09

Date(s) Analyzed: 09/07/2023 09/07/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	460	
	2	0.000	0.000	0.000	450	2.2

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-070-R22WPW

Lab Sample ID: 23H3255-10

Date(s) Analyzed: 09/07/2023 09/07/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	20	
	2	0.000	0.000	0.000	21	4.9

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-071-R22WB

Lab Sample ID: 23H3255-11 Date(s) Analyzed: 09/07/2023 09/07/2023

Instrument ID (1): ECD5 Instrument ID (2): ECD5

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	280	
	2	0.000	0.000	0.000	270	3.6

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-072-R2D

Lab Sample ID: 23H3255-12 Date(s) Analyzed: 09/07/2023 09/07/2023

Instrument ID (1): ECD5 Instrument ID (2): ECD5

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	200	
	2	0.000	0.000	0.000	200	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-073-R22C

Lab Sample ID: 23H3255-13

Date(s) Analyzed: 09/07/2023 09/07/2023

Instrument ID (1): ECD5

Instrument ID (2): ECD5

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	67	
	2	0.000	0.000	0.000	65	3.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-074-R23EC

Lab Sample ID: 23H3255-14

Date(s) Analyzed: 09/07/2023 09/07/2023

Instrument ID (1): ECD5

Instrument ID (2): ECD5

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	150	
	2	0.000	0.000	0.000	150	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-075-R23EB

Lab Sample ID: 23H3255-15 Date(s) Analyzed: 09/07/2023 09/07/2023

Instrument ID (1): ECD5 Instrument ID (2): ECD5

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	65	
	2	0.000	0.000	0.000	62	4.7

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-076-R23EWT

Lab Sample ID: 23H3255-16 Date(s) Analyzed: 09/07/2023 09/07/2023

Instrument ID (1): ECD5 Instrument ID (2): ECD5

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	90	
	2	0.000	0.000	0.000	92	2.2

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-077-R23W

Lab Sample ID: 23H3255-17

Date(s) Analyzed: 09/07/2023 09/07/2023

Instrument ID (1): ECD5

Instrument ID (2): ECD5

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	120	
	2	0.000	0.000	0.000	110	8.7

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-078-R23N

Lab Sample ID: 23H3255-18

Date(s) Analyzed: 09/07/2023 09/07/2023

Instrument ID (1): ECD5

Instrument ID (2): ECD5

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	150	
	2	0.000	0.000	0.000	150	6.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-079-R23D

Lab Sample ID: 23H3255-19

Date(s) Analyzed: 09/07/2023 09/07/2023

Instrument ID (1): ECD5

Instrument ID (2): ECD5

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	74	
	2	0.000	0.000	0.000	75	1.3

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-080-R22SPW

Lab Sample ID: 23H3255-20 Date(s) Analyzed: 09/07/2023 09/07/2023

Instrument ID (1): ECD5 Instrument ID (2): ECD5

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	25	
	2	0.000	0.000	0.000	23	8.3

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B351006-BS1 Date(s) Analyzed: 09/07/2023 09/07/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.81	
	2	0.000	0.000	0.000	0.81	0.0
Aroclor-1260	1	0.000	0.000	0.000	0.78	
	2	0.000	0.000	0.000	0.71	9.4

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B351006-BSD1 Date(s) Analyzed: 09/07/2023 09/07/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.80	
	2	0.000	0.000	0.000	0.79	1.3
Aroclor-1260	1	0.000	0.000	0.000	0.73	
	2	0.000	0.000	0.000	0.69	5.6

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike

Lab Sample ID: B351006-MS1 Date(s) Analyzed: 09/07/2023 09/07/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	62	
	2	0.000	0.000	0.000	140	77.2
Aroclor-1260	1	0.000	0.000	0.000	100	
	2	0.000	0.000	0.000	93	7.3

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike Dup

Lab Sample ID: B351006-MSD1 Date(s) Analyzed: 09/07/2023 09/07/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	62	
	2	0.000	0.000	0.000	130	70.8
Aroclor-1260	1	0.000	0.000	0.000	100	
	2	0.000	0.000	0.000	92	8.3

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
MS-21	Matrix spike and/or spike duplicate recovery bias high due to contribution of other Aroclors present in the source sample.
S-01	The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications

No certified Analyses included in this Report

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires

23H3255 RF

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time

7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
1	P-061-R21D	8/14/2023	12:34	GRAB	O	U		1				x
2	P-062-S01S	8/14/2023	12:55	GRAB	O	U		1				x
3	P-063-S01W	8/14/2023	12:56	GRAB	O	U		1				x
4	P-064-S01N	8/14/2023	12:57	GRAB	O	U		1				x
5	P-065-S01R	8/14/2023	13:00	GRAB	O	U		1				x
6	P-066-S01C	8/14/2023	13:01	GRAB	O	U		1				x
7	P-067-S01D	8/14/2023	13:02	GRAB	O	U		1				x
8	P-068-R22EDW	8/14/2023	13:30	GRAB	O	U		1				x
9	P-069-R22EC	8/14/2023	13:31	GRAB	O	U		3				x
10	P-070-R22WPW	8/14/2023	13:32	GRAB	O	U		1				x

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time: 1258 8/22/23
Received by: (signature)	Date/Time: 1258 8/22/23
Relinquished by: (signature)	Date/Time: 1746 8.22.23
Received by: (signature) 38, 22, 3.9	Date/Time: 8/22/23
Relinquished by: (signature) 26, 5.6	Date/Time: 1746
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other

☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

23H3255 RT

Pace Analytical

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time

7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
11	P-071-R22WB	8/14/2023	13:33	GRAB	O	U		1				x
12	P-072-R2D	8/14/2023	13:34	GRAB	O	U		1				x
13	P-073-R22C	8/14/2023	13:35	GRAB	O	U		1				x
14	P-074-R23EC	8/14/2023	13:40	GRAB	O	U		1				x
15	P-075-R23EB	8/14/2023	13:41	GRAB	O	U		1				x
16	P-076-R23EWT	8/14/2023	13:42	GRAB	O	U		1				x
17	P-077-R23W	8/14/2023	13:43	GRAB	O	U		1				x
18	P-078-R23N	8/14/2023	13:44	GRAB	O	U		1				x
19	P-079-R23D	8/14/2023	13:45	GRAB	O	U		1				x
20	P-080-R22SPW	8/14/2023	13:50	GRAB	O	U		1				x

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS
GLASS
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time:	1255
Received by: (signature)	Date/Time:	8/22/23 1255
Relinquished by: (signature)	Date/Time:	8/22/23 1746
Received by: (signature) 3.8, 22, 3.9	Date/Time:	8/22/23
Relinquished by: (signature) 2.6, 5.6	Date/Time:	1746
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other

☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist
	Effective Date: 07/13/2023

Log In Back-Sheet

Client Nobis Group

Project St. Johnsbury Armory

MCP/RCP Required no

Deliverable Package Requirement none

Location St. Johnsbury, VT

PWSID# (When Applicable) n/a

Arrival Method:

Courier ☑ Fed Ex ☐ Walk In ☐ Other ☐

Received By / Date / Time ER 8/22/23 1746

Back-Sheet By / Date / Time Mcm 8/22/23 2217

Temperature Method Gun # 5

Temp < 6° C Actual Temperature 22.26, 38.39.56

Rush Samples: Yes / No Notify No

Short Hold: Yes / No Notify No

Notes regarding Samples/COC outside of SOP:

* Sample split into fifteen separate work orders

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy) Any False statement will be brought to the attention of the Client – True or False

	True	False
Received on Ice	☑	☐
Received in Cooler	☑	☐
Custody Seal: DATE TIME	☐	☑
COC Relinquished	☑	☐
COC/Samples Labels Agree	☑	☐
All Samples in Good Condition	☑	☐
Samples Received within Holding Time	☑	☐
Is there enough Volume	☑	☐
Proper Media/Container Used	☑	☐
Splitting Samples Required	☑ see notes	☐
MS/MSD	☑	☐
Trip Blanks	☐	☑
Lab to Filters	☐	☑
COC Legible	☑	☐

COC Included: (Check all included)

Client ☑ Analysis ☑ Sampler Name ☑

Project ☑ IDs ☑ Collection Date/Time ☑

All Samples Proper pH: N/A ☐ ☐

Additional Container Notes

Note: West Virginia requires all samples to have their temperature taken. Note any outliers.

Qualtrax ID: 120836

Qualtrax ID: 120836

Pace ANALYTICAL SERVICES

DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist

Effective Date: 07/13/2023

Sample	Soils Jars (Circle Amb/Clear)			Ambers					Plastics											VOA Vials						Other / Fill in					
	16oz Amb/Clear	8oz Amb/Clear	4oz Amb/Clear	2oz Amb/Clear	1 Liter			250mL			100mL	1 Liter		500mL		250mL															
					Unpreserved	HCL	Sulfuric	Sulfuric	Phosphoric	HCl	Unpreserved	Unpreserved	Sulfuric	Unpreserved	Sulfuric	Unpreserved	Trizma	Sulfuric	Nitric	NaOH	Ammonium Acetate	NaOH/Zinc	Unpreserved	HCl	MeOH	D.I. Water	Bisulfate	Col/Bact					
1			1																												
2			1																												
3			1																												
4			1																												
5			1																												
6			1																												
7			1																												
8			1																												
9			3																												
10			1																												
11			1																												
12			1																												
13			1																												
14			1																												
15			1																												
16			1																												
17			1																												
18			1																												
19			1																												
20			1																												

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

September 14, 2023

Tim Andrews
Nobis Engineering
585 Middlesex Street
Lowell, MA 01851

Project Location: St. Johnsbury, VT
Client Job Number:
Project Number: S00001.017
Laboratory Work Order Number: 23H3256

Enclosed are results of analyses for samples as received by the laboratory on August 22, 2023. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Rebecca Faust
Project Manager

Table of Contents

Sample Summary 4

Case Narrative 5

Sample Results 6

23H3256-01 6

23H3256-02 7

23H3256-03 8

23H3256-04 9

23H3256-05 10

23H3256-06 11

23H3256-07 12

23H3256-08 13

23H3256-09 14

23H3256-10 15

23H3256-11 16

23H3256-12 17

23H3256-13 18

23H3256-14 19

23H3256-15 20

23H3256-16 21

23H3256-17 22

23H3256-18 23

23H3256-19 24

23H3256-20 25

Sample Preparation Information 26

QC Data 27

Table of Contents (continued)

Polychlorinated Biphenyls with 3540 Soxhlet Extraction 27

B351007 27

B351177 28

B351490 29

Dual Column RPD Report 31

Flag/Qualifier Summary 59

Certifications 60

Chain of Custody/Sample Receipt 61

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Nobis Engineering
585 Middlesex Street
Lowell, MA 01851
ATTN: Tim Andrews

REPORT DATE: 9/14/2023

PURCHASE ORDER NUMBER:

PROJECT NUMBER: S00001.017

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23H3256

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: St. Johnsbury, VT

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
P-081-R22SB	23H3256-01	Paint		SW-846 8082A	
P-082-R24E	23H3256-02	Paint		SW-846 8082A	
P-083-R24SC	23H3256-03	Paint		SW-846 8082A	
P-084-R24SB	23H3256-04	Paint		SW-846 8082A	
P-085-R24W	23H3256-05	Paint		SW-846 8082A	
P-086-R25E	23H3256-06	Paint		SW-846 8082A	
P-087-R25S	23H3256-07	Paint		SW-846 8082A	
P-088-R2SCDW	23H3256-08	Paint		SW-846 8082A	
P-089-R2SCP	23H3256-09	Paint		SW-846 8082A	
P-090-R25AE	23H3256-10	Paint		SW-846 8082A	
P-091-R25AS	23H3256-11	Paint		SW-846 8082A	
P-092-R25ACDW	23H3256-12	Paint		SW-846 8082A	
P-093-R25ACP	23H3256-13	Paint		SW-846 8082A	
P-094-R21W	23H3256-14	Paint		SW-846 8082A	
P-095-R21FN	23H3256-15	Paint		SW-846 8082A	
P-096-R21FS	23H3256-16	Paint		SW-846 8082A	
P-097-R24AS	23H3256-17	Paint		SW-846 8082A	
P-098-R24AW	23H3256-18	Paint		SW-846 8082A	
P-099-R24AN	23H3256-19	Paint		SW-846 8082A	
P-100-R24AC	23H3256-20	Paint		SW-846 8082A	

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

SW-846 8082A

Qualifications:

MS-21

Matrix spike and/or spike duplicate recovery bias high due to contribution of other Aroclors present in the source sample.

Analyte & Samples(s) Qualified:

Aroclor-1016
B351007-MS1, B351007-MSD1

Aroclor-1016 [2C]
B351007-MS1, B351007-MSD1

Aroclor-1260
B351007-MS1, B351007-MSD1

Aroclor-1260 [2C]
B351007-MS1, B351007-MSD1

S-01

The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

Analyte & Samples(s) Qualified:

Decachlorobiphenyl
23H3256-01[P-081-R22SB], 23H3256-02[P-082-R24E], 23H3256-03[P-083-R24SC], 23H3256-04[P-084-R24SB], 23H3256-05[P-085-R24W], 23H3256-06RE1[P-086-R25E], 23H3256-07[P-087-R25S], 23H3256-10RE1[P-090-R25AE], 23H3256- 11[P-091-R25AS], 23H3256-18RE1[P-098-R24AW], 23H3256-19[P-099-R24AN], 23H3256-20[P-100-R24AC], B351007-MS1, B351007-MSD1

Decachlorobiphenyl [2C]
23H3256-01[P-081-R22SB], 23H3256-02[P-082-R24E], 23H3256-03[P-083-R24SC], 23H3256-04[P-084-R24SB], 23H3256-05[P-085-R24W], 23H3256-06RE1[P-086-R25E], 23H3256-07[P-087-R25S], 23H3256-10RE1[P-090-R25AE], 23H3256- 11[P-091-R25AS], 23H3256-18RE1[P-098-R24AW], 23H3256-19[P-099-R24AN], 23H3256-20[P-100-R24AC], B351007-MS1, B351007-MSD1

Tetrachloro-m-xylene
23H3256-01[P-081-R22SB], 23H3256-02[P-082-R24E], 23H3256-03[P-083-R24SC], 23H3256-04[P-084-R24SB], 23H3256-05[P-085-R24W], 23H3256-06RE1[P-086-R25E], 23H3256-07[P-087-R25S], 23H3256-10RE1[P-090-R25AE], 23H3256- 11[P-091-R25AS], 23H3256-18RE1[P-098-R24AW], 23H3256-19[P-099-R24AN], 23H3256-20[P-100-R24AC], B351007-MS1, B351007-MSD1

Tetrachloro-m-xylene [2C]
23H3256-01[P-081-R22SB], 23H3256-02[P-082-R24E], 23H3256-03[P-083-R24SC], 23H3256-04[P-084-R24SB], 23H3256-05[P-085-R24W], 23H3256-06RE1[P-086-R25E], 23H3256-07[P-087-R25S], 23H3256-10RE1[P-090-R25AE], 23H3256- 11[P-091-R25AS], 23H3256-18RE1[P-098-R24AW], 23H3256-19[P-099-R24AN], 23H3256-20[P-100-R24AC], B351007-MS1, B351007-MSD1

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Lisa A. Worthington
Technical Representative

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3256

Date Received: 8/22/2023

Field Sample #: P-081-R22SB | Sampled: 8/14/2023 13:51

Sample ID: 23H3256-01

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	20	mg/Kg	100		SW-846 8082A	9/5/23	9/7/23 9:37	TG
Aroclor-1221 [1]	ND	20	mg/Kg	100		SW-846 8082A	9/5/23	9/7/23 9:37	TG
Aroclor-1232 [1]	ND	20	mg/Kg	100		SW-846 8082A	9/5/23	9/7/23 9:37	TG
Aroclor-1242 [1]	ND	20	mg/Kg	100		SW-846 8082A	9/5/23	9/7/23 9:37	TG
Aroclor-1248 [1]	ND	20	mg/Kg	100		SW-846 8082A	9/5/23	9/7/23 9:37	TG
Aroclor-1254 [2]	400	20	mg/Kg	100		SW-846 8082A	9/5/23	9/7/23 9:37	TG
Aroclor-1260 [1]	ND	20	mg/Kg	100		SW-846 8082A	9/5/23	9/7/23 9:37	TG
Aroclor-1262 [1]	ND	20	mg/Kg	100		SW-846 8082A	9/5/23	9/7/23 9:37	TG
Aroclor-1268 [1]	ND	20	mg/Kg	100		SW-846 8082A	9/5/23	9/7/23 9:37	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/7/23 9:37
Decachlorobiphenyl [2]	*	30-150	S-01	9/7/23 9:37
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/7/23 9:37
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/7/23 9:37

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3256

Date Received: 8/22/2023

Field Sample #: P-082-R24E | Sampled: 8/14/2023 13:55

Sample ID: 23H3256-02

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	9.8	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 9:55	TG
Aroclor-1221 [1]	ND	9.8	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 9:55	TG
Aroclor-1232 [1]	ND	9.8	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 9:55	TG
Aroclor-1242 [1]	ND	9.8	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 9:55	TG
Aroclor-1248 [1]	ND	9.8	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 9:55	TG
Aroclor-1254 [1]	120	9.8	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 9:55	TG
Aroclor-1260 [1]	ND	9.8	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 9:55	TG
Aroclor-1262 [1]	ND	9.8	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 9:55	TG
Aroclor-1268 [1]	ND	9.8	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 9:55	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/7/23 9:55
Decachlorobiphenyl [2]	*	30-150	S-01	9/7/23 9:55
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/7/23 9:55
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/7/23 9:55

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3256

Date Received: 8/22/2023

Field Sample #: P-083-R24SC | Sampled: 8/14/2023 13:56

Sample ID: 23H3256-03

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	9.9	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 10:12	TG
Aroclor-1221 [1]	ND	9.9	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 10:12	TG
Aroclor-1232 [1]	ND	9.9	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 10:12	TG
Aroclor-1242 [1]	ND	9.9	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 10:12	TG
Aroclor-1248 [1]	ND	9.9	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 10:12	TG
Aroclor-1254 [1]	130	9.9	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 10:12	TG
Aroclor-1260 [1]	ND	9.9	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 10:12	TG
Aroclor-1262 [1]	ND	9.9	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 10:12	TG
Aroclor-1268 [1]	ND	9.9	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 10:12	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/7/23 10:12
Decachlorobiphenyl [2]	*	30-150	S-01	9/7/23 10:12
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/7/23 10:12
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/7/23 10:12

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3256

Date Received: 8/22/2023

Field Sample #: P-084-R24SB | Sampled: 8/14/2023 13:57

Sample ID: 23H3256-04

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	10	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 10:29	TG
Aroclor-1221 [1]	ND	10	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 10:29	TG
Aroclor-1232 [1]	ND	10	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 10:29	TG
Aroclor-1242 [1]	ND	10	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 10:29	TG
Aroclor-1248 [1]	ND	10	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 10:29	TG
Aroclor-1254 [1]	130	10	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 10:29	TG
Aroclor-1260 [1]	ND	10	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 10:29	TG
Aroclor-1262 [1]	ND	10	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 10:29	TG
Aroclor-1268 [1]	ND	10	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 10:29	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/7/23 10:29
Decachlorobiphenyl [2]	*	30-150	S-01	9/7/23 10:29
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/7/23 10:29
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/7/23 10:29

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3256

Date Received: 8/22/2023

Field Sample #: P-085-R24W | Sampled: 8/14/2023 13:58

Sample ID: 23H3256-05

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	9.9	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 10:46	TG
Aroclor-1221 [1]	ND	9.9	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 10:46	TG
Aroclor-1232 [1]	ND	9.9	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 10:46	TG
Aroclor-1242 [1]	ND	9.9	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 10:46	TG
Aroclor-1248 [1]	ND	9.9	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 10:46	TG
Aroclor-1254 [2]	110	9.9	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 10:46	TG
Aroclor-1260 [1]	ND	9.9	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 10:46	TG
Aroclor-1262 [1]	ND	9.9	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 10:46	TG
Aroclor-1268 [1]	ND	9.9	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 10:46	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/7/23 10:46
Decachlorobiphenyl [2]	*	30-150	S-01	9/7/23 10:46
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/7/23 10:46
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/7/23 10:46

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3256

Date Received: 8/22/2023

Field Sample #: P-086-R25E | Sampled: 8/14/2023 14:35

Sample ID: 23H3256-06

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	23	mg/Kg	50		SW-846 8082A	9/8/23	9/12/23 22:04	SFM
Aroclor-1221 [1]	ND	23	mg/Kg	50		SW-846 8082A	9/8/23	9/12/23 22:04	SFM
Aroclor-1232 [1]	ND	23	mg/Kg	50		SW-846 8082A	9/8/23	9/12/23 22:04	SFM
Aroclor-1242 [1]	ND	23	mg/Kg	50		SW-846 8082A	9/8/23	9/12/23 22:04	SFM
Aroclor-1248 [1]	ND	23	mg/Kg	50		SW-846 8082A	9/8/23	9/12/23 22:04	SFM
Aroclor-1254 [2]	300	23	mg/Kg	50		SW-846 8082A	9/8/23	9/12/23 22:04	SFM
Aroclor-1260 [1]	ND	23	mg/Kg	50		SW-846 8082A	9/8/23	9/12/23 22:04	SFM
Aroclor-1262 [1]	ND	23	mg/Kg	50		SW-846 8082A	9/8/23	9/12/23 22:04	SFM
Aroclor-1268 [1]	ND	23	mg/Kg	50		SW-846 8082A	9/8/23	9/12/23 22:04	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/12/23 22:04
Decachlorobiphenyl [2]	*	30-150	S-01	9/12/23 22:04
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/12/23 22:04
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/12/23 22:04

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3256

Date Received: 8/22/2023

Field Sample #: P-087-R25S | Sampled: 8/14/2023 14:36

Sample ID: 23H3256-07

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	10	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 11:21	TG
Aroclor-1221 [1]	ND	10	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 11:21	TG
Aroclor-1232 [1]	ND	10	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 11:21	TG
Aroclor-1242 [1]	ND	10	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 11:21	TG
Aroclor-1248 [1]	ND	10	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 11:21	TG
Aroclor-1254 [2]	90	10	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 11:21	TG
Aroclor-1260 [1]	ND	10	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 11:21	TG
Aroclor-1262 [1]	ND	10	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 11:21	TG
Aroclor-1268 [1]	ND	10	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 11:21	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/7/23 11:21
Decachlorobiphenyl [2]	*	30-150	S-01	9/7/23 11:21
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/7/23 11:21
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/7/23 11:21

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3256

Date Received: 8/22/2023

Field Sample #: P-088-R2SCDW | Sampled: 8/14/2023 14:37

Sample ID: 23H3256-08

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	7.5	mg/Kg	20		SW-846 8082A	9/8/23	9/12/23 22:22	SFM
Aroclor-1221 [1]	ND	7.5	mg/Kg	20		SW-846 8082A	9/8/23	9/12/23 22:22	SFM
Aroclor-1232 [1]	ND	7.5	mg/Kg	20		SW-846 8082A	9/8/23	9/12/23 22:22	SFM
Aroclor-1242 [1]	ND	7.5	mg/Kg	20		SW-846 8082A	9/8/23	9/12/23 22:22	SFM
Aroclor-1248 [1]	ND	7.5	mg/Kg	20		SW-846 8082A	9/8/23	9/12/23 22:22	SFM
Aroclor-1254 [1]	66	7.5	mg/Kg	20		SW-846 8082A	9/8/23	9/12/23 22:22	SFM
Aroclor-1260 [1]	ND	7.5	mg/Kg	20		SW-846 8082A	9/8/23	9/12/23 22:22	SFM
Aroclor-1262 [1]	ND	7.5	mg/Kg	20		SW-846 8082A	9/8/23	9/12/23 22:22	SFM
Aroclor-1268 [1]	ND	7.5	mg/Kg	20		SW-846 8082A	9/8/23	9/12/23 22:22	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	109	30-150		9/12/23 22:22
Decachlorobiphenyl [2]	106	30-150		9/12/23 22:22
Tetrachloro-m-xylene [1]	97.9	30-150		9/12/23 22:22
Tetrachloro-m-xylene [2]	100	30-150		9/12/23 22:22

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3256

Date Received: 8/22/2023

Field Sample #: P-089-R2SCP | Sampled: 8/14/2023 14:38

Sample ID: 23H3256-09

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.3	mg/Kg	10		SW-846 8082A	9/6/23	9/8/23 17:39	SFM
Aroclor-1221 [1]	ND	4.3	mg/Kg	10		SW-846 8082A	9/6/23	9/8/23 17:39	SFM
Aroclor-1232 [1]	ND	4.3	mg/Kg	10		SW-846 8082A	9/6/23	9/8/23 17:39	SFM
Aroclor-1242 [1]	ND	4.3	mg/Kg	10		SW-846 8082A	9/6/23	9/8/23 17:39	SFM
Aroclor-1248 [1]	ND	4.3	mg/Kg	10		SW-846 8082A	9/6/23	9/8/23 17:39	SFM
Aroclor-1254 [2]	56	4.3	mg/Kg	10		SW-846 8082A	9/6/23	9/8/23 17:39	SFM
Aroclor-1260 [1]	ND	4.3	mg/Kg	10		SW-846 8082A	9/6/23	9/8/23 17:39	SFM
Aroclor-1262 [1]	ND	4.3	mg/Kg	10		SW-846 8082A	9/6/23	9/8/23 17:39	SFM
Aroclor-1268 [1]	ND	4.3	mg/Kg	10		SW-846 8082A	9/6/23	9/8/23 17:39	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	90.2	30-150		9/8/23 17:39
Decachlorobiphenyl [2]	87.8	30-150		9/8/23 17:39
Tetrachloro-m-xylene [1]	86.9	30-150		9/8/23 17:39
Tetrachloro-m-xylene [2]	85.2	30-150		9/8/23 17:39

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3256

Date Received: 8/22/2023

Field Sample #: P-090-R25AE | Sampled: 8/14/2023 14:40

Sample ID: 23H3256-10

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	20	mg/Kg	50		SW-846 8082A	9/6/23	9/8/23 17:56	SFM
Aroclor-1221 [1]	ND	20	mg/Kg	50		SW-846 8082A	9/6/23	9/8/23 17:56	SFM
Aroclor-1232 [1]	ND	20	mg/Kg	50		SW-846 8082A	9/6/23	9/8/23 17:56	SFM
Aroclor-1242 [1]	ND	20	mg/Kg	50		SW-846 8082A	9/6/23	9/8/23 17:56	SFM
Aroclor-1248 [1]	ND	20	mg/Kg	50		SW-846 8082A	9/6/23	9/8/23 17:56	SFM
Aroclor-1254 [2]	350	20	mg/Kg	50		SW-846 8082A	9/6/23	9/8/23 17:56	SFM
Aroclor-1260 [1]	ND	20	mg/Kg	50		SW-846 8082A	9/6/23	9/8/23 17:56	SFM
Aroclor-1262 [1]	ND	20	mg/Kg	50		SW-846 8082A	9/6/23	9/8/23 17:56	SFM
Aroclor-1268 [1]	ND	20	mg/Kg	50		SW-846 8082A	9/6/23	9/8/23 17:56	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/8/23 17:56
Decachlorobiphenyl [2]	*	30-150	S-01	9/8/23 17:56
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/8/23 17:56
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/8/23 17:56

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3256

Date Received: 8/22/2023

Field Sample #: P-091-R25AS | Sampled: 8/14/2023 14:41

Sample ID: 23H3256-11

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	20	mg/Kg	100		SW-846 8082A	9/5/23	9/7/23 13:33	TG
Aroclor-1221 [1]	ND	20	mg/Kg	100		SW-846 8082A	9/5/23	9/7/23 13:33	TG
Aroclor-1232 [1]	ND	20	mg/Kg	100		SW-846 8082A	9/5/23	9/7/23 13:33	TG
Aroclor-1242 [1]	ND	20	mg/Kg	100		SW-846 8082A	9/5/23	9/7/23 13:33	TG
Aroclor-1248 [1]	ND	20	mg/Kg	100		SW-846 8082A	9/5/23	9/7/23 13:33	TG
Aroclor-1254 [2]	380	20	mg/Kg	100		SW-846 8082A	9/5/23	9/7/23 13:33	TG
Aroclor-1260 [1]	ND	20	mg/Kg	100		SW-846 8082A	9/5/23	9/7/23 13:33	TG
Aroclor-1262 [1]	ND	20	mg/Kg	100		SW-846 8082A	9/5/23	9/7/23 13:33	TG
Aroclor-1268 [1]	ND	20	mg/Kg	100		SW-846 8082A	9/5/23	9/7/23 13:33	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/7/23 13:33
Decachlorobiphenyl [2]	*	30-150	S-01	9/7/23 13:33
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/7/23 13:33
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/7/23 13:33

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3256

Date Received: 8/22/2023

Field Sample #: P-092-R25ACDW | Sampled: 8/14/2023 14:42

Sample ID: 23H3256-12

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/8/23	9/12/23 22:39	SFM
Aroclor-1221 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/8/23	9/12/23 22:39	SFM
Aroclor-1232 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/8/23	9/12/23 22:39	SFM
Aroclor-1242 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/8/23	9/12/23 22:39	SFM
Aroclor-1248 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/8/23	9/12/23 22:39	SFM
Aroclor-1254 [2]	37	4.4	mg/Kg	10		SW-846 8082A	9/8/23	9/12/23 22:39	SFM
Aroclor-1260 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/8/23	9/12/23 22:39	SFM
Aroclor-1262 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/8/23	9/12/23 22:39	SFM
Aroclor-1268 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/8/23	9/12/23 22:39	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	74.3	30-150		9/12/23 22:39
Decachlorobiphenyl [2]	70.8	30-150		9/12/23 22:39
Tetrachloro-m-xylene [1]	37.8	30-150		9/12/23 22:39
Tetrachloro-m-xylene [2]	38.2	30-150		9/12/23 22:39

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3256

Date Received: 8/22/2023

Field Sample #: P-093-R25ACP | Sampled: 8/14/2023 14:43

Sample ID: 23H3256-13

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	3.8	mg/Kg	10		SW-846 8082A	9/6/23	9/8/23 18:13	SFM
Aroclor-1221 [1]	ND	3.8	mg/Kg	10		SW-846 8082A	9/6/23	9/8/23 18:13	SFM
Aroclor-1232 [1]	ND	3.8	mg/Kg	10		SW-846 8082A	9/6/23	9/8/23 18:13	SFM
Aroclor-1242 [1]	ND	3.8	mg/Kg	10		SW-846 8082A	9/6/23	9/8/23 18:13	SFM
Aroclor-1248 [1]	ND	3.8	mg/Kg	10		SW-846 8082A	9/6/23	9/8/23 18:13	SFM
Aroclor-1254 [2]	30	3.8	mg/Kg	10		SW-846 8082A	9/6/23	9/8/23 18:13	SFM
Aroclor-1260 [1]	ND	3.8	mg/Kg	10		SW-846 8082A	9/6/23	9/8/23 18:13	SFM
Aroclor-1262 [1]	ND	3.8	mg/Kg	10		SW-846 8082A	9/6/23	9/8/23 18:13	SFM
Aroclor-1268 [1]	ND	3.8	mg/Kg	10		SW-846 8082A	9/6/23	9/8/23 18:13	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	67.5	30-150		9/8/23 18:13
Decachlorobiphenyl [2]	65.6	30-150		9/8/23 18:13
Tetrachloro-m-xylene [1]	64.6	30-150		9/8/23 18:13
Tetrachloro-m-xylene [2]	64.2	30-150		9/8/23 18:13

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3256

Date Received: 8/22/2023

Field Sample #: P-094-R21W | Sampled: 8/14/2023 14:44

Sample ID: 23H3256-14

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	9/6/23	9/8/23 18:30	SFM
Aroclor-1221 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	9/6/23	9/8/23 18:30	SFM
Aroclor-1232 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	9/6/23	9/8/23 18:30	SFM
Aroclor-1242 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	9/6/23	9/8/23 18:30	SFM
Aroclor-1248 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	9/6/23	9/8/23 18:30	SFM
Aroclor-1254 [2]	51	3.9	mg/Kg	10		SW-846 8082A	9/6/23	9/8/23 18:30	SFM
Aroclor-1260 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	9/6/23	9/8/23 18:30	SFM
Aroclor-1262 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	9/6/23	9/8/23 18:30	SFM
Aroclor-1268 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	9/6/23	9/8/23 18:30	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	102	30-150		9/8/23 18:30
Decachlorobiphenyl [2]	97.0	30-150		9/8/23 18:30
Tetrachloro-m-xylene [1]	92.4	30-150		9/8/23 18:30
Tetrachloro-m-xylene [2]	90.9	30-150		9/8/23 18:30

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3256

Date Received: 8/22/2023

Field Sample #: P-095-R21FN | Sampled: 8/14/2023 14:45

Sample ID: 23H3256-15

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	9/5/23	9/7/23 14:08	TG
Aroclor-1221 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	9/5/23	9/7/23 14:08	TG
Aroclor-1232 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	9/5/23	9/7/23 14:08	TG
Aroclor-1242 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	9/5/23	9/7/23 14:08	TG
Aroclor-1248 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	9/5/23	9/7/23 14:08	TG
Aroclor-1254 [2]	21	2.0	mg/Kg	10		SW-846 8082A	9/5/23	9/7/23 14:08	TG
Aroclor-1260 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	9/5/23	9/7/23 14:08	TG
Aroclor-1262 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	9/5/23	9/7/23 14:08	TG
Aroclor-1268 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	9/5/23	9/7/23 14:08	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	89.9	30-150		9/7/23 14:08
Decachlorobiphenyl [2]	88.9	30-150		9/7/23 14:08
Tetrachloro-m-xylene [1]	89.8	30-150		9/7/23 14:08
Tetrachloro-m-xylene [2]	88.0	30-150		9/7/23 14:08

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3256

Date Received: 8/22/2023

Field Sample #: P-096-R21FS | Sampled: 8/14/2023 14:46

Sample ID: 23H3256-16

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	9/5/23	9/7/23 14:25	TG
Aroclor-1221 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	9/5/23	9/7/23 14:25	TG
Aroclor-1232 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	9/5/23	9/7/23 14:25	TG
Aroclor-1242 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	9/5/23	9/7/23 14:25	TG
Aroclor-1248 [1]	9.9	2.0	mg/Kg	10		SW-846 8082A	9/5/23	9/7/23 14:25	TG
Aroclor-1254 [2]	16	2.0	mg/Kg	10		SW-846 8082A	9/5/23	9/7/23 14:25	TG
Aroclor-1260 [2]	ND	2.0	mg/Kg	10		SW-846 8082A	9/5/23	9/7/23 14:25	TG
Aroclor-1262 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	9/5/23	9/7/23 14:25	TG
Aroclor-1268 [1]	ND	2.0	mg/Kg	10		SW-846 8082A	9/5/23	9/7/23 14:25	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	88.4	30-150		9/7/23 14:25
Decachlorobiphenyl [2]	86.8	30-150		9/7/23 14:25
Tetrachloro-m-xylene [1]	88.4	30-150		9/7/23 14:25
Tetrachloro-m-xylene [2]	86.7	30-150		9/7/23 14:25

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3256

Date Received: 8/22/2023

Field Sample #: P-097-R24AS | Sampled: 8/14/2023 14:50

Sample ID: 23H3256-17

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.1	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 14:42	TG
Aroclor-1221 [1]	ND	4.1	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 14:42	TG
Aroclor-1232 [1]	ND	4.1	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 14:42	TG
Aroclor-1242 [1]	ND	4.1	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 14:42	TG
Aroclor-1248 [1]	ND	4.1	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 14:42	TG
Aroclor-1254 [2]	42	4.1	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 14:42	TG
Aroclor-1260 [1]	ND	4.1	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 14:42	TG
Aroclor-1262 [1]	ND	4.1	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 14:42	TG
Aroclor-1268 [1]	ND	4.1	mg/Kg	20		SW-846 8082A	9/5/23	9/7/23 14:42	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	95.3	30-150		9/7/23 14:42
Decachlorobiphenyl [2]	93.3	30-150		9/7/23 14:42
Tetrachloro-m-xylene [1]	92.3	30-150		9/7/23 14:42
Tetrachloro-m-xylene [2]	87.0	30-150		9/7/23 14:42

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3256

Date Received: 8/22/2023

Field Sample #: P-098-R24AW | Sampled: 8/14/2023 14:51

Sample ID: 23H3256-18

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	18	mg/Kg	50		SW-846 8082A	9/6/23	9/8/23 18:47	SFM
Aroclor-1221 [1]	ND	18	mg/Kg	50		SW-846 8082A	9/6/23	9/8/23 18:47	SFM
Aroclor-1232 [1]	ND	18	mg/Kg	50		SW-846 8082A	9/6/23	9/8/23 18:47	SFM
Aroclor-1242 [1]	ND	18	mg/Kg	50		SW-846 8082A	9/6/23	9/8/23 18:47	SFM
Aroclor-1248 [1]	ND	18	mg/Kg	50		SW-846 8082A	9/6/23	9/8/23 18:47	SFM
Aroclor-1254 [1]	200	18	mg/Kg	50		SW-846 8082A	9/6/23	9/8/23 18:47	SFM
Aroclor-1260 [1]	ND	18	mg/Kg	50		SW-846 8082A	9/6/23	9/8/23 18:47	SFM
Aroclor-1262 [1]	ND	18	mg/Kg	50		SW-846 8082A	9/6/23	9/8/23 18:47	SFM
Aroclor-1268 [1]	ND	18	mg/Kg	50		SW-846 8082A	9/6/23	9/8/23 18:47	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/8/23 18:47
Decachlorobiphenyl [2]	*	30-150	S-01	9/8/23 18:47
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/8/23 18:47
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/8/23 18:47

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3256

Date Received: 8/22/2023

Field Sample #: P-099-R24AN | Sampled: 8/14/2023 14:52

Sample ID: 23H3256-19

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	9.8	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 14:59	TG
Aroclor-1221 [1]	ND	9.8	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 14:59	TG
Aroclor-1232 [1]	ND	9.8	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 14:59	TG
Aroclor-1242 [1]	ND	9.8	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 14:59	TG
Aroclor-1248 [1]	ND	9.8	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 14:59	TG
Aroclor-1254 [1]	150	9.8	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 14:59	TG
Aroclor-1260 [1]	ND	9.8	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 14:59	TG
Aroclor-1262 [1]	ND	9.8	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 14:59	TG
Aroclor-1268 [1]	ND	9.8	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 14:59	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/7/23 14:59
Decachlorobiphenyl [2]	*	30-150	S-01	9/7/23 14:59
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/7/23 14:59
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/7/23 14:59

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3256

Date Received: 8/22/2023

Field Sample #: P-100-R24AC | Sampled: 8/14/2023 14:53

Sample ID: 23H3256-20

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	10	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 15:17	TG
Aroclor-1221 [1]	ND	10	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 15:17	TG
Aroclor-1232 [1]	ND	10	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 15:17	TG
Aroclor-1242 [1]	ND	10	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 15:17	TG
Aroclor-1248 [1]	ND	10	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 15:17	TG
Aroclor-1254 [2]	110	10	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 15:17	TG
Aroclor-1260 [1]	ND	10	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 15:17	TG
Aroclor-1262 [1]	ND	10	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 15:17	TG
Aroclor-1268 [1]	ND	10	mg/Kg	50		SW-846 8082A	9/5/23	9/7/23 15:17	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/7/23 15:17
Decachlorobiphenyl [2]	*	30-150	S-01	9/7/23 15:17
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/7/23 15:17
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/7/23 15:17

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method:SW-846 3540C **Analytical Method:SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23H3256-01 [P-081-R22SB]	B351007	0.504	10.0	09/05/23
23H3256-02 [P-082-R24E]	B351007	0.508	10.0	09/05/23
23H3256-03 [P-083-R24SC]	B351007	0.505	10.0	09/05/23
23H3256-04 [P-084-R24SB]	B351007	0.498	10.0	09/05/23
23H3256-05 [P-085-R24W]	B351007	0.503	10.0	09/05/23
23H3256-07 [P-087-R25S]	B351007	0.498	10.0	09/05/23
23H3256-11 [P-091-R25AS]	B351007	0.498	10.0	09/05/23
23H3256-15 [P-095-R21FN]	B351007	0.503	10.0	09/05/23
23H3256-16 [P-096-R21FS]	B351007	0.506	10.0	09/05/23
23H3256-17 [P-097-R24AS]	B351007	0.492	10.0	09/05/23
23H3256-19 [P-099-R24AN]	B351007	0.510	10.0	09/05/23
23H3256-20 [P-100-R24AC]	B351007	0.499	10.0	09/05/23

Prep Method:SW-846 3540C **Analytical Method:SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23H3256-09RE1 [P-089-R2SCP]	B351177	0.231	10.0	09/06/23
23H3256-10RE1 [P-090-R25AE]	B351177	0.253	10.0	09/06/23
23H3256-13RE1 [P-093-R25ACP]	B351177	0.265	10.0	09/06/23
23H3256-14RE1 [P-094-R21W]	B351177	0.255	10.0	09/06/23
23H3256-18RE1 [P-098-R24AW]	B351177	0.271	10.0	09/06/23

Prep Method:SW-846 3540C **Analytical Method:SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23H3256-06RE1 [P-086-R25E]	B351490	0.216	10.0	09/08/23
23H3256-08RE1 [P-088-R2SCDW]	B351490	0.268	10.0	09/08/23
23H3256-12RE1 [P-092-R25ACDW]	B351490	0.227	10.0	09/08/23

con-test® A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B351007 - SW-846 3540C										
Blank (B351007-BLK1)				Prepared: 09/05/23 Analyzed: 09/07/23						
Aroclor-1016	ND	0.20	mg/Kg							
Aroclor-1016 [2C]	ND	0.20	mg/Kg							
Aroclor-1221	ND	0.20	mg/Kg							
Aroclor-1221 [2C]	ND	0.20	mg/Kg							
Aroclor-1232	ND	0.20	mg/Kg							
Aroclor-1232 [2C]	ND	0.20	mg/Kg							
Aroclor-1242	ND	0.20	mg/Kg							
Aroclor-1242 [2C]	ND	0.20	mg/Kg							
Aroclor-1248	ND	0.20	mg/Kg							
Aroclor-1248 [2C]	ND	0.20	mg/Kg							
Aroclor-1254	ND	0.20	mg/Kg							
Aroclor-1254 [2C]	ND	0.20	mg/Kg							
Aroclor-1260	ND	0.20	mg/Kg							
Aroclor-1260 [2C]	ND	0.20	mg/Kg							
Aroclor-1262	ND	0.20	mg/Kg							
Aroclor-1262 [2C]	ND	0.20	mg/Kg							
Aroclor-1268	ND	0.20	mg/Kg							
Aroclor-1268 [2C]	ND	0.20	mg/Kg							
Surrogate: Decachlorobiphenyl	*3.41*		mg/Kg	3.94		86.5	30-150			
Surrogate: Decachlorobiphenyl [2C]	*3.56*		mg/Kg	3.94		90.3	30-150			
Surrogate: Tetrachloro-m-xylene	*3.58*		mg/Kg	3.94		90.9	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*3.65*		mg/Kg	3.94		92.7	30-150			
LCS (B351007-BS1)				Prepared: 09/05/23 Analyzed: 09/07/23						
Aroclor-1016	0.82	0.20	mg/Kg	1.00		82.3	40-140			
Aroclor-1016 [2C]	0.90	0.20	mg/Kg	1.00		89.5	40-140			
Aroclor-1260	0.81	0.20	mg/Kg	1.00		81.0	40-140			
Aroclor-1260 [2C]	0.86	0.20	mg/Kg	1.00		86.3	40-140			
Surrogate: Decachlorobiphenyl	*3.48*		mg/Kg	4.01		86.8	30-150			
Surrogate: Decachlorobiphenyl [2C]	*3.60*		mg/Kg	4.01		89.7	30-150			
Surrogate: Tetrachloro-m-xylene	*3.51*		mg/Kg	4.01		87.6	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*3.59*		mg/Kg	4.01		89.7	30-150			
LCS Dup (B351007-BSD1)				Prepared: 09/05/23 Analyzed: 09/07/23						
Aroclor-1016	0.87	0.20	mg/Kg	0.996		87.2	40-140	5.14	30	
Aroclor-1016 [2C]	1.0	0.20	mg/Kg	0.996		105	40-140	15.7	30	
Aroclor-1260	0.98	0.20	mg/Kg	0.996		98.7	40-140	19.1	30	
Aroclor-1260 [2C]	0.96	0.20	mg/Kg	0.996		96.5	40-140	10.5	30	
Surrogate: Decachlorobiphenyl	*3.46*		mg/Kg	3.98		86.8	30-150			
Surrogate: Decachlorobiphenyl [2C]	*3.71*		mg/Kg	3.98		93.1	30-150			
Surrogate: Tetrachloro-m-xylene	*3.64*		mg/Kg	3.98		91.3	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*3.65*		mg/Kg	3.98		91.6	30-150			

con-test® A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B351007 - SW-846 3540C											
Matrix Spike (B351007-MS1)	**Source: 23H3256-01**			Prepared: 09/05/23 Analyzed: 09/07/23							
Aroclor-1016	42	20	mg/Kg	0.999	ND	**4160**	*	40-140			MS-21
Aroclor-1016 [2C]	120	20	mg/Kg	0.999	ND	**12300**	*	40-140			MS-21
Aroclor-1260	97	20	mg/Kg	0.999	ND	**9730**	*	40-140			MS-21
Aroclor-1260 [2C]	89	20	mg/Kg	0.999	ND	**8920**	*	40-140			MS-21
Surrogate: Decachlorobiphenyl	*0.00*		mg/Kg	4.00			*	30-150			S-01
Surrogate: Decachlorobiphenyl [2C]	*0.00*		mg/Kg	4.00			*	30-150			S-01
Surrogate: Tetrachloro-m-xylene	*0.00*		mg/Kg	4.00			*	30-150			S-01
Surrogate: Tetrachloro-m-xylene [2C]	*0.00*		mg/Kg	4.00			*	30-150			S-01
Matrix Spike Dup (B351007-MSD1)	**Source: 23H3256-01**			Prepared: 09/05/23 Analyzed: 09/07/23							
Aroclor-1016	31	20	mg/Kg	1.01	ND	**3120**	*	40-140	27.5	50	MS-21
Aroclor-1016 [2C]	84	20	mg/Kg	1.01	ND	**8340**	*	40-140	37.1	50	MS-21
Aroclor-1260	68	20	mg/Kg	1.01	ND	**6770**	*	40-140	35.0	50	MS-21
Aroclor-1260 [2C]	62	20	mg/Kg	1.01	ND	**6120**	*	40-140	36.3	50	MS-21
Surrogate: Decachlorobiphenyl	*0.00*		mg/Kg	4.04			*	30-150			S-01
Surrogate: Decachlorobiphenyl [2C]	*0.00*		mg/Kg	4.04			*	30-150			S-01
Surrogate: Tetrachloro-m-xylene	*0.00*		mg/Kg	4.04			*	30-150			S-01
Surrogate: Tetrachloro-m-xylene [2C]	*0.00*		mg/Kg	4.04			*	30-150			S-01
Batch B351177 - SW-846 3540C											
Blank (B351177-BLK1)				Prepared: 09/06/23 Analyzed: 09/08/23							
Aroclor-1016	ND	0.42	mg/Kg								
Aroclor-1016 [2C]	ND	0.42	mg/Kg								
Aroclor-1221	ND	0.42	mg/Kg								
Aroclor-1221 [2C]	ND	0.42	mg/Kg								
Aroclor-1232	ND	0.42	mg/Kg								
Aroclor-1232 [2C]	ND	0.42	mg/Kg								
Aroclor-1242	ND	0.42	mg/Kg								
Aroclor-1242 [2C]	ND	0.42	mg/Kg								
Aroclor-1248	ND	0.42	mg/Kg								
Aroclor-1248 [2C]	ND	0.42	mg/Kg								
Aroclor-1254	ND	0.42	mg/Kg								
Aroclor-1254 [2C]	ND	0.42	mg/Kg								
Aroclor-1260	ND	0.42	mg/Kg								
Aroclor-1260 [2C]	ND	0.42	mg/Kg								
Aroclor-1262	ND	0.42	mg/Kg								
Aroclor-1262 [2C]	ND	0.42	mg/Kg								
Aroclor-1268	ND	0.42	mg/Kg								
Aroclor-1268 [2C]	ND	0.42	mg/Kg								
Surrogate: Decachlorobiphenyl	*6.43*		mg/Kg	8.46		76.0		30-150			
Surrogate: Decachlorobiphenyl [2C]	*6.79*		mg/Kg	8.46		80.3		30-150			
Surrogate: Tetrachloro-m-xylene	*6.10*		mg/Kg	8.46		72.1		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*6.30*		mg/Kg	8.46		74.5		30-150			

con-test® A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B351177 - SW-846 3540C										
LCS (B351177-BS1)				Prepared: 09/06/23 Analyzed: 09/08/23						
Aroclor-1016	1.4	0.34	mg/Kg	1.69		84.3	40-140			
Aroclor-1016 [2C]	1.5	0.34	mg/Kg	1.69		88.9	40-140			
Aroclor-1260	1.2	0.34	mg/Kg	1.69		73.6	40-140			
Aroclor-1260 [2C]	1.4	0.34	mg/Kg	1.69		80.5	40-140			
Surrogate: Decachlorobiphenyl	*5.69*		mg/Kg	6.74		84.4	30-150			
Surrogate: Decachlorobiphenyl [2C]	*6.00*		mg/Kg	6.74		89.0	30-150			
Surrogate: Tetrachloro-m-xylene	*5.52*		mg/Kg	6.74		81.8	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*5.79*		mg/Kg	6.74		85.9	30-150			
LCS Dup (B351177-BSD1)				Prepared: 09/06/23 Analyzed: 09/08/23						
Aroclor-1016	1.7	0.41	mg/Kg	2.07		81.5	40-140	17.2	30	
Aroclor-1016 [2C]	1.8	0.41	mg/Kg	2.07		88.6	40-140	20.1	30	
Aroclor-1260	1.7	0.41	mg/Kg	2.07		80.2	40-140	29.0	30	
Aroclor-1260 [2C]	1.6	0.41	mg/Kg	2.07		79.7	40-140	19.4	30	
Surrogate: Decachlorobiphenyl	*7.06*		mg/Kg	8.28		85.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	*7.27*		mg/Kg	8.28		87.8	30-150			
Surrogate: Tetrachloro-m-xylene	*6.54*		mg/Kg	8.28		79.0	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*6.78*		mg/Kg	8.28		81.9	30-150			
Batch B351490 - SW-846 3540C										
Blank (B351490-BLK1)				Prepared: 09/08/23 Analyzed: 09/12/23						
Aroclor-1016	ND	0.49	mg/Kg							
Aroclor-1016 [2C]	ND	0.49	mg/Kg							
Aroclor-1221	ND	0.49	mg/Kg							
Aroclor-1221 [2C]	ND	0.49	mg/Kg							
Aroclor-1232	ND	0.49	mg/Kg							
Aroclor-1232 [2C]	ND	0.49	mg/Kg							
Aroclor-1242	ND	0.49	mg/Kg							
Aroclor-1242 [2C]	ND	0.49	mg/Kg							
Aroclor-1248	ND	0.49	mg/Kg							
Aroclor-1248 [2C]	ND	0.49	mg/Kg							
Aroclor-1254	ND	0.49	mg/Kg							
Aroclor-1254 [2C]	ND	0.49	mg/Kg							
Aroclor-1260	ND	0.49	mg/Kg							
Aroclor-1260 [2C]	ND	0.49	mg/Kg							
Aroclor-1262	ND	0.49	mg/Kg							
Aroclor-1262 [2C]	ND	0.49	mg/Kg							
Aroclor-1268	ND	0.49	mg/Kg							
Aroclor-1268 [2C]	ND	0.49	mg/Kg							
Surrogate: Decachlorobiphenyl	*8.60*		mg/Kg	9.78		87.9	30-150			
Surrogate: Decachlorobiphenyl [2C]	*8.25*		mg/Kg	9.78		84.4	30-150			
Surrogate: Tetrachloro-m-xylene	*8.01*		mg/Kg	9.78		82.0	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*8.26*		mg/Kg	9.78		84.5	30-150			

con-test® A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B351490 - SW-846 3540C										
LCS (B351490-BS1)				Prepared: 09/08/23 Analyzed: 09/12/23						
Aroclor-1016	1.6	0.44	mg/Kg	2.21		73.7	40-140			
Aroclor-1016 [2C]	1.8	0.44	mg/Kg	2.21		79.3	40-140			
Aroclor-1260	1.7	0.44	mg/Kg	2.21		75.9	40-140			
Aroclor-1260 [2C]	1.6	0.44	mg/Kg	2.21		70.9	40-140			
Surrogate: Decachlorobiphenyl	*7.45*		mg/Kg	8.82		84.4	30-150			
Surrogate: Decachlorobiphenyl [2C]	*7.24*		mg/Kg	8.82		82.1	30-150			
Surrogate: Tetrachloro-m-xylene	*7.38*		mg/Kg	8.82		83.7	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*7.53*		mg/Kg	8.82		85.4	30-150			
LCS Dup (B351490-BSD1)				Prepared: 09/08/23 Analyzed: 09/12/23						
Aroclor-1016	1.4	0.38	mg/Kg	1.91		75.4	40-140	12.3	30	
Aroclor-1016 [2C]	1.5	0.38	mg/Kg	1.91		80.3	40-140	13.4	30	
Aroclor-1260	1.6	0.38	mg/Kg	1.91		81.7	40-140	7.33	30	
Aroclor-1260 [2C]	1.5	0.38	mg/Kg	1.91		80.4	40-140	2.13	30	
Surrogate: Decachlorobiphenyl	*6.22*		mg/Kg	7.62		81.6	30-150			
Surrogate: Decachlorobiphenyl [2C]	*6.01*		mg/Kg	7.62		78.9	30-150			
Surrogate: Tetrachloro-m-xylene	*5.97*		mg/Kg	7.62		78.3	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*6.09*		mg/Kg	7.62		79.9	30-150			

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-081-R22SB

Lab Sample ID: 23H3256-01 Date(s) Analyzed: 09/07/2023 09/07/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	390	
	2	0.000	0.000	0.000	400	2.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-082-R24E

Lab Sample ID: 23H3256-02 Date(s) Analyzed: 09/07/2023 09/07/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	120	
	2	0.000	0.000	0.000	120	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-083-R24SC

Lab Sample ID: 23H3256-03

Date(s) Analyzed: 09/07/2023 09/07/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	130	
	2	0.000	0.000	0.000	130	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-084-R24SB

Lab Sample ID: 23H3256-04 Date(s) Analyzed: 09/07/2023 09/07/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	130	
	2	0.000	0.000	0.000	130	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-085-R24W

Lab Sample ID: 23H3256-05 Date(s) Analyzed: 09/07/2023 09/07/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	110	
	2	0.000	0.000	0.000	110	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-086-R25E

Lab Sample ID: 23H3256-06RE1 Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	300	
	2	0.000	0.000	0.000	300	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-087-R25S

Lab Sample ID: 23H3256-07

Date(s) Analyzed: 09/07/2023 09/07/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	87	
	2	0.000	0.000	0.000	90	3.4

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-088-R2SCDW

Lab Sample ID: 23H3256-08RE1

Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	66	
	2	0.000	0.000	0.000	64	3.1

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-089-R2SCP

Lab Sample ID: 23H3256-09RE1 Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	55	
	2	0.000	0.000	0.000	56	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-090-R25AE

Lab Sample ID: 23H3256-10RE1

Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	340	
	2	0.000	0.000	0.000	350	2.9

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-091-R25AS

Lab Sample ID: 23H3256-11

Date(s) Analyzed: 09/07/2023 09/07/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	370	
	2	0.000	0.000	0.000	380	2.7

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-092-R25ACDW

Lab Sample ID: 23H3256-12RE1

Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	36	
	2	0.000	0.000	0.000	37	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-093-R25ACP

Lab Sample ID: 23H3256-13RE1 Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	28	
	2	0.000	0.000	0.000	30	6.9

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-094-R21W

Lab Sample ID: 23H3256-14RE1

Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	49	
	2	0.000	0.000	0.000	51	4.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-095-R21FN

Lab Sample ID: 23H3256-15

Date(s) Analyzed: 09/07/2023 09/07/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	20	
	2	0.000	0.000	0.000	21	4.9

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-096-R21FS

Lab Sample ID: 23H3256-16

Date(s) Analyzed: 09/07/2023 09/07/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1248	1	0.000	0.000	0.000	9.9	
	2	0.000	0.000	0.000	8.0	21.2
Aroclor-1254	1	0.000	0.000	0.000	15	
	2	0.000	0.000	0.000	16	6.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-097-R24AS

Lab Sample ID: 23H3256-17

Date(s) Analyzed: 09/07/2023 09/07/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	42	
	2	0.000	0.000	0.000	42	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-098-R24AW

Lab Sample ID: 23H3256-18RE1 Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	200	
	2	0.000	0.000	0.000	190	5.1

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-099-R24AN

Lab Sample ID: 23H3256-19 Date(s) Analyzed: 09/07/2023 09/07/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	150	
	2	0.000	0.000	0.000	140	6.9

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-100-R24AC

Lab Sample ID: 23H3256-20

Date(s) Analyzed: 09/07/2023 09/07/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	100	
	2	0.000	0.000	0.000	110	9.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B351007-BS1 Date(s) Analyzed: 09/07/2023 09/07/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.82	
	2	0.000	0.000	0.000	0.90	8.1
Aroclor-1260	1	0.000	0.000	0.000	0.81	
	2	0.000	0.000	0.000	0.86	6.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B351007-BSD1 Date(s) Analyzed: 09/07/2023 09/07/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.87	
	2	0.000	0.000	0.000	1.0	13.9
Aroclor-1260	1	0.000	0.000	0.000	0.98	
	2	0.000	0.000	0.000	0.96	2.1

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike

Lab Sample ID: B351007-MS1 Date(s) Analyzed: 09/07/2023 09/07/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	42	
	2	0.000	0.000	0.000	120	96.3
Aroclor-1260	1	0.000	0.000	0.000	97	
	2	0.000	0.000	0.000	89	8.6

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike Dup

Lab Sample ID: B351007-MSD1 Date(s) Analyzed: 09/07/2023 09/07/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	31	
	2	0.000	0.000	0.000	84	89.7
Aroclor-1260	1	0.000	0.000	0.000	68	
	2	0.000	0.000	0.000	62	9.2

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B351177-BS1

Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	1.4	
	2	0.000	0.000	0.000	1.5	6.9
Aroclor-1260	1	0.000	0.000	0.000	1.2	
	2	0.000	0.000	0.000	1.4	15.4

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B351177-BSD1 Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	1.7	
	2	0.000	0.000	0.000	1.8	5.7
Aroclor-1260	1	0.000	0.000	0.000	1.7	
	2	0.000	0.000	0.000	1.6	6.1

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B351490-BS1

Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	1.6	
	2	0.000	0.000	0.000	1.8	11.8
Aroclor-1260	1	0.000	0.000	0.000	1.7	
	2	0.000	0.000	0.000	1.6	6.1

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B351490-BSD1 Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	1.4	
	2	0.000	0.000	0.000	1.5	6.9
Aroclor-1260	1	0.000	0.000	0.000	1.6	
	2	0.000	0.000	0.000	1.5	6.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
MS-21	Matrix spike and/or spike duplicate recovery bias high due to contribution of other Aroclors present in the source sample.
S-01	The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications

No certified Analyses included in this Report

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires

23H3256 RF

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time
7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
1	P-081-R22SB	8/14/2023	13:51	GRAB	O	U		3				x
2	P-082-R24E	8/14/2023	13:55	GRAB	O	U		1				x
3	P-083-R24SC	8/14/2023	13:56	GRAB	O	U		1				x
4	P-084-R24SB	8/14/2023	13:57	GRAB	O	U		1				x
5	P-085-R24W	8/14/2023	13:58	GRAB	O	U		1				x
6	P-086-R25E	8/14/2023	14:35	GRAB	O	U		1				x
7	P-087-R25S	8/14/2023	14:36	GRAB		U		1				x
8	P-088-R2SCDW	8/14/2023	14:37	GRAB	O	U		1				x
9	P-089-R2SCP	8/14/2023	14:38	GRAB	O	U		1				x
10	P-090-R25AE	8/14/2023	14:40	GRAB	O	U		1				x

Relinquished by: (signature)	Date/Time: 1238 8/22/23	Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS
Received by: (signature)	Date/Time: 8/22/23 P55	
Relinquished by: (signature)	Date/Time: 8-22-23 1741	
Received by: (signature) 3.8, 2.2, 3.9	Date/Time: 8/22/23	
Relinquished by: (signature) 2.6, 5.6	Date/Time: 1746	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Table of Contents

23H3256 RF

Pace Analytical

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time

7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
11	P-091-R25AS	8/14/2023	14:41	GRAB	O	U		1				x
12	P-092-R25ACDW	8/14/2023	14:42	GRAB	O	U		1				x
13	P-093-R25ACP	8/14/2023	14:43	GRAB	O	U		1				x
14	P-094-R21W	8/14/2023	14:44	GRAB	O	U		1				x
15	P-095-R21FN	8/14/2023	14:45	GRAB	O	U		1				x
16	P-096-R21FS	8/14/2023	14:46	GRAB	O	U		1				x
17	P-097-R24AS	8/14/2023	14:50	GRAB	O	U		1				x
18	P-098-R24AW	8/14/2023	14:51	GRAB	O	U		1				x
19	P-099-R24AN	8/14/2023	14:52	GRAB	O	U		1				x
20	P-100-R24AC	8/14/2023	14:53	GRAB	O	U		1				x

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS
GLASS
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time: 8/22/23 1255
Received by: (signature)	Date/Time: 8/22/23 1358
Relinquished by: (signature)	Date/Time: 8-22-23 1746
Received by: (signature) 3.8, 2.2, 3.9	Date/Time: 8/22/23 1746
Relinquished by: (signature) 1.6, 5.6	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other

☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist
	Effective Date: 07/13/2023

Log In Back-Sheet

Client Nobis Group

Project St Johnsbury Armory

MCP/RCP Required no

Deliverable Package Requirement none

Location St. Johnsbury, VT

PWSID# (When Applicable) n/a

Arrival Method:

Courier ☑ Fed Ex ☐ Walk In ☐ Other ☐

Received By / Date / Time ER 8/22/23 1746

Back-Sheet By / Date / Time Mem 8/22/23 2217

Temperature Method Gun # 5

Temp < 6° C Actual Temperature 22.26 38.39.56

Rush Samples: Yes / No Notify No

Short Hold: Yes / No Notify No

Notes regarding Samples/COC outside of SOP:

* Sample split into fifteen separate work orders

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy) Any False statement will be brought to the attention of the Client – True or False

	True	False
Received on Ice	☑	☐
Received in Cooler	☑	☐
Custody Seal: DATE TIME	☐	☑
COC Relinquished	☑	☐
COC/Samples Labels Agree	☑	☐
All Samples in Good Condition	☑	☐
Samples Received within Holding Time	☑	☐
Is there enough Volume	☑	☐
Proper Media/Container Used	☑	☐
Splitting Samples Required	☑ see notes	☐
MS/MSD	☑	☐
Trip Blanks	☐	☑
Lab to Filters	☐	☑
COC Legible	☑	☐

COC Included: (Check all included)

Client ☑ Analysis ☑ Sampler Name ☑

Project ☑ IDs ☑ Collection Date/Time ☑

All Samples Proper pH: N/A ☐ ☐

Additional Container Notes

Note: West Virginia requires all samples to have their temperature taken. Note any outliers.

Qualtrax ID: 120836

Pace ANALYTICAL SERVICES

DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist

Effective Date: 07/13/2023

Sample	Soils Jars (Circle Amb/Clear)			Ambers						Plastics												VOA Vials						Other / Fill in					
	16oz Amb/Clear	8oz Amb/Clear	4oz Amb/Clear	2oz Amb/Clear	1 Liter			250mL			100mL	1 Liter		500mL		250mL																	
					Unpreserved	HCL	Sulfuric	Sulfuric	Phosphoric	HCl	Unpreserved	Unpreserved	Sulfuric	Unpreserved	Sulfuric	Unpreserved	Trizma	Sulfuric	Nitric	NaOH	Ammonium Acetate	NaOH/Zinc	Unpreserved	HCl	MeOH	D.I. Water	Bisulfate	Col/Bact					
1			3																													
2			1																													
3			1																													
4																																
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																
13																																
14																																
15																																
16																																
17																																
18																																
19																																
20			✓																													

Qualtrax ID: 120836

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

September 8, 2023

Tim Andrews
Nobis Engineering
585 Middlesex Street
Lowell, MA 01851

Project Location: St. Johnsbury, VT
Client Job Number:
Project Number: S00001.017
Laboratory Work Order Number: 23H3257

Enclosed are results of analyses for samples as received by the laboratory on August 22, 2023. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Rebecca Faust
Project Manager

Table of Contents

Sample Summary 4

Case Narrative 5

Sample Results 6

23H3257-01 6

23H3257-02 7

23H3257-03 8

23H3257-04 9

23H3257-05 10

23H3257-06 11

23H3257-07 12

23H3257-08 13

23H3257-09 14

23H3257-10 15

23H3257-11 16

23H3257-12 17

23H3257-13 18

23H3257-14 19

23H3257-15 20

23H3257-16 21

23H3257-17 22

23H3257-18 23

23H3257-19 24

23H3257-20 25

Sample Preparation Information 26

QC Data 27

Table of Contents (continued)

Polychlorinated Biphenyls with 3540 Soxhlet Extraction 27

B351008 27

Dual Column RPD Report 29

Flag/Qualifier Summary 53

Certifications 54

Chain of Custody/Sample Receipt 55

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Nobis Engineering
585 Middlesex Street
Lowell, MA 01851
ATTN: Tim Andrews

REPORT DATE: 9/8/2023

PURCHASE ORDER NUMBER:

PROJECT NUMBER: S00001.017

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23H3257

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: St. Johnsbury, VT

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
P-101-R26E	23H3257-01	Paint		SW-846 8082A	
P-102-R26SC	23H3257-02	Paint		SW-846 8082A	
P-103-R26SB	23H3257-03	Paint		SW-846 8082A	
P-104-R26N	23H3257-04	Paint		SW-846 8082A	
P-105-R26C	23H3257-05	Paint		SW-846 8082A	
P-106-R-27S	23H3257-06	Paint		SW-846 8082A	
P-107-R27NC	23H3257-07	Paint		SW-846 8082A	
P-108-R27NB	23H3257-08	Paint		SW-846 8082A	
P-109-R27AE	23H3257-09	Paint		SW-846 8082A	
P-110-R27AW	23H3257-10	Paint		SW-846 8082A	
P-111-R28SC	23H3257-11	Paint		SW-846 8082A	
P-112-R28SB	23H3257-12	Paint		SW-846 8082A	
P-113-R28WC	23H3257-13	Paint		SW-846 8082A	
P-114-R28WB	23H3257-14	Paint		SW-846 8082A	
P-115-R28D	23H3257-15	Paint		SW-846 8082A	
P-116-29WC	23H3257-16	Paint		SW-846 8082A	
P-117-29WB	23H3257-17	Paint		SW-846 8082A	
P-118-29NB	23H3257-18	Paint		SW-846 8082A	
P-119-29NC	23H3257-19	Paint		SW-846 8082A	
P-120-R30E	23H3257-20	Paint		SW-846 8082A	

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

SW-846 8082A

Qualifications:

MS-21

Matrix spike and/or spike duplicate recovery bias high due to contribution of other Aroclors present in the source sample.

Analyte & Samples(s) Qualified:

Aroclor-1016
B351008-MS1, B351008-MSD1

Aroclor-1016 [2C]
B351008-MS1, B351008-MSD1

Aroclor-1260
B351008-MS1, B351008-MSD1

Aroclor-1260 [2C]
B351008-MS1, B351008-MSD1

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Lisa A. Worthington
Technical Representative

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3257

Date Received: 8/22/2023

Field Sample #: P-101-R26E | Sampled: 8/14/2023 15:10

Sample ID: 23H3257-01

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.5	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 7:53	TG
Aroclor-1221 [1]	ND	4.5	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 7:53	TG
Aroclor-1232 [1]	ND	4.5	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 7:53	TG
Aroclor-1242 [1]	ND	4.5	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 7:53	TG
Aroclor-1248 [1]	ND	4.5	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 7:53	TG
Aroclor-1254 [1]	41	4.5	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 7:53	TG
Aroclor-1260 [1]	ND	4.5	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 7:53	TG
Aroclor-1262 [1]	ND	4.5	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 7:53	TG
Aroclor-1268 [1]	ND	4.5	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 7:53	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	75.1	30-150		9/8/23 7:53
Decachlorobiphenyl [2]	74.1	30-150		9/8/23 7:53
Tetrachloro-m-xylene [1]	72.2	30-150		9/8/23 7:53
Tetrachloro-m-xylene [2]	71.9	30-150		9/8/23 7:53

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3257

Date Received: 8/22/2023

Field Sample #: P-102-R26SC | Sampled: 8/14/2023 15:11

Sample ID: 23H3257-02

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.0	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 8:11	TG
Aroclor-1221 [1]	ND	4.0	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 8:11	TG
Aroclor-1232 [1]	ND	4.0	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 8:11	TG
Aroclor-1242 [1]	ND	4.0	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 8:11	TG
Aroclor-1248 [1]	ND	4.0	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 8:11	TG
Aroclor-1254 [1]	80	4.0	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 8:11	TG
Aroclor-1260 [1]	ND	4.0	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 8:11	TG
Aroclor-1262 [1]	ND	4.0	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 8:11	TG
Aroclor-1268 [1]	ND	4.0	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 8:11	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	87.2	30-150		9/8/23 8:11
Decachlorobiphenyl [2]	85.9	30-150		9/8/23 8:11
Tetrachloro-m-xylene [1]	82.6	30-150		9/8/23 8:11
Tetrachloro-m-xylene [2]	81.7	30-150		9/8/23 8:11

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3257

Date Received: 8/22/2023

Field Sample #: P-103-R26SB | Sampled: 8/14/2023 15:12

Sample ID: 23H3257-03

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.3	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 8:28	TG
Aroclor-1221 [1]	ND	4.3	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 8:28	TG
Aroclor-1232 [1]	ND	4.3	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 8:28	TG
Aroclor-1242 [1]	ND	4.3	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 8:28	TG
Aroclor-1248 [1]	ND	4.3	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 8:28	TG
Aroclor-1254 [2]	36	4.3	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 8:28	TG
Aroclor-1260 [1]	ND	4.3	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 8:28	TG
Aroclor-1262 [1]	ND	4.3	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 8:28	TG
Aroclor-1268 [1]	ND	4.3	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 8:28	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual		
Decachlorobiphenyl [1]	93.2	30-150		9/8/23	8:28
Decachlorobiphenyl [2]	91.6	30-150		9/8/23	8:28
Tetrachloro-m-xylene [1]	84.9	30-150		9/8/23	8:28
Tetrachloro-m-xylene [2]	83.3	30-150		9/8/23	8:28

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3257

Date Received: 8/22/2023

Field Sample #: P-104-R26N | Sampled: 8/14/2023 15:13

Sample ID: 23H3257-04

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	3.6	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 8:45	TG
Aroclor-1221 [1]	ND	3.6	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 8:45	TG
Aroclor-1232 [1]	ND	3.6	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 8:45	TG
Aroclor-1242 [1]	ND	3.6	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 8:45	TG
Aroclor-1248 [1]	ND	3.6	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 8:45	TG
Aroclor-1254 [1]	42	3.6	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 8:45	TG
Aroclor-1260 [1]	ND	3.6	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 8:45	TG
Aroclor-1262 [1]	ND	3.6	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 8:45	TG
Aroclor-1268 [1]	ND	3.6	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 8:45	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual		
Decachlorobiphenyl [1]	79.9	30-150		9/8/23	8:45
Decachlorobiphenyl [2]	78.3	30-150		9/8/23	8:45
Tetrachloro-m-xylene [1]	73.6	30-150		9/8/23	8:45
Tetrachloro-m-xylene [2]	71.0	30-150		9/8/23	8:45

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3257

Date Received: 8/22/2023

Field Sample #: P-105-R26C | Sampled: 8/14/2023 15:14

Sample ID: 23H3257-05

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	3.5	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 9:02	TG
Aroclor-1221 [1]	ND	3.5	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 9:02	TG
Aroclor-1232 [1]	ND	3.5	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 9:02	TG
Aroclor-1242 [1]	ND	3.5	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 9:02	TG
Aroclor-1248 [1]	ND	3.5	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 9:02	TG
Aroclor-1254 [1]	7.9	3.5	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 9:02	TG
Aroclor-1260 [1]	ND	3.5	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 9:02	TG
Aroclor-1262 [1]	ND	3.5	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 9:02	TG
Aroclor-1268 [1]	ND	3.5	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 9:02	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual		
Decachlorobiphenyl [1]	85.9	30-150		9/8/23	9:02
Decachlorobiphenyl [2]	84.0	30-150		9/8/23	9:02
Tetrachloro-m-xylene [1]	80.0	30-150		9/8/23	9:02
Tetrachloro-m-xylene [2]	75.7	30-150		9/8/23	9:02

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3257

Date Received: 8/22/2023

Field Sample #: P-106-R-27S | Sampled: 8/14/2023 15:15

Sample ID: 23H3257-06

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	5.0	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 9:19	TG
Aroclor-1221 [1]	ND	5.0	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 9:19	TG
Aroclor-1232 [1]	ND	5.0	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 9:19	TG
Aroclor-1242 [1]	ND	5.0	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 9:19	TG
Aroclor-1248 [1]	ND	5.0	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 9:19	TG
Aroclor-1254 [1]	42	5.0	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 9:19	TG
Aroclor-1260 [1]	ND	5.0	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 9:19	TG
Aroclor-1262 [1]	ND	5.0	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 9:19	TG
Aroclor-1268 [1]	ND	5.0	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 9:19	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	84.7	30-150		9/8/23 9:19
Decachlorobiphenyl [2]	82.3	30-150		9/8/23 9:19
Tetrachloro-m-xylene [1]	79.5	30-150		9/8/23 9:19
Tetrachloro-m-xylene [2]	76.8	30-150		9/8/23 9:19

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3257

Date Received: 8/22/2023

Field Sample #: P-107-R27NC | Sampled: 8/14/2023 15:16

Sample ID: 23H3257-07

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 9:36	TG
Aroclor-1221 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 9:36	TG
Aroclor-1232 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 9:36	TG
Aroclor-1242 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 9:36	TG
Aroclor-1248 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 9:36	TG
Aroclor-1254 [1]	30	4.8	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 9:36	TG
Aroclor-1260 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 9:36	TG
Aroclor-1262 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 9:36	TG
Aroclor-1268 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 9:36	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual		
Decachlorobiphenyl [1]	97.0	30-150		9/8/23	9:36
Decachlorobiphenyl [2]	94.4	30-150		9/8/23	9:36
Tetrachloro-m-xylene [1]	93.7	30-150		9/8/23	9:36
Tetrachloro-m-xylene [2]	89.3	30-150		9/8/23	9:36

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3257

Date Received: 8/22/2023

Field Sample #: P-108-R27NB | Sampled: 8/14/2023 15:17

Sample ID: 23H3257-08

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	3.6	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 9:54	TG
Aroclor-1221 [1]	ND	3.6	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 9:54	TG
Aroclor-1232 [1]	ND	3.6	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 9:54	TG
Aroclor-1242 [1]	ND	3.6	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 9:54	TG
Aroclor-1248 [1]	ND	3.6	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 9:54	TG
Aroclor-1254 [1]	50	3.6	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 9:54	TG
Aroclor-1260 [1]	ND	3.6	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 9:54	TG
Aroclor-1262 [1]	ND	3.6	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 9:54	TG
Aroclor-1268 [1]	ND	3.6	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 9:54	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual		
Decachlorobiphenyl [1]	91.3	30-150		9/8/23 9:54	
Decachlorobiphenyl [2]	89.2	30-150		9/8/23 9:54	
Tetrachloro-m-xylene [1]	85.1	30-150		9/8/23 9:54	
Tetrachloro-m-xylene [2]	82.1	30-150		9/8/23 9:54	

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3257

Date Received: 8/22/2023

Field Sample #: P-109-R27AE | Sampled: 8/14/2023 15:30

Sample ID: 23H3257-09

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.5	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 10:11	TG
Aroclor-1221 [1]	ND	4.5	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 10:11	TG
Aroclor-1232 [1]	ND	4.5	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 10:11	TG
Aroclor-1242 [1]	ND	4.5	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 10:11	TG
Aroclor-1248 [1]	ND	4.5	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 10:11	TG
Aroclor-1254 [2]	12	4.5	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 10:11	TG
Aroclor-1260 [1]	ND	4.5	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 10:11	TG
Aroclor-1262 [1]	ND	4.5	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 10:11	TG
Aroclor-1268 [1]	ND	4.5	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 10:11	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	94.0	30-150		9/8/23 10:11
Decachlorobiphenyl [2]	91.6	30-150		9/8/23 10:11
Tetrachloro-m-xylene [1]	88.2	30-150		9/8/23 10:11
Tetrachloro-m-xylene [2]	85.3	30-150		9/8/23 10:11

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3257

Date Received: 8/22/2023

Field Sample #: P-110-R27AW | Sampled: 8/14/2023 15:31

Sample ID: 23H3257-10

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 10:28	TG
Aroclor-1221 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 10:28	TG
Aroclor-1232 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 10:28	TG
Aroclor-1242 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 10:28	TG
Aroclor-1248 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 10:28	TG
Aroclor-1254 [2]	23	4.4	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 10:28	TG
Aroclor-1260 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 10:28	TG
Aroclor-1262 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 10:28	TG
Aroclor-1268 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 10:28	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	88.2	30-150		9/8/23 10:28
Decachlorobiphenyl [2]	85.7	30-150		9/8/23 10:28
Tetrachloro-m-xylene [1]	74.7	30-150		9/8/23 10:28
Tetrachloro-m-xylene [2]	75.2	30-150		9/8/23 10:28

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3257

Date Received: 8/22/2023

Field Sample #: P-111-R28SC | Sampled: 8/14/2023 15:35

Sample ID: 23H3257-11

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 11:49	TG
Aroclor-1221 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 11:49	TG
Aroclor-1232 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 11:49	TG
Aroclor-1242 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 11:49	TG
Aroclor-1248 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 11:49	TG
Aroclor-1254 [1]	19	4.8	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 11:49	TG
Aroclor-1260 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 11:49	TG
Aroclor-1262 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 11:49	TG
Aroclor-1268 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 11:49	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	89.5	30-150		9/8/23 11:49
Decachlorobiphenyl [2]	86.8	30-150		9/8/23 11:49
Tetrachloro-m-xylene [1]	81.8	30-150		9/8/23 11:49
Tetrachloro-m-xylene [2]	82.2	30-150		9/8/23 11:49

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3257

Date Received: 8/22/2023

Field Sample #: P-112-R28SB | Sampled: 8/14/2023 15:36

Sample ID: 23H3257-12

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	3.6	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 12:06	TG
Aroclor-1221 [1]	ND	3.6	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 12:06	TG
Aroclor-1232 [1]	ND	3.6	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 12:06	TG
Aroclor-1242 [1]	ND	3.6	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 12:06	TG
Aroclor-1248 [1]	ND	3.6	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 12:06	TG
Aroclor-1254 [1]	11	3.6	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 12:06	TG
Aroclor-1260 [1]	ND	3.6	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 12:06	TG
Aroclor-1262 [1]	ND	3.6	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 12:06	TG
Aroclor-1268 [1]	ND	3.6	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 12:06	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	81.7	30-150		9/8/23 12:06
Decachlorobiphenyl [2]	79.2	30-150		9/8/23 12:06
Tetrachloro-m-xylene [1]	74.9	30-150		9/8/23 12:06
Tetrachloro-m-xylene [2]	74.0	30-150		9/8/23 12:06

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3257

Date Received: 8/22/2023

Field Sample #: P-113-R28WC | Sampled: 8/14/2023 15:37

Sample ID: 23H3257-13

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 12:23	TG
Aroclor-1221 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 12:23	TG
Aroclor-1232 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 12:23	TG
Aroclor-1242 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 12:23	TG
Aroclor-1248 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 12:23	TG
Aroclor-1254 [2]	29	3.9	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 12:23	TG
Aroclor-1260 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 12:23	TG
Aroclor-1262 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 12:23	TG
Aroclor-1268 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 12:23	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	88.7	30-150		9/8/23 12:23
Decachlorobiphenyl [2]	86.0	30-150		9/8/23 12:23
Tetrachloro-m-xylene [1]	83.7	30-150		9/8/23 12:23
Tetrachloro-m-xylene [2]	82.2	30-150		9/8/23 12:23

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3257

Date Received: 8/22/2023

Field Sample #: P-114-R28WB | Sampled: 8/14/2023 15:38

Sample ID: 23H3257-14

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 12:40	TG
Aroclor-1221 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 12:40	TG
Aroclor-1232 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 12:40	TG
Aroclor-1242 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 12:40	TG
Aroclor-1248 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 12:40	TG
Aroclor-1254 [1]	16	4.8	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 12:40	TG
Aroclor-1260 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 12:40	TG
Aroclor-1262 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 12:40	TG
Aroclor-1268 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 12:40	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	93.0	30-150		9/8/23 12:40
Decachlorobiphenyl [2]	90.2	30-150		9/8/23 12:40
Tetrachloro-m-xylene [1]	81.3	30-150		9/8/23 12:40
Tetrachloro-m-xylene [2]	80.6	30-150		9/8/23 12:40

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3257

Date Received: 8/22/2023

Field Sample #: P-115-R28D | Sampled: 8/14/2023 16:30

Sample ID: 23H3257-15

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.2	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 12:58	TG
Aroclor-1221 [1]	ND	4.2	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 12:58	TG
Aroclor-1232 [1]	ND	4.2	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 12:58	TG
Aroclor-1242 [1]	ND	4.2	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 12:58	TG
Aroclor-1248 [1]	ND	4.2	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 12:58	TG
Aroclor-1254 [1]	27	4.2	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 12:58	TG
Aroclor-1260 [1]	ND	4.2	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 12:58	TG
Aroclor-1262 [1]	ND	4.2	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 12:58	TG
Aroclor-1268 [1]	ND	4.2	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 12:58	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	84.8	30-150		9/8/23 12:58
Decachlorobiphenyl [2]	82.5	30-150		9/8/23 12:58
Tetrachloro-m-xylene [1]	79.9	30-150		9/8/23 12:58
Tetrachloro-m-xylene [2]	79.0	30-150		9/8/23 12:58

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3257

Date Received: 8/22/2023

Field Sample #: P-116-29WC | Sampled: 8/14/2023 16:31

Sample ID: 23H3257-16

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.6	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 13:15	TG
Aroclor-1221 [1]	ND	4.6	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 13:15	TG
Aroclor-1232 [1]	ND	4.6	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 13:15	TG
Aroclor-1242 [1]	ND	4.6	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 13:15	TG
Aroclor-1248 [1]	ND	4.6	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 13:15	TG
Aroclor-1254 [1]	60	4.6	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 13:15	TG
Aroclor-1260 [1]	ND	4.6	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 13:15	TG
Aroclor-1262 [1]	ND	4.6	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 13:15	TG
Aroclor-1268 [1]	ND	4.6	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 13:15	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	94.6	30-150		9/8/23 13:15
Decachlorobiphenyl [2]	92.1	30-150		9/8/23 13:15
Tetrachloro-m-xylene [1]	84.8	30-150		9/8/23 13:15
Tetrachloro-m-xylene [2]	84.8	30-150		9/8/23 13:15

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3257

Date Received: 8/22/2023

Field Sample #: P-117-29WB | Sampled: 8/14/2023 16:32

Sample ID: 23H3257-17

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 13:32	TG
Aroclor-1221 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 13:32	TG
Aroclor-1232 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 13:32	TG
Aroclor-1242 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 13:32	TG
Aroclor-1248 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 13:32	TG
Aroclor-1254 [2]	17	4.4	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 13:32	TG
Aroclor-1260 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 13:32	TG
Aroclor-1262 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 13:32	TG
Aroclor-1268 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 13:32	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	90.1	30-150		9/8/23 13:32
Decachlorobiphenyl [2]	87.6	30-150		9/8/23 13:32
Tetrachloro-m-xylene [1]	84.8	30-150		9/8/23 13:32
Tetrachloro-m-xylene [2]	81.9	30-150		9/8/23 13:32

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3257

Date Received: 8/22/2023

Field Sample #: P-118-29NB | Sampled: 8/14/2023 16:33

Sample ID: 23H3257-18

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 13:49	TG
Aroclor-1221 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 13:49	TG
Aroclor-1232 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 13:49	TG
Aroclor-1242 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 13:49	TG
Aroclor-1248 [2]	43	3.9	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 13:49	TG
Aroclor-1254 [2]	29	3.9	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 13:49	TG
Aroclor-1260 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 13:49	TG
Aroclor-1262 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 13:49	TG
Aroclor-1268 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 13:49	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	93.6	30-150		9/8/23 13:49
Decachlorobiphenyl [2]	90.9	30-150		9/8/23 13:49
Tetrachloro-m-xylene [1]	88.5	30-150		9/8/23 13:49
Tetrachloro-m-xylene [2]	85.8	30-150		9/8/23 13:49

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3257

Date Received: 8/22/2023

Field Sample #: P-119-29NC | Sampled: 8/14/2023 16:34

Sample ID: 23H3257-19

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.5	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 14:06	TG
Aroclor-1221 [1]	ND	4.5	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 14:06	TG
Aroclor-1232 [1]	ND	4.5	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 14:06	TG
Aroclor-1242 [1]	ND	4.5	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 14:06	TG
Aroclor-1248 [2]	26	4.5	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 14:06	TG
Aroclor-1254 [2]	51	4.5	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 14:06	TG
Aroclor-1260 [2]	ND	4.5	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 14:06	TG
Aroclor-1262 [1]	ND	4.5	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 14:06	TG
Aroclor-1268 [1]	ND	4.5	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 14:06	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	89.4	30-150		9/8/23 14:06
Decachlorobiphenyl [2]	87.4	30-150		9/8/23 14:06
Tetrachloro-m-xylene [1]	84.4	30-150		9/8/23 14:06
Tetrachloro-m-xylene [2]	82.1	30-150		9/8/23 14:06

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3257

Date Received: 8/22/2023

Field Sample #: P-120-R30E | Sampled: 8/15/2023 08:30

Sample ID: 23H3257-20

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 14:23	TG
Aroclor-1221 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 14:23	TG
Aroclor-1232 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 14:23	TG
Aroclor-1242 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 14:23	TG
Aroclor-1248 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 14:23	TG
Aroclor-1254 [2]	170	4.4	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 14:23	TG
Aroclor-1260 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 14:23	TG
Aroclor-1262 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 14:23	TG
Aroclor-1268 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 14:23	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	98.8	30-150		9/8/23 14:23
Decachlorobiphenyl [2]	96.2	30-150		9/8/23 14:23
Tetrachloro-m-xylene [1]	100	30-150		9/8/23 14:23
Tetrachloro-m-xylene [2]	95.6	30-150		9/8/23 14:23

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method:SW-846 3540C **Analytical Method:SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23H3257-01 [P-101-R26E]	B351008	0.222	10.0	09/05/23
23H3257-02 [P-102-R26SC]	B351008	0.252	10.0	09/05/23
23H3257-03 [P-103-R26SB]	B351008	0.231	10.0	09/05/23
23H3257-04 [P-104-R26N]	B351008	0.279	10.0	09/05/23
23H3257-05 [P-105-R26C]	B351008	0.283	10.0	09/05/23
23H3257-06 [P-106-R-27S]	B351008	0.202	10.0	09/05/23
23H3257-07 [P-107-R27NC]	B351008	0.209	10.0	09/05/23
23H3257-08 [P-108-R27NB]	B351008	0.280	10.0	09/05/23
23H3257-09 [P-109-R27AE]	B351008	0.221	10.0	09/05/23
23H3257-10 [P-110-R27AW]	B351008	0.229	10.0	09/05/23
23H3257-11 [P-111-R28SC]	B351008	0.208	10.0	09/05/23
23H3257-12 [P-112-R28SB]	B351008	0.278	10.0	09/05/23
23H3257-13 [P-113-R28WC]	B351008	0.253	10.0	09/05/23
23H3257-14 [P-114-R28WB]	B351008	0.206	10.0	09/05/23
23H3257-15 [P-115-R28D]	B351008	0.238	10.0	09/05/23
23H3257-16 [P-116-29WC]	B351008	0.216	10.0	09/05/23
23H3257-17 [P-117-29WB]	B351008	0.227	10.0	09/05/23
23H3257-18 [P-118-29NB]	B351008	0.253	10.0	09/05/23
23H3257-19 [P-119-29NC]	B351008	0.220	10.0	09/05/23
23H3257-20 [P-120-R30E]	B351008	0.226	10.0	09/05/23

con-test® A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B351008 - SW-846 3540C										
Blank (B351008-BLK1)				Prepared: 09/05/23 Analyzed: 09/08/23						
Aroclor-1016	ND	0.42	mg/Kg							
Aroclor-1016 [2C]	ND	0.42	mg/Kg							
Aroclor-1221	ND	0.42	mg/Kg							
Aroclor-1221 [2C]	ND	0.42	mg/Kg							
Aroclor-1232	ND	0.42	mg/Kg							
Aroclor-1232 [2C]	ND	0.42	mg/Kg							
Aroclor-1242	ND	0.42	mg/Kg							
Aroclor-1242 [2C]	ND	0.42	mg/Kg							
Aroclor-1248	ND	0.42	mg/Kg							
Aroclor-1248 [2C]	ND	0.42	mg/Kg							
Aroclor-1254	ND	0.42	mg/Kg							
Aroclor-1254 [2C]	ND	0.42	mg/Kg							
Aroclor-1260	ND	0.42	mg/Kg							
Aroclor-1260 [2C]	ND	0.42	mg/Kg							
Aroclor-1262	ND	0.42	mg/Kg							
Aroclor-1262 [2C]	ND	0.42	mg/Kg							
Aroclor-1268	ND	0.42	mg/Kg							
Aroclor-1268 [2C]	ND	0.42	mg/Kg							
Surrogate: Decachlorobiphenyl	*7.69*		mg/Kg	8.41		91.5	30-150			
Surrogate: Decachlorobiphenyl [2C]	*7.88*		mg/Kg	8.41		93.7	30-150			
Surrogate: Tetrachloro-m-xylene	*6.93*		mg/Kg	8.41		82.4	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*7.01*		mg/Kg	8.41		83.4	30-150			
LCS (B351008-BS1)				Prepared: 09/05/23 Analyzed: 09/08/23						
Aroclor-1016	2.0	0.48	mg/Kg	2.42		83.5	40-140			
Aroclor-1016 [2C]	2.1	0.48	mg/Kg	2.42		88.0	40-140			
Aroclor-1260	1.9	0.48	mg/Kg	2.42		80.6	40-140			
Aroclor-1260 [2C]	1.9	0.48	mg/Kg	2.42		79.0	40-140			
Surrogate: Decachlorobiphenyl	*8.67*		mg/Kg	9.67		89.7	30-150			
Surrogate: Decachlorobiphenyl [2C]	*9.05*		mg/Kg	9.67		93.6	30-150			
Surrogate: Tetrachloro-m-xylene	*8.28*		mg/Kg	9.67		85.6	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*8.32*		mg/Kg	9.67		86.1	30-150			
LCS Dup (B351008-BSD1)				Prepared: 09/05/23 Analyzed: 09/08/23						
Aroclor-1016	1.9	0.49	mg/Kg	2.43		78.2	40-140	6.01	30	
Aroclor-1016 [2C]	2.0	0.49	mg/Kg	2.43		80.6	40-140	8.18	30	
Aroclor-1260	1.8	0.49	mg/Kg	2.43		74.1	40-140	7.91	30	
Aroclor-1260 [2C]	1.9	0.49	mg/Kg	2.43		77.2	40-140	1.78	30	
Surrogate: Decachlorobiphenyl	*8.22*		mg/Kg	9.72		84.6	30-150			
Surrogate: Decachlorobiphenyl [2C]	*8.50*		mg/Kg	9.72		87.5	30-150			
Surrogate: Tetrachloro-m-xylene	*7.96*		mg/Kg	9.72		81.9	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*8.00*		mg/Kg	9.72		82.3	30-150			

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B351008 - SW-846 3540C											
Matrix Spike (B351008-MS1)	**Source: 23H3257-14**			Prepared: 09/05/23 Analyzed: 09/08/23							
Aroclor-1016	4.8	4.2	mg/Kg	2.11	ND	**229**	*	40-140			MS-21
Aroclor-1016 [2C]	8.0	4.2	mg/Kg	2.11	ND	**379**	*	40-140			MS-21
Aroclor-1260	6.0	4.2	mg/Kg	2.11	ND	**285**	*	40-140			MS-21
Aroclor-1260 [2C]	4.5	4.2	mg/Kg	2.11	ND	**212**	*	40-140			MS-21
Surrogate: Decachlorobiphenyl	*8.92*		mg/Kg	8.46		105		30-150			
Surrogate: Decachlorobiphenyl [2C]	*8.64*		mg/Kg	8.46		102		30-150			
Surrogate: Tetrachloro-m-xylene	*7.24*		mg/Kg	8.46		85.6		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*6.84*		mg/Kg	8.46		80.9		30-150			
Matrix Spike Dup (B351008-MSD1)	**Source: 23H3257-14**			Prepared: 09/05/23 Analyzed: 09/08/23							
Aroclor-1016	7.6	4.9	mg/Kg	2.44	ND	**312**	*	40-140	44.4	50	MS-21
Aroclor-1016 [2C]	13	4.9	mg/Kg	2.44	ND	**518**	*	40-140	45.0	50	MS-21
Aroclor-1260	9.4	4.9	mg/Kg	2.44	ND	**386**	*	40-140	44.1	50	MS-21
Aroclor-1260 [2C]	6.2	4.9	mg/Kg	2.44	ND	**254**	*	40-140	32.4	50	MS-21
Surrogate: Decachlorobiphenyl	*10.1*		mg/Kg	9.78		104		30-150			
Surrogate: Decachlorobiphenyl [2C]	*9.74*		mg/Kg	9.78		99.6		30-150			
Surrogate: Tetrachloro-m-xylene	*9.15*		mg/Kg	9.78		93.5		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*8.66*		mg/Kg	9.78		88.6		30-150			

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-101-R26E

Lab Sample ID: 23H3257-01 Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	41	
	2	0.000	0.000	0.000	36	13.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-102-R26SC

Lab Sample ID: 23H3257-02

Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	80	
	2	0.000	0.000	0.000	61	27.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-103-R26SB

Lab Sample ID: 23H3257-03 Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	35	
	2	0.000	0.000	0.000	36	2.8

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-104-R26N

Lab Sample ID: 23H3257-04 Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	42	
	2	0.000	0.000	0.000	34	21.1

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-105-R26C

Lab Sample ID: 23H3257-05

Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	7.9	
	2	0.000	0.000	0.000	7.2	9.3

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-106-R-27S

Lab Sample ID: 23H3257-06 Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	42	
	2	0.000	0.000	0.000	35	18.2

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-107-R27NC

Lab Sample ID: 23H3257-07

Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	30	
	2	0.000	0.000	0.000	26	14.3

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-108-R27NB

Lab Sample ID: 23H3257-08 Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	50	
	2	0.000	0.000	0.000	43	15.1

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-109-R27AE

Lab Sample ID: 23H3257-09

Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	12	
	2	0.000	0.000	0.000	12	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-110-R27AW

Lab Sample ID: 23H3257-10

Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	21	
	2	0.000	0.000	0.000	23	9.1

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-111-R28SC

Lab Sample ID: 23H3257-11 Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	19	
	2	0.000	0.000	0.000	16	17.1

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-112-R28SB

Lab Sample ID: 23H3257-12

Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	11	
	2	0.000	0.000	0.000	9.4	15.7

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-113-R28WC

Lab Sample ID: 23H3257-13

Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	29	
	2	0.000	0.000	0.000	29	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-114-R28WB

Lab Sample ID: 23H3257-14 Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	16	
	2	0.000	0.000	0.000	13	20.7

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-115-R28D

Lab Sample ID: 23H3257-15

Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	27	
	2	0.000	0.000	0.000	22	20.4

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-116-29WC

Lab Sample ID: 23H3257-16

Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	60	
	2	0.000	0.000	0.000	53	12.4

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-117-29WB

Lab Sample ID: 23H3257-17 Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	16	
	2	0.000	0.000	0.000	17	6.1

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-118-29NB

Lab Sample ID: 23H3257-18 Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1248	1	0.000	0.000	0.000	38	
	2	0.000	0.000	0.000	43	12.3
Aroclor-1254	1	0.000	0.000	0.000	24	
	2	0.000	0.000	0.000	29	18.9

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-119-29NC

Lab Sample ID: 23H3257-19

Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1248	1	0.000	0.000	0.000	26	
	2	0.000	0.000	0.000	26	0.0
Aroclor-1254	1	0.000	0.000	0.000	47	
	2	0.000	0.000	0.000	51	8.2

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-120-R30E

Lab Sample ID: 23H3257-20 Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	170	
	2	0.000	0.000	0.000	170	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B351008-BS1 Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	2.0	
	2	0.000	0.000	0.000	2.1	4.9
Aroclor-1260	1	0.000	0.000	0.000	1.9	
	2	0.000	0.000	0.000	1.9	5.1

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B351008-BSD1 Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	1.9	
	2	0.000	0.000	0.000	2.0	5.1
Aroclor-1260	1	0.000	0.000	0.000	1.8	
	2	0.000	0.000	0.000	1.9	5.4

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike

Lab Sample ID: B351008-MS1 Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	4.8	
	2	0.000	0.000	0.000	8.0	48.1
Aroclor-1260	1	0.000	0.000	0.000	6.0	
	2	0.000	0.000	0.000	4.5	28.6

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike Dup

Lab Sample ID: B351008-MSD1

Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	7.6	
	2	0.000	0.000	0.000	13	52.4
Aroclor-1260	1	0.000	0.000	0.000	9.4	
	2	0.000	0.000	0.000	6.2	41.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
MS-21	Matrix spike and/or spike duplicate recovery bias high due to contribution of other Aroclors present in the source sample.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications

No certified Analyses included in this Report

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires

23H3257 RF

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time
7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
1	P-101-R26E	8/14/2023	15:10	GRAB	O	U		1				x
2	P-102-R26SC	8/14/2023	15:11	GRAB	O	U		1				x
3	P-103-R26SB	8/14/2023	15:12	GRAB	O	U		1				x
4	P-104-R26N	8/14/2023	15:13	GRAB	O	U		1				x
5	P-105-R26C	8/14/2023	15:14	GRAB	O	U		1				x
6	P-106-R-27S	8/14/2023	15:15	GRAB	O	U		1				x
7	P-107-R27NC	8/14/2023	15:16	GRAB	O	U		1				x
8	P-108-R27NB	8/14/2023	15:17	GRAB	O	U		1				x
9	P-109-R27AE	8/14/2023	15:30	GRAB	O	U		1				x
10	P-110-R27AW	8/14/2023	15:31	GRAB	O	U		1				x

[2] Preservation Code
Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)		Date/Time: 8/22/23 0958
Received by: (signature)		Date/Time: 8/22/23 1255
Relinquished by: (signature)		Date/Time: 8-22-23 1744
Received by: (signature)	3.8, 2.2, 3.9	Date/Time: 8/23/23
Relinquished by: (signature)	26, 5.6	Date/Time: 1746
Received by: (signature)		Date/Time:
Relinquished by: (signature)		Date/Time:
Received by: (signature)		Date/Time:

Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

2313257 RF

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time

7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
11	P-111-R28SC	8/14/2023	15:35	GRAB	O	U		1				x
12	P-112-R28SB	8/14/2023	15:36	GRAB	O	U		1				x
13	P-113-R28WC	8/14/2023	15:37	GRAB	O	U		1				x
14	P-114-R28WB	8/14/2023	15:38	GRAB	O	U		3				x
15	P-115-R28D	8/14/2023	16:30	GRAB	O	U		1				x
16	P-116-29WC	8/14/2023	16:31	GRAB	O	U		1				x
17	P-117-29WB	8/14/2023	16:32	GRAB	O	U		1				x
18	P-118-29NB	8/14/2023	16:33	GRAB	O	U		1				x
19	P-119-29NC	8/14/2023	16:34	GRAB	O	U		1				x
20	P-120-R30E	8/15/2023	8:30	GRAB	O	U		1				x

[2] Preservation Code

Courier Box Only
Total Number Of:
VIALS
GLASS
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time: 8/22/23 1255	
Received by: (signature)	Date/Time: 8/22/23 1258	
Relinquished by: (signature)	Date/Time: 8-22-23 1746	
Received by: (signature) GH AM 38, 2.2, 3.9	Date/Time: 8/23/23	
Relinquished by: (signature) 26, 5.6	Date/Time: 1746	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist
	Effective Date: 07/13/2023

Log In Back-Sheet

Client: Nobis Group

Project: St Johnsbury Armory

MCP/RCP Required: no

Deliverable Package Requirement: none

Location: St. Johnsbury, VT

PWSID# (When Applicable): n/a

Arrival Method:

Courier ☑ Fed Ex ☐ Walk In ☐ Other ☐

Received By / Date / Time: ER 8/22/23 1746

Back-Sheet By / Date / Time: MCM 8/22/23 2217

Temperature Method: Gun # 5

Temp < 6° C Actual Temperature: 22.26.38.39.56

Rush Samples: Yes / No Notify: No

Short Hold: Yes / No Notify: No

Notes regarding Samples/COC outside of SOP:

* Sample split into fifteen separate work orders

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy) Any False statement will be brought to the attention of the Client – True or False

	True	False
Received on Ice	☑	☐
Received in Cooler	☑	☐
Custody Seal: DATE TIME	☐	☑
COC Relinquished	☑	☐
COC/Samples Labels Agree	☑	☐
All Samples in Good Condition	☑	☐
Samples Received within Holding Time	☑	☐
Is there enough Volume	☑	☐
Proper Media/Container Used	☑	☐
Splitting Samples Required	☑ see notes	☐
MS/MSD	☑	☐
Trip Blanks	☐	☑
Lab to Filters	☐	☑
COC Legible	☑	☐

COC Included: (Check all included)

Client ☑ Analysis ☑ Sampler Name ☑

Project ☑ IDs ☑ Collection Date/Time ☑

All Samples Proper pH: N/A ☐ ☐

Additional Container Notes

Note: West Virginia requires all samples to have their temperature taken. Note any outliers.

Qualtrax ID: 120836

Pace ANALYTICAL SERVICES

DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist

Effective Date: 07/13/2023

Qualtrax ID: 120836

Sample	Soils Jars (Circle Amb/Clear)				Ambers					Plastics												VOA Vials					Other / Fill in					
	16oz Amb/Clear	8oz Amb/Clear	4oz Amb/Clear	2oz Amb/Clear	1 Liter			250mL		100mL	1 Liter		500mL		250mL							Unpreserved	HCl	MeOH	D.I. Water	Bisulfate	Col/Bact					
					Unpreserved	HCL	Sulfuric	Sulfuric	Phosphoric	HCl	Unpreserved	Unpreserved	Sulfuric	Unpreserved	Sulfuric	Trizma	Sulfuric	Nitric	NaOH	Ammonium Acetate	NaOH/Zinc										
1			1																													
2			1																													
3																																
4																																
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																
13																																
14			3																													
15			1																													
16			1																													
17																																
18																																
19																																
20																																

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

September 11, 2023

Tim Andrews
Nobis Engineering
585 Middlesex Street
Lowell, MA 01851

Project Location: St. Johnsbury, VT
Client Job Number:
Project Number: S00001.017
Laboratory Work Order Number: 23H3258

Enclosed are results of analyses for samples as received by the laboratory on August 22, 2023. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Rebecca Faust
Project Manager

Table of Contents

Sample Summary 4

Case Narrative 5

Sample Results 6

23H3258-01 6

23H3258-02 7

23H3258-03 8

23H3258-04 9

23H3258-05 10

23H3258-06 11

23H3258-07 12

23H3258-08 13

23H3258-09 14

23H3258-10 15

23H3258-11 16

23H3258-12 17

23H3258-13 18

23H3258-14 19

23H3258-15 20

23H3258-16 21

23H3258-17 22

23H3258-18 23

23H3258-19 24

23H3258-20 25

Sample Preparation Information 26

QC Data 27

Table of Contents (continued)

Polychlorinated Biphenyls with 3540 Soxhlet Extraction 27

B351009 27

Dual Column RPD Report 29

Flag/Qualifier Summary 53

Certifications 54

Chain of Custody/Sample Receipt 55

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Nobis Engineering
585 Middlesex Street
Lowell, MA 01851
ATTN: Tim Andrews

REPORT DATE: 9/11/2023

PURCHASE ORDER NUMBER:

PROJECT NUMBER: S00001.017

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23H3258

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: St. Johnsbury, VT

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
P-121-R30NC	23H3258-01	Product/Solid		SW-846 8082A	
P-122-R30NB	23H3258-02	Product/Solid		SW-846 8082A	
P-123-R30C	23H3258-03	Product/Solid		SW-846 8082A	
P-124-R31W	23H3258-04	Product/Solid		SW-846 8082A	
P-125-R31NC	23H3258-05	Product/Solid		SW-846 8082A	
P-126-R33E	23H3258-06	Product/Solid		SW-846 8082A	
P-127-R33NC	23H3258-07	Product/Solid		SW-846 8082A	
P-128-R34C	23H3258-08	Product/Solid		SW-846 8082A	
P-129-R35W	23H3258-09	Product/Solid		SW-846 8082A	
P-130-R37E	23H3258-10	Product/Solid		SW-846 8082A	
P-131-R37S	23H3258-11	Product/Solid		SW-846 8082A	
P-132-R31NB	23H3258-12	Product/Solid		SW-846 8082A	
P-133-R16EP	23H3258-13	Product/Solid		SW-846 8082A	
P-134-R16EW	23H3258-14	Product/Solid		SW-846 8082A	
P-135-R16WT	23H3258-15	Product/Solid		SW-846 8082A	
P-136-GN	23H3258-16	Product/Solid		SW-846 8082A	
P-137-GFN	23H3258-17	Product/Solid		SW-846 8082A	
P-138-GFE	23H3258-18	Product/Solid		SW-846 8082A	
P-139-GFS	23H3258-19	Product/Solid		SW-846 8082A	
P-140-GFW	23H3258-20	Product/Solid		SW-846 8082A	

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

SW-846 8082A

Qualifications:

MS-22

Either matrix spike or MS duplicate is outside of control limits, but the other is within limits. RPD between the two MS/MSD results is within method specified criteria.

Analyte & Samples(s) Qualified:

Aroclor-1016
B351009-MSD1

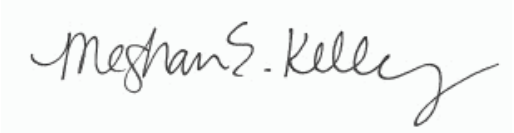
S-01

The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

Analyte & Samples(s) Qualified:

Decachlorobiphenyl
23H3258-05[P-125-R31NC], 23H3258-06[P-126-R33E], 23H3258-07[P-127-R33NC], 23H3258-09[P-129-R35W], 23H3258-10[P-130-R37E], 23H3258- 11[P-131-R37S], 23H3258-12[P-132-R31NB]
Decachlorobiphenyl [2C]
23H3258-05[P-125-R31NC], 23H3258-06[P-126-R33E], 23H3258-07[P-127-R33NC], 23H3258-09[P-129-R35W], 23H3258-10[P-130-R37E], 23H3258- 11[P-131-R37S], 23H3258-12[P-132-R31NB]
Tetrachloro-m-xylene
23H3258-05[P-125-R31NC], 23H3258-06[P-126-R33E], 23H3258-07[P-127-R33NC], 23H3258-09[P-129-R35W], 23H3258-10[P-130-R37E], 23H3258- 11[P-131-R37S], 23H3258-12[P-132-R31NB]
Tetrachloro-m-xylene [2C]
23H3258-05[P-125-R31NC], 23H3258-06[P-126-R33E], 23H3258-07[P-127-R33NC], 23H3258-09[P-129-R35W], 23H3258-10[P-130-R37E], 23H3258- 11[P-131-R37S], 23H3258-12[P-132-R31NB]

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Meghan E. Kelley
Reporting Specialist

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3258

Date Received: 8/22/2023

Field Sample #: P-121-R30NC | Sampled: 8/15/2023 08:31

Sample ID: 23H3258-01

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	9.5	mg/Kg	20		SW-846 8082A	9/5/23	9/8/23 10:17	SFM
Aroclor-1221 [1]	ND	9.5	mg/Kg	20		SW-846 8082A	9/5/23	9/8/23 10:17	SFM
Aroclor-1232 [1]	ND	9.5	mg/Kg	20		SW-846 8082A	9/5/23	9/8/23 10:17	SFM
Aroclor-1242 [1]	ND	9.5	mg/Kg	20		SW-846 8082A	9/5/23	9/8/23 10:17	SFM
Aroclor-1248 [1]	ND	9.5	mg/Kg	20		SW-846 8082A	9/5/23	9/8/23 10:17	SFM
Aroclor-1254 [1]	130	9.5	mg/Kg	20		SW-846 8082A	9/5/23	9/8/23 10:17	SFM
Aroclor-1260 [1]	ND	9.5	mg/Kg	20		SW-846 8082A	9/5/23	9/8/23 10:17	SFM
Aroclor-1262 [1]	ND	9.5	mg/Kg	20		SW-846 8082A	9/5/23	9/8/23 10:17	SFM
Aroclor-1268 [1]	ND	9.5	mg/Kg	20		SW-846 8082A	9/5/23	9/8/23 10:17	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	94.6	30-150		9/8/23 10:17
Decachlorobiphenyl [2]	89.8	30-150		9/8/23 10:17
Tetrachloro-m-xylene [1]	86.8	30-150		9/8/23 10:17
Tetrachloro-m-xylene [2]	82.7	30-150		9/8/23 10:17

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3258

Date Received: 8/22/2023

Field Sample #: P-122-R30NB | Sampled: 8/15/2023 08:32

Sample ID: 23H3258-02

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	8.8	mg/Kg	20		SW-846 8082A	9/5/23	9/8/23 10:29	SFM
Aroclor-1221 [1]	ND	8.8	mg/Kg	20		SW-846 8082A	9/5/23	9/8/23 10:29	SFM
Aroclor-1232 [1]	ND	8.8	mg/Kg	20		SW-846 8082A	9/5/23	9/8/23 10:29	SFM
Aroclor-1242 [1]	ND	8.8	mg/Kg	20		SW-846 8082A	9/5/23	9/8/23 10:29	SFM
Aroclor-1248 [1]	ND	8.8	mg/Kg	20		SW-846 8082A	9/5/23	9/8/23 10:29	SFM
Aroclor-1254 [1]	94	8.8	mg/Kg	20		SW-846 8082A	9/5/23	9/8/23 10:29	SFM
Aroclor-1260 [1]	ND	8.8	mg/Kg	20		SW-846 8082A	9/5/23	9/8/23 10:29	SFM
Aroclor-1262 [1]	ND	8.8	mg/Kg	20		SW-846 8082A	9/5/23	9/8/23 10:29	SFM
Aroclor-1268 [1]	ND	8.8	mg/Kg	20		SW-846 8082A	9/5/23	9/8/23 10:29	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	111	30-150		9/8/23 10:29
Decachlorobiphenyl [2]	105	30-150		9/8/23 10:29
Tetrachloro-m-xylene [1]	102	30-150		9/8/23 10:29
Tetrachloro-m-xylene [2]	99.2	30-150		9/8/23 10:29

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3258

Date Received: 8/22/2023

Field Sample #: P-123-R30C | Sampled: 8/15/2023 08:33

Sample ID: 23H3258-03

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 10:41	SFM
Aroclor-1221 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 10:41	SFM
Aroclor-1232 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 10:41	SFM
Aroclor-1242 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 10:41	SFM
Aroclor-1248 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 10:41	SFM
Aroclor-1254 [2]	31	4.4	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 10:41	SFM
Aroclor-1260 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 10:41	SFM
Aroclor-1262 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 10:41	SFM
Aroclor-1268 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 10:41	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	88.1	30-150		9/8/23 10:41
Decachlorobiphenyl [2]	84.8	30-150		9/8/23 10:41
Tetrachloro-m-xylene [1]	83.0	30-150		9/8/23 10:41
Tetrachloro-m-xylene [2]	82.4	30-150		9/8/23 10:41

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3258

Date Received: 8/22/2023

Field Sample #: P-124-R31W | Sampled: 8/15/2023 08:34

Sample ID: 23H3258-04

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 10:53	SFM
Aroclor-1221 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 10:53	SFM
Aroclor-1232 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 10:53	SFM
Aroclor-1242 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 10:53	SFM
Aroclor-1248 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 10:53	SFM
Aroclor-1254 [2]	28	4.7	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 10:53	SFM
Aroclor-1260 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 10:53	SFM
Aroclor-1262 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 10:53	SFM
Aroclor-1268 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 10:53	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	71.8	30-150		9/8/23 10:53
Decachlorobiphenyl [2]	69.0	30-150		9/8/23 10:53
Tetrachloro-m-xylene [1]	63.9	30-150		9/8/23 10:53
Tetrachloro-m-xylene [2]	63.9	30-150		9/8/23 10:53

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3258

Date Received: 8/22/2023

Field Sample #: P-125-R31NC | Sampled: 8/15/2023 08:35

Sample ID: 23H3258-05

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	22	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 11:11	SFM
Aroclor-1221 [1]	ND	22	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 11:11	SFM
Aroclor-1232 [1]	ND	22	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 11:11	SFM
Aroclor-1242 [1]	ND	22	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 11:11	SFM
Aroclor-1248 [1]	ND	22	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 11:11	SFM
Aroclor-1254 [1]	160	22	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 11:11	SFM
Aroclor-1260 [1]	ND	22	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 11:11	SFM
Aroclor-1262 [1]	ND	22	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 11:11	SFM
Aroclor-1268 [1]	ND	22	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 11:11	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/8/23 11:11
Decachlorobiphenyl [2]	*	30-150	S-01	9/8/23 11:11
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/8/23 11:11
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/8/23 11:11

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3258

Date Received: 8/22/2023

Field Sample #: P-126-R33E | Sampled: 8/15/2023 08:36

Sample ID: 23H3258-06

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	23	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 11:28	SFM
Aroclor-1221 [1]	ND	23	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 11:28	SFM
Aroclor-1232 [1]	ND	23	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 11:28	SFM
Aroclor-1242 [1]	ND	23	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 11:28	SFM
Aroclor-1248 [1]	ND	23	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 11:28	SFM
Aroclor-1254 [1]	300	23	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 11:28	SFM
Aroclor-1260 [1]	ND	23	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 11:28	SFM
Aroclor-1262 [1]	ND	23	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 11:28	SFM
Aroclor-1268 [1]	ND	23	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 11:28	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/8/23 11:28
Decachlorobiphenyl [2]	*	30-150	S-01	9/8/23 11:28
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/8/23 11:28
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/8/23 11:28

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3258

Date Received: 8/22/2023

Field Sample #: P-127-R33NC | Sampled: 8/15/2023 08:37

Sample ID: 23H3258-07

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	22	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 11:46	SFM
Aroclor-1221 [1]	ND	22	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 11:46	SFM
Aroclor-1232 [1]	ND	22	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 11:46	SFM
Aroclor-1242 [1]	ND	22	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 11:46	SFM
Aroclor-1248 [1]	ND	22	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 11:46	SFM
Aroclor-1254 [1]	310	22	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 11:46	SFM
Aroclor-1260 [1]	ND	22	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 11:46	SFM
Aroclor-1262 [1]	ND	22	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 11:46	SFM
Aroclor-1268 [1]	ND	22	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 11:46	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/8/23 11:46
Decachlorobiphenyl [2]	*	30-150	S-01	9/8/23 11:46
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/8/23 11:46
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/8/23 11:46

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3258

Date Received: 8/22/2023

Field Sample #: P-128-R34C | Sampled: 8/15/2023 08:38

Sample ID: 23H3258-08

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 12:03	SFM
Aroclor-1221 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 12:03	SFM
Aroclor-1232 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 12:03	SFM
Aroclor-1242 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 12:03	SFM
Aroclor-1248 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 12:03	SFM
Aroclor-1254 [1]	43	4.9	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 12:03	SFM
Aroclor-1260 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 12:03	SFM
Aroclor-1262 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 12:03	SFM
Aroclor-1268 [1]	ND	4.9	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 12:03	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	98.8	30-150		9/8/23 12:03
Decachlorobiphenyl [2]	94.5	30-150		9/8/23 12:03
Tetrachloro-m-xylene [1]	81.4	30-150		9/8/23 12:03
Tetrachloro-m-xylene [2]	82.3	30-150		9/8/23 12:03

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3258

Date Received: 8/22/2023

Field Sample #: P-129-R35W | Sampled: 8/15/2023 08:39

Sample ID: 23H3258-09

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	20	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 12:21	SFM
Aroclor-1221 [1]	ND	20	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 12:21	SFM
Aroclor-1232 [1]	ND	20	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 12:21	SFM
Aroclor-1242 [1]	ND	20	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 12:21	SFM
Aroclor-1248 [1]	ND	20	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 12:21	SFM
Aroclor-1254 [2]	180	20	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 12:21	SFM
Aroclor-1260 [1]	ND	20	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 12:21	SFM
Aroclor-1262 [1]	ND	20	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 12:21	SFM
Aroclor-1268 [1]	ND	20	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 12:21	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/8/23 12:21
Decachlorobiphenyl [2]	*	30-150	S-01	9/8/23 12:21
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/8/23 12:21
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/8/23 12:21

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3258

Date Received: 8/22/2023

Field Sample #: P-130-R37E | Sampled: 8/15/2023 08:40

Sample ID: 23H3258-10

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	20	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 12:38	SFM
Aroclor-1221 [1]	ND	20	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 12:38	SFM
Aroclor-1232 [1]	ND	20	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 12:38	SFM
Aroclor-1242 [1]	ND	20	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 12:38	SFM
Aroclor-1248 [1]	ND	20	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 12:38	SFM
Aroclor-1254 [1]	400	20	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 12:38	SFM
Aroclor-1260 [1]	ND	20	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 12:38	SFM
Aroclor-1262 [1]	ND	20	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 12:38	SFM
Aroclor-1268 [1]	ND	20	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 12:38	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/8/23 12:38
Decachlorobiphenyl [2]	*	30-150	S-01	9/8/23 12:38
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/8/23 12:38
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/8/23 12:38

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3258

Date Received: 8/22/2023

Field Sample #: P-131-R37S | Sampled: 8/15/2023 08:41

Sample ID: 23H3258-11

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	24	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 14:00	SFM
Aroclor-1221 [1]	ND	24	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 14:00	SFM
Aroclor-1232 [1]	ND	24	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 14:00	SFM
Aroclor-1242 [1]	ND	24	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 14:00	SFM
Aroclor-1248 [1]	ND	24	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 14:00	SFM
Aroclor-1254 [1]	270	24	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 14:00	SFM
Aroclor-1260 [1]	ND	24	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 14:00	SFM
Aroclor-1262 [1]	ND	24	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 14:00	SFM
Aroclor-1268 [1]	ND	24	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 14:00	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/8/23 14:00
Decachlorobiphenyl [2]	*	30-150	S-01	9/8/23 14:00
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/8/23 14:00
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/8/23 14:00

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3258

Date Received: 8/22/2023

Field Sample #: P-132-R31NB | Sampled: 8/15/2023 10:00

Sample ID: 23H3258-12

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	22	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 14:17	SFM
Aroclor-1221 [1]	ND	22	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 14:17	SFM
Aroclor-1232 [1]	ND	22	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 14:17	SFM
Aroclor-1242 [1]	ND	22	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 14:17	SFM
Aroclor-1248 [1]	ND	22	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 14:17	SFM
Aroclor-1254 [1]	250	22	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 14:17	SFM
Aroclor-1260 [1]	ND	22	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 14:17	SFM
Aroclor-1262 [1]	ND	22	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 14:17	SFM
Aroclor-1268 [1]	ND	22	mg/Kg	50		SW-846 8082A	9/5/23	9/8/23 14:17	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/8/23 14:17
Decachlorobiphenyl [2]	*	30-150	S-01	9/8/23 14:17
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/8/23 14:17
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/8/23 14:17

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3258

Date Received: 8/22/2023

Field Sample #: P-133-R16EP | Sampled: 8/15/2023 12:59

Sample ID: 23H3258-13

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.46	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 14:35	SFM
Aroclor-1221 [1]	ND	0.46	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 14:35	SFM
Aroclor-1232 [1]	ND	0.46	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 14:35	SFM
Aroclor-1242 [1]	ND	0.46	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 14:35	SFM
Aroclor-1248 [1]	ND	0.46	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 14:35	SFM
Aroclor-1254 [2]	5.5	0.46	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 14:35	SFM
Aroclor-1260 [1]	ND	0.46	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 14:35	SFM
Aroclor-1262 [1]	ND	0.46	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 14:35	SFM
Aroclor-1268 [1]	ND	0.46	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 14:35	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	65.4	30-150		9/8/23 14:35
Decachlorobiphenyl [2]	64.0	30-150		9/8/23 14:35
Tetrachloro-m-xylene [1]	61.5	30-150		9/8/23 14:35
Tetrachloro-m-xylene [2]	62.2	30-150		9/8/23 14:35

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3258

Date Received: 8/22/2023

Field Sample #: P-134-R16EW | Sampled: 8/15/2023 13:00

Sample ID: 23H3258-14

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.0	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 14:52	SFM
Aroclor-1221 [1]	ND	4.0	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 14:52	SFM
Aroclor-1232 [1]	ND	4.0	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 14:52	SFM
Aroclor-1242 [1]	ND	4.0	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 14:52	SFM
Aroclor-1248 [1]	ND	4.0	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 14:52	SFM
Aroclor-1254 [2]	21	4.0	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 14:52	SFM
Aroclor-1260 [1]	ND	4.0	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 14:52	SFM
Aroclor-1262 [1]	ND	4.0	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 14:52	SFM
Aroclor-1268 [1]	ND	4.0	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 14:52	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	95.4	30-150		9/8/23 14:52
Decachlorobiphenyl [2]	92.6	30-150		9/8/23 14:52
Tetrachloro-m-xylene [1]	84.5	30-150		9/8/23 14:52
Tetrachloro-m-xylene [2]	85.0	30-150		9/8/23 14:52

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3258

Date Received: 8/22/2023

Field Sample #: P-135-R16WT | Sampled: 8/15/2023 13:01

Sample ID: 23H3258-15

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	3.8	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 15:10	SFM
Aroclor-1221 [1]	ND	3.8	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 15:10	SFM
Aroclor-1232 [1]	ND	3.8	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 15:10	SFM
Aroclor-1242 [1]	ND	3.8	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 15:10	SFM
Aroclor-1248 [1]	ND	3.8	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 15:10	SFM
Aroclor-1254 [1]	33	3.8	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 15:10	SFM
Aroclor-1260 [1]	ND	3.8	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 15:10	SFM
Aroclor-1262 [1]	ND	3.8	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 15:10	SFM
Aroclor-1268 [1]	ND	3.8	mg/Kg	10		SW-846 8082A	9/5/23	9/8/23 15:10	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	87.2	30-150		9/8/23 15:10
Decachlorobiphenyl [2]	86.2	30-150		9/8/23 15:10
Tetrachloro-m-xylene [1]	80.0	30-150		9/8/23 15:10
Tetrachloro-m-xylene [2]	81.0	30-150		9/8/23 15:10

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3258

Date Received: 8/22/2023

Field Sample #: P-136-GN | Sampled: 8/15/2023 13:15

Sample ID: 23H3258-16

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.45	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 15:27	SFM
Aroclor-1221 [1]	ND	0.45	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 15:27	SFM
Aroclor-1232 [1]	ND	0.45	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 15:27	SFM
Aroclor-1242 [1]	ND	0.45	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 15:27	SFM
Aroclor-1248 [1]	ND	0.45	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 15:27	SFM
Aroclor-1254 [2]	6.1	0.45	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 15:27	SFM
Aroclor-1260 [1]	ND	0.45	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 15:27	SFM
Aroclor-1262 [1]	ND	0.45	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 15:27	SFM
Aroclor-1268 [1]	ND	0.45	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 15:27	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	61.1	30-150		9/8/23 15:27
Decachlorobiphenyl [2]	61.8	30-150		9/8/23 15:27
Tetrachloro-m-xylene [1]	62.1	30-150		9/8/23 15:27
Tetrachloro-m-xylene [2]	82.1	30-150		9/8/23 15:27

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3258

Date Received: 8/22/2023

Field Sample #: P-137-GFN | Sampled: 8/15/2023 13:16

Sample ID: 23H3258-17

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.50	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 15:45	SFM
Aroclor-1221 [1]	ND	0.50	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 15:45	SFM
Aroclor-1232 [1]	ND	0.50	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 15:45	SFM
Aroclor-1242 [1]	ND	0.50	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 15:45	SFM
Aroclor-1248 [1]	ND	0.50	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 15:45	SFM
Aroclor-1254 [2]	3.0	0.50	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 15:45	SFM
Aroclor-1260 [1]	ND	0.50	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 15:45	SFM
Aroclor-1262 [1]	ND	0.50	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 15:45	SFM
Aroclor-1268 [1]	ND	0.50	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 15:45	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	61.9	30-150		9/8/23 15:45
Decachlorobiphenyl [2]	64.3	30-150		9/8/23 15:45
Tetrachloro-m-xylene [1]	63.7	30-150		9/8/23 15:45
Tetrachloro-m-xylene [2]	65.9	30-150		9/8/23 15:45

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3258

Date Received: 8/22/2023

Field Sample #: P-138-GFE | Sampled: 8/15/2023 13:17

Sample ID: 23H3258-18

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.49	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 16:02	SFM
Aroclor-1221 [1]	ND	0.49	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 16:02	SFM
Aroclor-1232 [1]	ND	0.49	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 16:02	SFM
Aroclor-1242 [1]	ND	0.49	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 16:02	SFM
Aroclor-1248 [1]	ND	0.49	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 16:02	SFM
Aroclor-1254 [2]	3.6	0.49	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 16:02	SFM
Aroclor-1260 [1]	ND	0.49	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 16:02	SFM
Aroclor-1262 [1]	ND	0.49	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 16:02	SFM
Aroclor-1268 [1]	ND	0.49	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 16:02	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	71.4	30-150		9/8/23 16:02
Decachlorobiphenyl [2]	73.8	30-150		9/8/23 16:02
Tetrachloro-m-xylene [1]	71.7	30-150		9/8/23 16:02
Tetrachloro-m-xylene [2]	74.2	30-150		9/8/23 16:02

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3258

Date Received: 8/22/2023

Field Sample #: P-139-GFS | Sampled: 8/15/2023 13:18

Sample ID: 23H3258-19

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.43	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 16:20	SFM
Aroclor-1221 [1]	ND	0.43	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 16:20	SFM
Aroclor-1232 [1]	ND	0.43	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 16:20	SFM
Aroclor-1242 [1]	ND	0.43	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 16:20	SFM
Aroclor-1248 [1]	ND	0.43	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 16:20	SFM
Aroclor-1254 [1]	7.1	0.43	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 16:20	SFM
Aroclor-1260 [1]	ND	0.43	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 16:20	SFM
Aroclor-1262 [1]	ND	0.43	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 16:20	SFM
Aroclor-1268 [1]	ND	0.43	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 16:20	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	79.1	30-150		9/8/23 16:20
Decachlorobiphenyl [2]	78.9	30-150		9/8/23 16:20
Tetrachloro-m-xylene [1]	78.6	30-150		9/8/23 16:20
Tetrachloro-m-xylene [2]	81.2	30-150		9/8/23 16:20

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3258

Date Received: 8/22/2023

Field Sample #: P-140-GFW | Sampled: 8/15/2023 13:19

Sample ID: 23H3258-20

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.45	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 16:37	SFM
Aroclor-1221 [1]	ND	0.45	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 16:37	SFM
Aroclor-1232 [1]	ND	0.45	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 16:37	SFM
Aroclor-1242 [1]	ND	0.45	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 16:37	SFM
Aroclor-1248 [1]	ND	0.45	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 16:37	SFM
Aroclor-1254 [2]	4.1	0.45	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 16:37	SFM
Aroclor-1260 [1]	ND	0.45	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 16:37	SFM
Aroclor-1262 [1]	ND	0.45	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 16:37	SFM
Aroclor-1268 [1]	ND	0.45	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 16:37	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	76.3	30-150		9/8/23 16:37
Decachlorobiphenyl [2]	78.6	30-150		9/8/23 16:37
Tetrachloro-m-xylene [1]	82.7	30-150		9/8/23 16:37
Tetrachloro-m-xylene [2]	85.3	30-150		9/8/23 16:37

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method:SW-846 3540C **Analytical Method:SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23H3258-01 [P-121-R30NC]	B351009	0.211	10.0	09/05/23
23H3258-02 [P-122-R30NB]	B351009	0.228	10.0	09/05/23
23H3258-03 [P-123-R30C]	B351009	0.227	10.0	09/05/23
23H3258-04 [P-124-R31W]	B351009	0.213	10.0	09/05/23
23H3258-05 [P-125-R31NC]	B351009	0.225	10.0	09/05/23
23H3258-06 [P-126-R33E]	B351009	0.216	10.0	09/05/23
23H3258-07 [P-127-R33NC]	B351009	0.230	10.0	09/05/23
23H3258-08 [P-128-R34C]	B351009	0.204	10.0	09/05/23
23H3258-09 [P-129-R35W]	B351009	0.254	10.0	09/05/23
23H3258-10 [P-130-R37E]	B351009	0.251	10.0	09/05/23
23H3258-11 [P-131-R37S]	B351009	0.206	10.0	09/05/23
23H3258-12 [P-132-R31NB]	B351009	0.232	10.0	09/05/23
23H3258-13 [P-133-R16EP]	B351009	0.218	10.0	09/05/23
23H3258-14 [P-134-R16EW]	B351009	0.248	10.0	09/05/23
23H3258-15 [P-135-R16WT]	B351009	0.262	10.0	09/05/23
23H3258-16 [P-136-GN]	B351009	0.222	10.0	09/05/23
23H3258-17 [P-137-GFN]	B351009	0.201	10.0	09/05/23
23H3258-18 [P-138-GFE]	B351009	0.204	10.0	09/05/23
23H3258-19 [P-139-GFS]	B351009	0.234	10.0	09/05/23
23H3258-20 [P-140-GFW]	B351009	0.221	10.0	09/05/23

con-test® A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B351009 - SW-846 3540C										
Blank (B351009-BLK1)				Prepared: 09/05/23 Analyzed: 09/08/23						
Aroclor-1016	ND	0.48	mg/Kg							
Aroclor-1016 [2C]	ND	0.48	mg/Kg							
Aroclor-1221	ND	0.48	mg/Kg							
Aroclor-1221 [2C]	ND	0.48	mg/Kg							
Aroclor-1232	ND	0.48	mg/Kg							
Aroclor-1232 [2C]	ND	0.48	mg/Kg							
Aroclor-1242	ND	0.48	mg/Kg							
Aroclor-1242 [2C]	ND	0.48	mg/Kg							
Aroclor-1248	ND	0.48	mg/Kg							
Aroclor-1248 [2C]	ND	0.48	mg/Kg							
Aroclor-1254	ND	0.48	mg/Kg							
Aroclor-1254 [2C]	ND	0.48	mg/Kg							
Aroclor-1260	ND	0.48	mg/Kg							
Aroclor-1260 [2C]	ND	0.48	mg/Kg							
Aroclor-1262	ND	0.48	mg/Kg							
Aroclor-1262 [2C]	ND	0.48	mg/Kg							
Aroclor-1268	ND	0.48	mg/Kg							
Aroclor-1268 [2C]	ND	0.48	mg/Kg							
Surrogate: Decachlorobiphenyl	*6.28*		mg/Kg	9.58		65.5	30-150			
Surrogate: Decachlorobiphenyl [2C]	*6.00*		mg/Kg	9.58		62.6	30-150			
Surrogate: Tetrachloro-m-xylene	*5.68*		mg/Kg	9.58		59.3	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*5.98*		mg/Kg	9.58		62.4	30-150			
LCS (B351009-BS1)				Prepared: 09/05/23 Analyzed: 09/08/23						
Aroclor-1016	1.5	0.46	mg/Kg	2.30		64.4	40-140			
Aroclor-1016 [2C]	1.4	0.46	mg/Kg	2.30		63.0	40-140			
Aroclor-1260	1.2	0.46	mg/Kg	2.30		53.7	40-140			
Aroclor-1260 [2C]	1.3	0.46	mg/Kg	2.30		58.3	40-140			
Surrogate: Decachlorobiphenyl	*5.72*		mg/Kg	9.19		62.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	*5.61*		mg/Kg	9.19		61.1	30-150			
Surrogate: Tetrachloro-m-xylene	*5.44*		mg/Kg	9.19		59.3	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*5.65*		mg/Kg	9.19		61.5	30-150			
LCS Dup (B351009-BSD1)				Prepared: 09/05/23 Analyzed: 09/08/23						
Aroclor-1016	1.2	0.35	mg/Kg	1.74		67.1	40-140	23.5	30	
Aroclor-1016 [2C]	1.3	0.35	mg/Kg	1.74		75.8	40-140	9.26	30	
Aroclor-1260	1.0	0.35	mg/Kg	1.74		58.7	40-140	18.7	30	
Aroclor-1260 [2C]	1.1	0.35	mg/Kg	1.74		63.9	40-140	18.5	30	
Surrogate: Decachlorobiphenyl	*4.55*		mg/Kg	6.97		65.3	30-150			
Surrogate: Decachlorobiphenyl [2C]	*4.40*		mg/Kg	6.97		63.1	30-150			
Surrogate: Tetrachloro-m-xylene	*4.16*		mg/Kg	6.97		59.7	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*4.32*		mg/Kg	6.97		62.1	30-150			

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B351009 - SW-846 3540C											
Matrix Spike (B351009-MS1)	**Source: 23H3258-16**			Prepared: 09/05/23 Analyzed: 09/08/23							
Aroclor-1016	2.7	0.41	mg/Kg	2.06	ND	131		40-140			
Aroclor-1016 [2C]	2.3	0.41	mg/Kg	2.06	ND	112		40-140			
Aroclor-1260	1.7	0.41	mg/Kg	2.06	ND	81.5		40-140			
Aroclor-1260 [2C]	1.6	0.41	mg/Kg	2.06	ND	76.1		40-140			
Surrogate: Decachlorobiphenyl	*4.15*		mg/Kg	8.24		50.4		30-150			
Surrogate: Decachlorobiphenyl [2C]	*4.33*		mg/Kg	8.24		52.5		30-150			
Surrogate: Tetrachloro-m-xylene	*4.29*		mg/Kg	8.24		52.1		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*5.01*		mg/Kg	8.24		60.8		30-150			
Matrix Spike Dup (B351009-MSD1)	**Source: 23H3258-16**			Prepared: 09/05/23 Analyzed: 09/08/23							
Aroclor-1016	3.6	0.48	mg/Kg	2.42	ND	**147**	*	40-140	27.6	50	MS-22
Aroclor-1016 [2C]	3.1	0.48	mg/Kg	2.42	ND	128		40-140	28.9	50	
Aroclor-1260	2.0	0.48	mg/Kg	2.42	ND	81.7		40-140	16.4	50	
Aroclor-1260 [2C]	2.2	0.48	mg/Kg	2.42	ND	92.6		40-140	35.4	50	
Surrogate: Decachlorobiphenyl	*5.67*		mg/Kg	9.69		58.5		30-150			
Surrogate: Decachlorobiphenyl [2C]	*6.01*		mg/Kg	9.69		62.0		30-150			
Surrogate: Tetrachloro-m-xylene	*5.92*		mg/Kg	9.69		61.1		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*7.47*		mg/Kg	9.69		77.1		30-150			

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-121-R30NC

Lab Sample ID: 23H3258-01 Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	130	
	2	0.000	0.000	0.000	110	16.7

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-122-R30NB

Lab Sample ID: 23H3258-02 Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	94	
	2	0.000	0.000	0.000	82	13.6

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-123-R30C

Lab Sample ID: 23H3258-03

Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	30	
	2	0.000	0.000	0.000	31	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-124-R31W

Lab Sample ID: 23H3258-04

Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	28	
	2	0.000	0.000	0.000	28	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-125-R31NC

Lab Sample ID: 23H3258-05

Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	160	
	2	0.000	0.000	0.000	160	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-126-R33E

Lab Sample ID: 23H3258-06

Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	300	
	2	0.000	0.000	0.000	280	6.9

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-127-R33NC

Lab Sample ID: 23H3258-07

Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	310	
	2	0.000	0.000	0.000	310	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-128-R34C

Lab Sample ID: 23H3258-08

Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	43	
	2	0.000	0.000	0.000	43	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-129-R35W

Lab Sample ID: 23H3258-09

Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	180	
	2	0.000	0.000	0.000	180	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-130-R37E

Lab Sample ID: 23H3258-10

Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	400	
	2	0.000	0.000	0.000	380	5.1

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-131-R37S

Lab Sample ID: 23H3258-11

Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	270	
	2	0.000	0.000	0.000	270	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-132-R31NB

Lab Sample ID: 23H3258-12 Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	250	
	2	0.000	0.000	0.000	240	4.1

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-133-R16EP

Lab Sample ID: 23H3258-13 Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	4.7	
	2	0.000	0.000	0.000	5.5	15.7

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-134-R16EW

Lab Sample ID: 23H3258-14 Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	19	
	2	0.000	0.000	0.000	21	10.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-135-R16WT

Lab Sample ID: 23H3258-15 Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	33	
	2	0.000	0.000	0.000	32	3.1

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-136-GN

Lab Sample ID: 23H3258-16 Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	5.4	
	2	0.000	0.000	0.000	6.1	12.2

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-137-GFN

Lab Sample ID: 23H3258-17

Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	2.5	
	2	0.000	0.000	0.000	3.0	18.2

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-138-GFE

Lab Sample ID: 23H3258-18

Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	3.5	
	2	0.000	0.000	0.000	3.6	2.8

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-139-GFS

Lab Sample ID: 23H3258-19

Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	7.1	
	2	0.000	0.000	0.000	6.9	2.9

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-140-GFW

Lab Sample ID: 23H3258-20

Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	4.0	
	2	0.000	0.000	0.000	4.1	2.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B351009-BS1

Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	1.5	
	2	0.000	0.000	0.000	1.4	6.9
Aroclor-1260	1	0.000	0.000	0.000	1.2	
	2	0.000	0.000	0.000	1.3	8.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B351009-BSD1 Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	1.2	
	2	0.000	0.000	0.000	1.3	8.0
Aroclor-1260	1	0.000	0.000	0.000	1.0	
	2	0.000	0.000	0.000	1.1	9.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike

Lab Sample ID: B351009-MS1

Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	2.7	
	2	0.000	0.000	0.000	2.3	16.0
Aroclor-1260	1	0.000	0.000	0.000	1.7	
	2	0.000	0.000	0.000	1.6	6.1

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike Dup

Lab Sample ID: B351009-MSD1 Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	3.6	
	2	0.000	0.000	0.000	3.1	14.9
Aroclor-1260	1	0.000	0.000	0.000	2.0	
	2	0.000	0.000	0.000	2.2	9.5

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
MS-22	Either matrix spike or MS duplicate is outside of control limits, but the other is within limits. RPD between the two MS/MSD results is within method specified criteria.
S-01	The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications

No certified Analyses included in this Report

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires

23H3258 RF

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time

7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
1	P-121-R30NC	8/15/2023	8:31	GRAB	O	U		1				x
2	P-122-R30NB	8/15/2023	8:32	GRAB	O	U		1				x
3	P-123-R30C	8/15/2023	8:33	GRAB	O	U		1				x
4	P-124-R31W	8/15/2023	8:34	GRAB	O	U		1				x
5	P-125-R31NC	8/15/2023	8:35	GRAB	O	U		1				x
6	P-126-R33E	8/15/2023	8:36	GRAB	O	U		1				x
7	P-127-R33NC	8/15/2023	8:37	GRAB	O	U		1				x
8	P-128-R34C	8/15/2023	8:38	GRAB	O	U		1				x
9	P-129-R35W	8/15/2023	8:39	GRAB	O	U		1				x
10	P-130-R37E	8/15/2023	8:40	GRAB	O	U		1				x

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time: 1355 8/22/23	Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS
Received by: (signature)	Date/Time: 1355 8/22/23	
Relinquished by: (signature)	Date/Time: 1746 8-22-23	
Received by: (signature) 3.8, 2.2, 3.9	Date/Time: 8/22/23	
Relinquished by: (signature) 26, 5.6	Date/Time: 1746	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other

☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

23H3258 RF

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time

7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
11	P-131-R37S	8/15/2023	8:41	GRAB	O	U		1				x
12	P-132-R31NB	8/15/2023	10:00	GRAB	O	U		1				x
13	P-133-R16EP	8/15/2023	12:59	GRAB	O	U		1				x
14	P-134-R16EW	8/15/2023	13:00	GRAB	O	U		1				x
15	P-135-R16WT	8/15/2023	13:01	GRAB	O	U		1				x
16	P-136-GN	8/15/2023	13:15	GRAB	O	U		3				x
17	P-137-GFN	8/15/2023	13:16	GRAB	O	U		1				x
18	P-138-GFE	8/15/2023	13:17	GRAB	O	U		1				x
19	P-139-GFS	8/15/2023	13:18	GRAB	O	U		1				x
20	P-140-GFW	8/15/2023	13:19	GRAB	O	U		1				x

[3] Preservation Code

Courier Use Only
Total Number Of:
VIALS
GLASS
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time: 8/22/23 1250	Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS
Received by: (signature)	Date/Time: 8/22/23 1254	
Relinquished by: (signature)	Date/Time: 8-22-23 1746	
Received by: (signature) 38, 22, 39	Date/Time: 8/22/23	
Relinquished by: (signature) 26, 5.6	Date/Time: 1746	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other

☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist
	Effective Date: 07/13/2023

Log In Back-Sheet

Client Nobis Group

Project St Johnsbury Armory

MCP/RCP Required no

Deliverable Package Requirement none

Location St. Johnsbury, VT

PWSID# (When Applicable) n/a

Arrival Method:

Courier ☑ Fed Ex ☐ Walk In ☐ Other ☐

Received By / Date / Time ER 8/22/23 1746

Back-Sheet By / Date / Time Mem 8/22/23 2217

Temperature Method Gun # 5

Temp < 6° C Actual Temperature 22.26 38.39.56

Rush Samples: Yes / No Notify No

Short Hold: Yes / No Notify No

Notes regarding Samples/COC outside of SOP:

* Sample split into fifteen separate work orders

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy) Any False statement will be brought to the attention of the Client – True or False

	True	False
Received on Ice	☑	☐
Received in Cooler	☑	☐
Custody Seal: DATE TIME	☐	☑
COC Relinquished	☑	☐
COC/Samples Labels Agree	☑	☐
All Samples in Good Condition	☑	☐
Samples Received within Holding Time	☑	☐
Is there enough Volume	☑	☐
Proper Media/Container Used	☑	☐
Splitting Samples Required	☑ see notes	☐
MS/MSD	☑	☐
Trip Blanks	☐	☑
Lab to Filters	☐	☑
COC Legible	☑	☐

COC Included: (Check all included)

Client ☑ Analysis ☑ Sampler Name ☑

Project ☑ IDs ☑ Collection Date/Time ☑

All Samples Proper pH: N/A ☐ ☐

Additional Container Notes

Note: West Virginia requires all samples to have their temperature taken. Note any outliers.

Qualtrax ID: 120836

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist	Effective Date: 07/13/2023

Sample	Soils Jars (Circle Amb/Clear)				Ambers					Plastics												VOA Vials					Other / Fill in					
	16oz Amb/Clear	8oz Amb/Clear	4oz Amb/Clear	2oz Amb/Clear	1 Liter			250mL		100mL	1 Liter		500mL	250mL																		
					Unpreserved	HCL	Sulfuric	Sulfuric	Phosphoric	HCl	Unpreserved	Unpreserved	Sulfuric	Unpreserved	Trizma	Sulfuric	Nitric	NaOH	Ammonium Acetate	NaOH/Zinc	Unpreserved	HCl	MeOH	D.I. Water	Bisulfate	Col/Bact						
1																																
2																																
3																																
4																																
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12				1																												
13																																
14																																
15																																
16				3																												
17				1																												
18				1																												
19				1																												
20				1																												

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

September 11, 2023

Tim Andrews
Nobis Engineering
585 Middlesex Street
Lowell, MA 01851

Project Location: St. Johnsbury, VT
Client Job Number:
Project Number: S00001.017
Laboratory Work Order Number: 23H3259

Enclosed are results of analyses for samples as received by the laboratory on August 22, 2023. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Rebecca Faust
Project Manager

Table of Contents

Sample Summary 4

Case Narrative 5

Sample Results 6

23H3259-01 6

23H3259-02 7

23H3259-03 8

23H3259-04 9

23H3259-05 10

23H3259-06 11

23H3259-07 12

23H3259-08 13

23H3259-09 14

23H3259-10 15

23H3259-11 16

23H3259-12 17

23H3259-13 18

23H3259-14 19

23H3259-15 20

23H3259-16 21

23H3259-17 22

23H3259-18 23

23H3259-19 24

23H3259-20 25

Sample Preparation Information 26

QC Data 27

Table of Contents (continued)

Polychlorinated Biphenyls with 3540 Soxhlet Extraction 27

B351010 27

Dual Column RPD Report 29

Flag/Qualifier Summary 53

Certifications 54

Chain of Custody/Sample Receipt 55

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Nobis Engineering
585 Middlesex Street
Lowell, MA 01851
ATTN: Tim Andrews

REPORT DATE: 9/11/2023

PURCHASE ORDER NUMBER:

PROJECT NUMBER: S00001.017

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23H3259

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: St. Johnsbury, VT

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
P-141-GFC	23H3259-01	Product/Solid		SW-846 8082A	
P-142-GFDG	23H3259-02	Product/Solid		SW-846 8082A	
P-143-GFLG	23H3259-03	Product/Solid		SW-846 8082A	
P-144-GFW	23H3259-04	Product/Solid		SW-846 8082A	
P-145-EWP1	23H3259-05	Product/Solid		SW-846 8082A	
P-146-EWP2	23H3259-06	Product/Solid		SW-846 8082A	
P-147-EWP3	23H3259-07	Product/Solid		SW-846 8082A	
P-148-EPB1	23H3259-08	Product/Solid		SW-846 8082A	
P-149-EPB2	23H3259-09	Product/Solid		SW-846 8082A	
P-150-EPB3	23H3259-10	Product/Solid		SW-846 8082A	
P-151-EP1	23H3259-11	Product/Solid		SW-846 8082A	
P-152-EP2	23H3259-12	Product/Solid		SW-846 8082A	
P-153-EP3	23H3259-13	Product/Solid		SW-846 8082A	
P-154-R14F	23H3259-14	Product/Solid		SW-846 8082A	
P-155-S12F	23H3259-15	Product/Solid		SW-846 8082A	
P-156-R10WT	23H3259-16	Product/Solid		SW-846 8082A	
P-157-R11F	23H3259-17	Product/Solid		SW-846 8082A	
P-158-R11EDW	23H3259-18	Product/Solid		SW-846 8082A	
P-159-R14WT	23H3259-19	Product/Solid		SW-846 8082A	
P-160-R14CWP	23H3259-20	Product/Solid		SW-846 8082A	

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

SW-846 8082A

Qualifications:

S-01

The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

Analyte & Samples(s) Qualified:

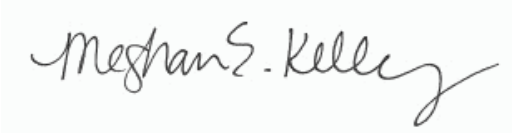
Decachlorobiphenyl
23H3259-15[P-155-S12F], 23H3259-16[P-156-R10WT], 23H3259-19[P-159-R14WT]

Decachlorobiphenyl [2C]
23H3259-15[P-155-S12F], 23H3259-16[P-156-R10WT], 23H3259-19[P-159-R14WT]

Tetrachloro-m-xylene
23H3259-15[P-155-S12F], 23H3259-16[P-156-R10WT], 23H3259-19[P-159-R14WT]

Tetrachloro-m-xylene [2C]
23H3259-15[P-155-S12F], 23H3259-16[P-156-R10WT], 23H3259-19[P-159-R14WT]

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Meghan E. Kelley
Reporting Specialist

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3259

Date Received: 8/22/2023

Field Sample #: P-141-GFC | Sampled: 8/15/2023 13:20

Sample ID: 23H3259-01

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 9:22	SFM
Aroclor-1221 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 9:22	SFM
Aroclor-1232 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 9:22	SFM
Aroclor-1242 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 9:22	SFM
Aroclor-1248 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 9:22	SFM
Aroclor-1254 [2]	7.9	1.0	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 9:22	SFM
Aroclor-1260 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 9:22	SFM
Aroclor-1262 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 9:22	SFM
Aroclor-1268 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 9:22	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	101	30-150		9/9/23 9:22
Decachlorobiphenyl [2]	98.5	30-150		9/9/23 9:22
Tetrachloro-m-xylene [1]	96.4	30-150		9/9/23 9:22
Tetrachloro-m-xylene [2]	99.2	30-150		9/9/23 9:22

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3259

Date Received: 8/22/2023

Field Sample #: P-142-GFDG | Sampled: 8/15/2023 13:21

Sample ID: 23H3259-02

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.98	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 9:39	SFM
Aroclor-1221 [1]	ND	0.98	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 9:39	SFM
Aroclor-1232 [1]	ND	0.98	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 9:39	SFM
Aroclor-1242 [1]	ND	0.98	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 9:39	SFM
Aroclor-1248 [1]	ND	0.98	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 9:39	SFM
Aroclor-1254 [2]	3.7	0.98	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 9:39	SFM
Aroclor-1260 [1]	ND	0.98	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 9:39	SFM
Aroclor-1262 [1]	ND	0.98	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 9:39	SFM
Aroclor-1268 [1]	ND	0.98	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 9:39	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual		
Decachlorobiphenyl [1]	99.0	30-150		9/9/23	9:39
Decachlorobiphenyl [2]	97.2	30-150		9/9/23	9:39
Tetrachloro-m-xylene [1]	96.2	30-150		9/9/23	9:39
Tetrachloro-m-xylene [2]	95.8	30-150		9/9/23	9:39

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3259

Date Received: 8/22/2023

Field Sample #: P-143-GFLG | Sampled: 8/15/2023 13:22

Sample ID: 23H3259-03

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	9/5/23	9/9/23 9:56	SFM
Aroclor-1221 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	9/5/23	9/9/23 9:56	SFM
Aroclor-1232 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	9/5/23	9/9/23 9:56	SFM
Aroclor-1242 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	9/5/23	9/9/23 9:56	SFM
Aroclor-1248 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	9/5/23	9/9/23 9:56	SFM
Aroclor-1254 [2]	13	2.0	mg/Kg	20		SW-846 8082A	9/5/23	9/9/23 9:56	SFM
Aroclor-1260 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	9/5/23	9/9/23 9:56	SFM
Aroclor-1262 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	9/5/23	9/9/23 9:56	SFM
Aroclor-1268 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	9/5/23	9/9/23 9:56	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	107	30-150		9/9/23 9:56
Decachlorobiphenyl [2]	107	30-150		9/9/23 9:56
Tetrachloro-m-xylene [1]	103	30-150		9/9/23 9:56
Tetrachloro-m-xylene [2]	101	30-150		9/9/23 9:56

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3259

Date Received: 8/22/2023

Field Sample #: P-144-GFW | Sampled: 8/15/2023 13:23

Sample ID: 23H3259-04

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 17:23	JEA
Aroclor-1221 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 17:23	JEA
Aroclor-1232 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 17:23	JEA
Aroclor-1242 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 17:23	JEA
Aroclor-1248 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 17:23	JEA
Aroclor-1254 [2]	1.4	0.10	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 17:23	JEA
Aroclor-1260 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 17:23	JEA
Aroclor-1262 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 17:23	JEA
Aroclor-1268 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 17:23	JEA

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	57.1	30-150		9/8/23 17:23
Decachlorobiphenyl [2]	56.4	30-150		9/8/23 17:23
Tetrachloro-m-xylene [1]	52.0	30-150		9/8/23 17:23
Tetrachloro-m-xylene [2]	53.8	30-150		9/8/23 17:23

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3259

Date Received: 8/22/2023

Field Sample #: P-145-EWP1 | Sampled: 8/15/2023 13:45

Sample ID: 23H3259-05

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.99	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 10:13	SFM
Aroclor-1221 [1]	ND	0.99	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 10:13	SFM
Aroclor-1232 [1]	ND	0.99	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 10:13	SFM
Aroclor-1242 [1]	ND	0.99	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 10:13	SFM
Aroclor-1248 [1]	ND	0.99	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 10:13	SFM
Aroclor-1254 [2]	3.4	0.99	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 10:13	SFM
Aroclor-1260 [1]	ND	0.99	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 10:13	SFM
Aroclor-1262 [1]	ND	0.99	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 10:13	SFM
Aroclor-1268 [1]	ND	0.99	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 10:13	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	68.4	30-150		9/9/23 10:13
Decachlorobiphenyl [2]	66.9	30-150		9/9/23 10:13
Tetrachloro-m-xylene [1]	56.2	30-150		9/9/23 10:13
Tetrachloro-m-xylene [2]	55.0	30-150		9/9/23 10:13

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3259

Date Received: 8/22/2023

Field Sample #: P-146-EWP2 | Sampled: 8/15/2023 13:46

Sample ID: 23H3259-06

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 10:30	SFM
Aroclor-1221 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 10:30	SFM
Aroclor-1232 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 10:30	SFM
Aroclor-1242 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 10:30	SFM
Aroclor-1248 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 10:30	SFM
Aroclor-1254 [2]	5.8	1.0	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 10:30	SFM
Aroclor-1260 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 10:30	SFM
Aroclor-1262 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 10:30	SFM
Aroclor-1268 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 10:30	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	97.2	30-150		9/9/23 10:30
Decachlorobiphenyl [2]	95.5	30-150		9/9/23 10:30
Tetrachloro-m-xylene [1]	84.6	30-150		9/9/23 10:30
Tetrachloro-m-xylene [2]	83.2	30-150		9/9/23 10:30

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3259

Date Received: 8/22/2023

Field Sample #: P-147-EWP3 | Sampled: 8/15/2023 13:47

Sample ID: 23H3259-07

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 10:47	SFM
Aroclor-1221 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 10:47	SFM
Aroclor-1232 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 10:47	SFM
Aroclor-1242 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 10:47	SFM
Aroclor-1248 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 10:47	SFM
Aroclor-1254 [2]	5.6	1.0	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 10:47	SFM
Aroclor-1260 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 10:47	SFM
Aroclor-1262 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 10:47	SFM
Aroclor-1268 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 10:47	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	105	30-150		9/9/23 10:47
Decachlorobiphenyl [2]	103	30-150		9/9/23 10:47
Tetrachloro-m-xylene [1]	91.3	30-150		9/9/23 10:47
Tetrachloro-m-xylene [2]	89.8	30-150		9/9/23 10:47

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3259

Date Received: 8/22/2023

Field Sample #: P-148-EPB1 | Sampled: 8/15/2023 13:48

Sample ID: 23H3259-08

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.99	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 11:04	SFM
Aroclor-1221 [1]	ND	0.99	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 11:04	SFM
Aroclor-1232 [1]	ND	0.99	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 11:04	SFM
Aroclor-1242 [1]	ND	0.99	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 11:04	SFM
Aroclor-1248 [1]	ND	0.99	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 11:04	SFM
Aroclor-1254 [1]	9.3	0.99	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 11:04	SFM
Aroclor-1260 [1]	ND	0.99	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 11:04	SFM
Aroclor-1262 [1]	ND	0.99	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 11:04	SFM
Aroclor-1268 [1]	ND	0.99	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 11:04	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	91.5	30-150		9/9/23 11:04
Decachlorobiphenyl [2]	99.6	30-150		9/9/23 11:04
Tetrachloro-m-xylene [1]	85.8	30-150		9/9/23 11:04
Tetrachloro-m-xylene [2]	85.2	30-150		9/9/23 11:04

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3259

Date Received: 8/22/2023

Field Sample #: P-149-EPB2 | Sampled: 8/15/2023 13:49

Sample ID: 23H3259-09

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 11:21	SFM
Aroclor-1221 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 11:21	SFM
Aroclor-1232 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 11:21	SFM
Aroclor-1242 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 11:21	SFM
Aroclor-1248 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 11:21	SFM
Aroclor-1254 [1]	4.7	1.0	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 11:21	SFM
Aroclor-1260 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 11:21	SFM
Aroclor-1262 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 11:21	SFM
Aroclor-1268 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	9/5/23	9/9/23 11:21	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	82.2	30-150		9/9/23 11:21
Decachlorobiphenyl [2]	82.8	30-150		9/9/23 11:21
Tetrachloro-m-xylene [1]	77.8	30-150		9/9/23 11:21
Tetrachloro-m-xylene [2]	76.7	30-150		9/9/23 11:21

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3259

Date Received: 8/22/2023

Field Sample #: P-150-EPB3 | Sampled: 8/15/2023 13:50

Sample ID: 23H3259-10

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	9/5/23	9/9/23 11:38	SFM
Aroclor-1221 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	9/5/23	9/9/23 11:38	SFM
Aroclor-1232 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	9/5/23	9/9/23 11:38	SFM
Aroclor-1242 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	9/5/23	9/9/23 11:38	SFM
Aroclor-1248 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	9/5/23	9/9/23 11:38	SFM
Aroclor-1254 [1]	19	2.0	mg/Kg	20		SW-846 8082A	9/5/23	9/9/23 11:38	SFM
Aroclor-1260 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	9/5/23	9/9/23 11:38	SFM
Aroclor-1262 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	9/5/23	9/9/23 11:38	SFM
Aroclor-1268 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	9/5/23	9/9/23 11:38	SFM

Surrogates	% Recovery		Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	149		30-150		9/9/23 11:38
Decachlorobiphenyl [2]	**154**	*	30-150		9/9/23 11:38
Tetrachloro-m-xylene [1]	140		30-150		9/9/23 11:38
Tetrachloro-m-xylene [2]	138		30-150		9/9/23 11:38

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3259

Date Received: 8/22/2023

Field Sample #: P-151-EP1 | Sampled: 8/15/2023 13:51

Sample ID: 23H3259-11

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.099	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 20:25	SFM
Aroclor-1221 [1]	ND	0.099	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 20:25	SFM
Aroclor-1232 [1]	ND	0.099	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 20:25	SFM
Aroclor-1242 [1]	ND	0.099	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 20:25	SFM
Aroclor-1248 [1]	ND	0.099	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 20:25	SFM
Aroclor-1254 [2]	0.55	0.099	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 20:25	SFM
Aroclor-1260 [1]	ND	0.099	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 20:25	SFM
Aroclor-1262 [1]	ND	0.099	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 20:25	SFM
Aroclor-1268 [1]	ND	0.099	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 20:25	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	93.8	30-150		9/8/23 20:25
Decachlorobiphenyl [2]	93.2	30-150		9/8/23 20:25
Tetrachloro-m-xylene [1]	83.1	30-150		9/8/23 20:25
Tetrachloro-m-xylene [2]	85.2	30-150		9/8/23 20:25

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3259

Date Received: 8/22/2023

Field Sample #: P-152-EP2 | Sampled: 8/15/2023 13:52

Sample ID: 23H3259-12

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 20:42	SFM
Aroclor-1221 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 20:42	SFM
Aroclor-1232 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 20:42	SFM
Aroclor-1242 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 20:42	SFM
Aroclor-1248 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 20:42	SFM
Aroclor-1254 [1]	0.62	0.10	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 20:42	SFM
Aroclor-1260 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 20:42	SFM
Aroclor-1262 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 20:42	SFM
Aroclor-1268 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 20:42	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	88.5	30-150		9/8/23 20:42
Decachlorobiphenyl [2]	88.0	30-150		9/8/23 20:42
Tetrachloro-m-xylene [1]	68.2	30-150		9/8/23 20:42
Tetrachloro-m-xylene [2]	69.6	30-150		9/8/23 20:42

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3259

Date Received: 8/22/2023

Field Sample #: P-153-EP3 | Sampled: 8/15/2023 13:53

Sample ID: 23H3259-13

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 20:59	SFM
Aroclor-1221 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 20:59	SFM
Aroclor-1232 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 20:59	SFM
Aroclor-1242 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 20:59	SFM
Aroclor-1248 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 20:59	SFM
Aroclor-1254 [1]	1.2	0.10	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 20:59	SFM
Aroclor-1260 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 20:59	SFM
Aroclor-1262 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 20:59	SFM
Aroclor-1268 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/5/23	9/8/23 20:59	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	79.1	30-150		9/8/23 20:59
Decachlorobiphenyl [2]	79.4	30-150		9/8/23 20:59
Tetrachloro-m-xylene [1]	61.4	30-150		9/8/23 20:59
Tetrachloro-m-xylene [2]	64.3	30-150		9/8/23 20:59

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3259

Date Received: 8/22/2023

Field Sample #: P-154-R14F | Sampled: 8/15/2023 08:00

Sample ID: 23H3259-14

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	9/5/23	9/9/23 11:55	SFM
Aroclor-1221 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	9/5/23	9/9/23 11:55	SFM
Aroclor-1232 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	9/5/23	9/9/23 11:55	SFM
Aroclor-1242 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	9/5/23	9/9/23 11:55	SFM
Aroclor-1248 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	9/5/23	9/9/23 11:55	SFM
Aroclor-1254 [1]	12	2.0	mg/Kg	20		SW-846 8082A	9/5/23	9/9/23 11:55	SFM
Aroclor-1260 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	9/5/23	9/9/23 11:55	SFM
Aroclor-1262 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	9/5/23	9/9/23 11:55	SFM
Aroclor-1268 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	9/5/23	9/9/23 11:55	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	87.3	30-150		9/9/23 11:55
Decachlorobiphenyl [2]	86.1	30-150		9/9/23 11:55
Tetrachloro-m-xylene [1]	99.3	30-150		9/9/23 11:55
Tetrachloro-m-xylene [2]	97.4	30-150		9/9/23 11:55

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3259

Date Received: 8/22/2023

Field Sample #: P-155-S12F | Sampled: 8/16/2023 08:01

Sample ID: 23H3259-15

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	9.9	mg/Kg	100		SW-846 8082A	9/5/23	9/9/23 16:37	SFM
Aroclor-1221 [1]	ND	9.9	mg/Kg	100		SW-846 8082A	9/5/23	9/9/23 16:37	SFM
Aroclor-1232 [1]	ND	9.9	mg/Kg	100		SW-846 8082A	9/5/23	9/9/23 16:37	SFM
Aroclor-1242 [1]	ND	9.9	mg/Kg	100		SW-846 8082A	9/5/23	9/9/23 16:37	SFM
Aroclor-1248 [1]	ND	9.9	mg/Kg	100		SW-846 8082A	9/5/23	9/9/23 16:37	SFM
Aroclor-1254 [1]	65	9.9	mg/Kg	100		SW-846 8082A	9/5/23	9/9/23 16:37	SFM
Aroclor-1260 [1]	ND	9.9	mg/Kg	100		SW-846 8082A	9/5/23	9/9/23 16:37	SFM
Aroclor-1262 [1]	ND	9.9	mg/Kg	100		SW-846 8082A	9/5/23	9/9/23 16:37	SFM
Aroclor-1268 [1]	ND	9.9	mg/Kg	100		SW-846 8082A	9/5/23	9/9/23 16:37	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/9/23 16:37
Decachlorobiphenyl [2]	*	30-150	S-01	9/9/23 16:37
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/9/23 16:37
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/9/23 16:37

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3259

Date Received: 8/22/2023

Field Sample #: P-156-R10WT | Sampled: 8/16/2023 08:02

Sample ID: 23H3259-16

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	9.9	mg/Kg	100		SW-846 8082A	9/5/23	9/9/23 16:54	SFM
Aroclor-1221 [1]	ND	9.9	mg/Kg	100		SW-846 8082A	9/5/23	9/9/23 16:54	SFM
Aroclor-1232 [1]	ND	9.9	mg/Kg	100		SW-846 8082A	9/5/23	9/9/23 16:54	SFM
Aroclor-1242 [1]	ND	9.9	mg/Kg	100		SW-846 8082A	9/5/23	9/9/23 16:54	SFM
Aroclor-1248 [1]	ND	9.9	mg/Kg	100		SW-846 8082A	9/5/23	9/9/23 16:54	SFM
Aroclor-1254 [1]	38	9.9	mg/Kg	100		SW-846 8082A	9/5/23	9/9/23 16:54	SFM
Aroclor-1260 [1]	ND	9.9	mg/Kg	100		SW-846 8082A	9/5/23	9/9/23 16:54	SFM
Aroclor-1262 [1]	ND	9.9	mg/Kg	100		SW-846 8082A	9/5/23	9/9/23 16:54	SFM
Aroclor-1268 [1]	ND	9.9	mg/Kg	100		SW-846 8082A	9/5/23	9/9/23 16:54	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/9/23 16:54
Decachlorobiphenyl [2]	*	30-150	S-01	9/9/23 16:54
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/9/23 16:54
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/9/23 16:54

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3259

Date Received: 8/22/2023

Field Sample #: P-157-R11F | Sampled: 8/16/2023 08:03

Sample ID: 23H3259-17

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	9/5/23	9/9/23 12:46	SFM
Aroclor-1221 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	9/5/23	9/9/23 12:46	SFM
Aroclor-1232 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	9/5/23	9/9/23 12:46	SFM
Aroclor-1242 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	9/5/23	9/9/23 12:46	SFM
Aroclor-1248 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	9/5/23	9/9/23 12:46	SFM
Aroclor-1254 [1]	11	2.0	mg/Kg	20		SW-846 8082A	9/5/23	9/9/23 12:46	SFM
Aroclor-1260 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	9/5/23	9/9/23 12:46	SFM
Aroclor-1262 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	9/5/23	9/9/23 12:46	SFM
Aroclor-1268 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	9/5/23	9/9/23 12:46	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	88.0	30-150		9/9/23 12:46
Decachlorobiphenyl [2]	86.5	30-150		9/9/23 12:46
Tetrachloro-m-xylene [1]	98.2	30-150		9/9/23 12:46
Tetrachloro-m-xylene [2]	93.1	30-150		9/9/23 12:46

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3259

Date Received: 8/22/2023

Field Sample #: P-158-R11EDW | Sampled: 8/16/2023 08:04

Sample ID: 23H3259-18

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.50	mg/Kg	5		SW-846 8082A	9/5/23	9/9/23 13:03	SFM
Aroclor-1221 [1]	ND	0.50	mg/Kg	5		SW-846 8082A	9/5/23	9/9/23 13:03	SFM
Aroclor-1232 [1]	ND	0.50	mg/Kg	5		SW-846 8082A	9/5/23	9/9/23 13:03	SFM
Aroclor-1242 [1]	ND	0.50	mg/Kg	5		SW-846 8082A	9/5/23	9/9/23 13:03	SFM
Aroclor-1248 [1]	ND	0.50	mg/Kg	5		SW-846 8082A	9/5/23	9/9/23 13:03	SFM
Aroclor-1254 [2]	2.7	0.50	mg/Kg	5		SW-846 8082A	9/5/23	9/9/23 13:03	SFM
Aroclor-1260 [1]	ND	0.50	mg/Kg	5		SW-846 8082A	9/5/23	9/9/23 13:03	SFM
Aroclor-1262 [1]	ND	0.50	mg/Kg	5		SW-846 8082A	9/5/23	9/9/23 13:03	SFM
Aroclor-1268 [1]	ND	0.50	mg/Kg	5		SW-846 8082A	9/5/23	9/9/23 13:03	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	71.8	30-150		9/9/23 13:03
Decachlorobiphenyl [2]	70.7	30-150		9/9/23 13:03
Tetrachloro-m-xylene [1]	71.7	30-150		9/9/23 13:03
Tetrachloro-m-xylene [2]	70.3	30-150		9/9/23 13:03

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3259

Date Received: 8/22/2023

Field Sample #: P-159-R14WT | Sampled: 8/16/2023 08:05

Sample ID: 23H3259-19

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.9	mg/Kg	50		SW-846 8082A	9/5/23	9/9/23 13:20	SFM
Aroclor-1221 [1]	ND	4.9	mg/Kg	50		SW-846 8082A	9/5/23	9/9/23 13:20	SFM
Aroclor-1232 [1]	ND	4.9	mg/Kg	50		SW-846 8082A	9/5/23	9/9/23 13:20	SFM
Aroclor-1242 [1]	ND	4.9	mg/Kg	50		SW-846 8082A	9/5/23	9/9/23 13:20	SFM
Aroclor-1248 [1]	ND	4.9	mg/Kg	50		SW-846 8082A	9/5/23	9/9/23 13:20	SFM
Aroclor-1254 [1]	20	4.9	mg/Kg	50		SW-846 8082A	9/5/23	9/9/23 13:20	SFM
Aroclor-1260 [1]	ND	4.9	mg/Kg	50		SW-846 8082A	9/5/23	9/9/23 13:20	SFM
Aroclor-1262 [1]	ND	4.9	mg/Kg	50		SW-846 8082A	9/5/23	9/9/23 13:20	SFM
Aroclor-1268 [1]	ND	4.9	mg/Kg	50		SW-846 8082A	9/5/23	9/9/23 13:20	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/9/23 13:20
Decachlorobiphenyl [2]	*	30-150	S-01	9/9/23 13:20
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/9/23 13:20
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/9/23 13:20

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3259

Date Received: 8/22/2023

Field Sample #: P-160-R14CWP | Sampled: 8/16/2023 08:06

Sample ID: 23H3259-20

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	9/5/23	9/9/23 13:37	SFM
Aroclor-1221 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	9/5/23	9/9/23 13:37	SFM
Aroclor-1232 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	9/5/23	9/9/23 13:37	SFM
Aroclor-1242 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	9/5/23	9/9/23 13:37	SFM
Aroclor-1248 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	9/5/23	9/9/23 13:37	SFM
Aroclor-1254 [1]	8.3	2.0	mg/Kg	20		SW-846 8082A	9/5/23	9/9/23 13:37	SFM
Aroclor-1260 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	9/5/23	9/9/23 13:37	SFM
Aroclor-1262 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	9/5/23	9/9/23 13:37	SFM
Aroclor-1268 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	9/5/23	9/9/23 13:37	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	93.0	30-150		9/9/23 13:37
Decachlorobiphenyl [2]	90.4	30-150		9/9/23 13:37
Tetrachloro-m-xylene [1]	87.4	30-150		9/9/23 13:37
Tetrachloro-m-xylene [2]	85.2	30-150		9/9/23 13:37

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method:SW-846 3540C **Analytical Method:SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23H3259-01 [P-141-GFC]	B351010	2.01	10.0	09/05/23
23H3259-02 [P-142-GFDG]	B351010	2.04	10.0	09/05/23
23H3259-03 [P-143-GFLG]	B351010	2.05	10.0	09/05/23
23H3259-04 [P-144-GFW]	B351010	2.00	10.0	09/05/23
23H3259-05 [P-145-EWP1]	B351010	2.02	10.0	09/05/23
23H3259-06 [P-146-EWP2]	B351010	1.98	10.0	09/05/23
23H3259-07 [P-147-EWP3]	B351010	2.01	10.0	09/05/23
23H3259-08 [P-148-EPB1]	B351010	2.03	10.0	09/05/23
23H3259-09 [P-149-EPB2]	B351010	2.01	10.0	09/05/23
23H3259-10 [P-150-EPB3]	B351010	2.02	10.0	09/05/23
23H3259-11 [P-151-EP1]	B351010	2.02	10.0	09/05/23
23H3259-12 [P-152-EP2]	B351010	2.01	10.0	09/05/23
23H3259-13 [P-153-EP3]	B351010	2.01	10.0	09/05/23
23H3259-14 [P-154-R14F]	B351010	2.00	10.0	09/05/23
23H3259-15 [P-155-S12F]	B351010	2.03	10.0	09/05/23
23H3259-16 [P-156-R10WT]	B351010	2.02	10.0	09/05/23
23H3259-17 [P-157-R11F]	B351010	2.01	10.0	09/05/23
23H3259-18 [P-158-R11EDW]	B351010	2.02	10.0	09/05/23
23H3259-19 [P-159-R14WT]	B351010	2.04	10.0	09/05/23
23H3259-20 [P-160-R14CWP]	B351010	2.04	10.0	09/05/23

con-test® A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B351010 - SW-846 3540C										
Blank (B351010-BLK1)				Prepared: 09/05/23 Analyzed: 09/08/23						
Aroclor-1016	ND	0.10	mg/Kg							
Aroclor-1016 [2C]	ND	0.10	mg/Kg							
Aroclor-1221	ND	0.10	mg/Kg							
Aroclor-1221 [2C]	ND	0.10	mg/Kg							
Aroclor-1232	ND	0.10	mg/Kg							
Aroclor-1232 [2C]	ND	0.10	mg/Kg							
Aroclor-1242	ND	0.10	mg/Kg							
Aroclor-1242 [2C]	ND	0.10	mg/Kg							
Aroclor-1248	ND	0.10	mg/Kg							
Aroclor-1248 [2C]	ND	0.10	mg/Kg							
Aroclor-1254	ND	0.10	mg/Kg							
Aroclor-1254 [2C]	ND	0.10	mg/Kg							
Aroclor-1260	ND	0.10	mg/Kg							
Aroclor-1260 [2C]	ND	0.10	mg/Kg							
Aroclor-1262	ND	0.10	mg/Kg							
Aroclor-1262 [2C]	ND	0.10	mg/Kg							
Aroclor-1268	ND	0.10	mg/Kg							
Aroclor-1268 [2C]	ND	0.10	mg/Kg							
Surrogate: Decachlorobiphenyl	*0.937*		mg/Kg	1.00		93.7	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.926*		mg/Kg	1.00		92.6	30-150			
Surrogate: Tetrachloro-m-xylene	*0.860*		mg/Kg	1.00		86.0	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.872*		mg/Kg	1.00		87.2	30-150			
LCS (B351010-BS1)				Prepared: 09/05/23 Analyzed: 09/08/23						
Aroclor-1016	0.64	0.10	mg/Kg	0.995		64.0	40-140			
Aroclor-1016 [2C]	0.67	0.10	mg/Kg	0.995		67.7	40-140			
Aroclor-1260	0.62	0.10	mg/Kg	0.995		62.7	40-140			
Aroclor-1260 [2C]	0.64	0.10	mg/Kg	0.995		64.3	40-140			
Surrogate: Decachlorobiphenyl	*0.837*		mg/Kg	0.995		84.1	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.828*		mg/Kg	0.995		83.2	30-150			
Surrogate: Tetrachloro-m-xylene	*0.761*		mg/Kg	0.995		76.5	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.771*		mg/Kg	0.995		77.5	30-150			
LCS Dup (B351010-BSD1)				Prepared: 09/05/23 Analyzed: 09/08/23						
Aroclor-1016	0.62	0.10	mg/Kg	0.995		62.2	40-140	2.90	30	
Aroclor-1016 [2C]	0.66	0.10	mg/Kg	0.995		66.1	40-140	2.36	30	
Aroclor-1260	0.60	0.10	mg/Kg	0.995		60.6	40-140	3.44	30	
Aroclor-1260 [2C]	0.62	0.10	mg/Kg	0.995		62.4	40-140	3.02	30	
Surrogate: Decachlorobiphenyl	*0.824*		mg/Kg	0.995		82.8	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.817*		mg/Kg	0.995		82.2	30-150			
Surrogate: Tetrachloro-m-xylene	*0.738*		mg/Kg	0.995		74.2	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.752*		mg/Kg	0.995		75.6	30-150			

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B351010 - SW-846 3540C										
Matrix Spike (B351010-MS1)	**Source: 23H3259-11**			Prepared: 09/05/23 Analyzed: 09/08/23						
Aroclor-1016	0.60	0.10	mg/Kg	1.01	ND	59.2	40-140			
Aroclor-1016 [2C]	0.66	0.10	mg/Kg	1.01	ND	65.0	40-140			
Aroclor-1260	0.68	0.10	mg/Kg	1.01	ND	67.2	40-140			
Aroclor-1260 [2C]	0.69	0.10	mg/Kg	1.01	ND	68.6	40-140			
Surrogate: Decachlorobiphenyl	*0.711*		mg/Kg	1.01		70.4	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.714*		mg/Kg	1.01		70.7	30-150			
Surrogate: Tetrachloro-m-xylene	*0.695*		mg/Kg	1.01		68.8	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.715*		mg/Kg	1.01		70.8	30-150			
Matrix Spike Dup (B351010-MSD1)	**Source: 23H3259-11**			Prepared: 09/05/23 Analyzed: 09/08/23						
Aroclor-1016	0.75	0.099	mg/Kg	0.990	ND	75.9	40-140	22.7	50	
Aroclor-1016 [2C]	0.83	0.099	mg/Kg	0.990	ND	84.0	40-140	23.6	50	
Aroclor-1260	0.84	0.099	mg/Kg	0.990	ND	85.3	40-140	21.8	50	
Aroclor-1260 [2C]	0.87	0.099	mg/Kg	0.990	ND	87.9	40-140	22.7	50	
Surrogate: Decachlorobiphenyl	*0.921*		mg/Kg	0.990		93.0	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.925*		mg/Kg	0.990		93.4	30-150			
Surrogate: Tetrachloro-m-xylene	*0.879*		mg/Kg	0.990		88.8	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.901*		mg/Kg	0.990		91.0	30-150			

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-141-GFC

Lab Sample ID: 23H3259-01

Date(s) Analyzed: 09/09/2023 09/09/2023

Instrument ID (1): ECD5

Instrument ID (2): ECD5

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	7.9	
	2	0.000	0.000	0.000	7.9	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-142-GFDG

Lab Sample ID: 23H3259-02

Date(s) Analyzed: 09/09/2023 09/09/2023

Instrument ID (1): ECD5

Instrument ID (2): ECD5

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	3.7	
	2	0.000	0.000	0.000	3.7	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-143-GFLG

Lab Sample ID: 23H3259-03

Date(s) Analyzed: 09/09/2023 09/09/2023

Instrument ID (1): ECD5

Instrument ID (2): ECD5

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	13	
	2	0.000	0.000	0.000	13	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-144-GFW

Lab Sample ID: 23H3259-04

Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD5

Instrument ID (2): ECD5

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	1.2	
	2	0.000	0.000	0.000	1.4	15.4

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-145-EWP1

Lab Sample ID: 23H3259-05 Date(s) Analyzed: 09/09/2023 09/09/2023

Instrument ID (1): ECD5 Instrument ID (2): ECD5

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	3.0	
	2	0.000	0.000	0.000	3.4	12.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-146-EWP2

Lab Sample ID: 23H3259-06

Date(s) Analyzed: 09/09/2023 09/09/2023

Instrument ID (1): ECD5

Instrument ID (2): ECD5

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	4.9	
	2	0.000	0.000	0.000	5.8	16.8

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-147-EWP3

Lab Sample ID: 23H3259-07

Date(s) Analyzed: 09/09/2023 09/09/2023

Instrument ID (1): ECD5

Instrument ID (2): ECD5

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	5.2	
	2	0.000	0.000	0.000	5.6	7.4

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-148-EPB1

Lab Sample ID: 23H3259-08 Date(s) Analyzed: 09/09/2023 09/09/2023

Instrument ID (1): ECD5 Instrument ID (2): ECD5

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	9.3	
	2	0.000	0.000	0.000	8.6	7.8

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-149-EPB2

Lab Sample ID: 23H3259-09 Date(s) Analyzed: 09/09/2023 09/09/2023

Instrument ID (1): ECD5 Instrument ID (2): ECD5

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	4.7	
	2	0.000	0.000	0.000	4.3	8.9

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-150-EPB3

Lab Sample ID: 23H3259-10

Date(s) Analyzed: 09/09/2023 09/09/2023

Instrument ID (1): ECD5

Instrument ID (2): ECD5

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	19	
	2	0.000	0.000	0.000	18	10.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-151-EP1

Lab Sample ID: 23H3259-11 Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD5 Instrument ID (2): ECD5

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	0.51	
	2	0.000	0.000	0.000	0.55	7.6

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-152-EP2

Lab Sample ID: 23H3259-12

Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD5

Instrument ID (2): ECD5

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	0.62	
	2	0.000	0.000	0.000	0.61	1.6

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-153-EP3

Lab Sample ID: 23H3259-13

Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD5

Instrument ID (2): ECD5

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	1.2	
	2	0.000	0.000	0.000	1.2	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-154-R14F

Lab Sample ID: 23H3259-14

Date(s) Analyzed: 09/09/2023 09/09/2023

Instrument ID (1): ECD5

Instrument ID (2): ECD5

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	12	
	2	0.000	0.000	0.000	11	8.7

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-155-S12F

Lab Sample ID: 23H3259-15

Date(s) Analyzed: 09/09/2023 09/09/2023

Instrument ID (1): ECD5

Instrument ID (2): ECD5

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	65	
	2	0.000	0.000	0.000	64	1.6

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-156-R10WT

Lab Sample ID: 23H3259-16

Date(s) Analyzed: 09/09/2023 09/09/2023

Instrument ID (1): ECD5

Instrument ID (2): ECD5

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	38	
	2	0.000	0.000	0.000	38	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-157-R11F

Lab Sample ID: 23H3259-17

Date(s) Analyzed: 09/09/2023 09/09/2023

Instrument ID (1): ECD5

Instrument ID (2): ECD5

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	11	
	2	0.000	0.000	0.000	9.4	15.7

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-158-R11EDW

Lab Sample ID: 23H3259-18 Date(s) Analyzed: 09/09/2023 09/09/2023

Instrument ID (1): ECD5 Instrument ID (2): ECD5

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	2.7	
	2	0.000	0.000	0.000	2.7	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-159-R14WT

Lab Sample ID: 23H3259-19

Date(s) Analyzed: 09/09/2023 09/09/2023

Instrument ID (1): ECD5

Instrument ID (2): ECD5

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	20	
	2	0.000	0.000	0.000	20	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-160-R14CWP

Lab Sample ID: 23H3259-20

Date(s) Analyzed: 09/09/2023 09/09/2023

Instrument ID (1): ECD5

Instrument ID (2): ECD5

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	8.3	
	2	0.000	0.000	0.000	7.8	6.2

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B351010-BS1

Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD5

Instrument ID (2): ECD5

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.64	
	2	0.000	0.000	0.000	0.67	4.6
Aroclor-1260	1	0.000	0.000	0.000	0.62	
	2	0.000	0.000	0.000	0.64	3.2

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B351010-BSD1 Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD5 Instrument ID (2): ECD5

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.62	
	2	0.000	0.000	0.000	0.66	6.3
Aroclor-1260	1	0.000	0.000	0.000	0.60	
	2	0.000	0.000	0.000	0.62	3.3

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike

Lab Sample ID: B351010-MS1 Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD5 Instrument ID (2): ECD5

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.60	
	2	0.000	0.000	0.000	0.66	9.5
Aroclor-1260	1	0.000	0.000	0.000	0.68	
	2	0.000	0.000	0.000	0.69	1.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike Dup

Lab Sample ID: B351010-MSD1 Date(s) Analyzed: 09/08/2023 09/08/2023

Instrument ID (1): ECD5 Instrument ID (2): ECD5

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.75	
	2	0.000	0.000	0.000	0.83	10.1
Aroclor-1260	1	0.000	0.000	0.000	0.84	
	2	0.000	0.000	0.000	0.87	2.3

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
S-01	The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8082A in Product/Solid	
Aroclor-1016	CT,NH,NY,ME,NC,VA,PA
Aroclor-1016 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1262	NY,NC,VA,PA
Aroclor-1262 [2C]	NY,NC,VA,PA
Aroclor-1268	NY,NC,VA,PA
Aroclor-1268 [2C]	NY,NC,VA,PA

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2024
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2024
NC	North Carolina Div. of Water Quality	652	12/31/2023
ME	State of Maine	MA00100	06/9/2025
VA	Commonwealth of Virginia	460217	12/14/2023
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2024

23H3259 RF

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time

7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
1	P-141-GFC	8/15/2023	13:20	GRAB	O	U		1				x
2	P-142-GFDG	8/15/2023	13:21	GRAB	O	U		1				x
3	P-143-GFLG	8/15/2023	13:22	GRAB	O	U		1				x
4	P-144-GFW	8/15/2023	13:23	GRAB	O	U		1				x
5	P-145-EWP1	8/15/2023	13:45	GRAB	O	U		1				x
6	P-146-EWP2	8/15/2023	13:46	GRAB	O	U		1				x
7	P-147-EWP3	8/15/2023	13:47	GRAB	O	U		1				x
8	P-148-EPB1	8/15/2023	13:48	GRAB	O	U		1				x
9	P-149-EPB2	8/15/2023	13:49	GRAB	O	U		1				x
10	P-150-EPB3	8/15/2023	13:50	GRAB	O	U		1				x

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time: 1258 8-22-23	
Received by: (signature)	Date/Time: 1258 8-22-23	
Relinquished by: (signature)	Date/Time: 1744 8-22-23	
Received by: (signature) 4d VOA 3.8, 2.2, 3.9	Date/Time: 8/22/23	
Relinquished by: (signature) 2.6, 5.6	Date/Time: 1746	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

23H3259 RF

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time
7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
11	P-151-EP1	8/15/2023	13:51	GRAB	O	U		3				x
12	P-152-EP2	8/15/2023	13:52	GRAB	O	U		1				x
13	P-153-EP3	8/15/2023	13:53	GRAB	O	U		1				x
14	P-154-R14F	8/15/2023	8:00	GRAB	O	U		1				x
15	P-155-S12F	8/16/2023	8:01	GRAB	O	U		1				x
16	P-156-R10WT	8/16/2023	8:02	GRAB	O	U		1				x
17	P-157-R11F	8/16/2023	8:03	GRAB	O	U		1				x
18	P-158-R11EDW	8/16/2023	8:04	GRAB	O	U		1				x
19	P-159-R14WT	8/16/2023	8:05	GRAB	O	U		1				x
20	P-160-R14CWP	8/16/2023	8:06	GRAB	O	U		1				x

[2] Preservation Code
Courier Use Only
Total Number Of:
VIALS
GLASS
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time: 8-22-23 1250
Received by: (signature)	Date/Time: 8/22/23 1930
Relinquished by: (signature)	Date/Time: 8.22.23 1746
Received by: (signature) 3.8, 2.2, 3.9	Date/Time: 8/22/23
Relinquished by: (signature) 2.6, 5.6	Date/Time: 1746
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

Pace ANALYTICAL SERVICES

DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist

Effective Date: 07/13/2023

Quaitrax ID: 120836

Sample	Soils Jars	Ambers						Plastics												VOA Vials						Other / Fill in					
	(Circle Amb/Clear)	1 Liter		250mL		100mL	1 Liter		500mL		250mL																				
	16oz Amb/Clear	Unpreserved	HCL	Sulfuric	Sulfuric	Phosphoric	HCl	Unpreserved	Unpreserved	Sulfuric	Unpreserved	Sulfuric	Trizma	Sulfuric	Nitric	NaOH	Ammonium Acetate	NaOH/Zinc	Unpreserved	HCl	MeOH	D.I. Water	Bisulfate	Col/Bact							
1																															
2																															
3																															
4																															
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															
13																															
14																															
15																															
16																															
17																															
18																															
19																															
20																															

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist
	Effective Date: 07/13/2023

Log In Back-Sheet

Client Nobis Group

Project St Johnsbury Armory

MCP/RCP Required no

Deliverable Package Requirement none

Location St. Johnsbury, VT

PWSID# (When Applicable) n/a

Arrival Method:

Courier ☑ Fed Ex ☐ Walk In ☐ Other ☐

Received By / Date / Time ER 8/22/23 1746

Back-Sheet By / Date / Time Mem 8/22/23 2217

Temperature Method Gun # 5

Temp < 6° C Actual Temperature 22.26 38.39.56

Rush Samples: Yes / No Notify No

Short Hold: Yes / No Notify No

Notes regarding Samples/COC outside of SOP:

* Sample split into fifteen separate work orders

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy) Any False statement will be brought to the attention of the Client – True or False

	True	False
Received on Ice	☑	☐
Received in Cooler	☑	☐
Custody Seal: DATE TIME	☐	☑
COC Relinquished	☑	☐
COC/Samples Labels Agree	☑	☐
All Samples in Good Condition	☑	☐
Samples Received within Holding Time	☑	☐
Is there enough Volume	☑	☐
Proper Media/Container Used	☑	☐
Splitting Samples Required	☑ see notes	☐
MS/MSD	☑	☐
Trip Blanks	☐	☑
Lab to Filters	☐	☑
COC Legible	☑	☐

COC Included: (Check all included)

Client ☑ Analysis ☑ Sampler Name ☑

Project ☑ IDs ☑ Collection Date/Time ☑

All Samples Proper pH: N/A ☐ ☐

Additional Container Notes

Note: West Virginia requires all samples to have their temperature taken. Note any outliers.

Qualtrax ID: 120836

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

September 11, 2023

Tim Andrews
Nobis Engineering
585 Middlesex Street
Lowell, MA 01851

Project Location: St. Johnsbury, VT
Client Job Number:
Project Number: S00001.017
Laboratory Work Order Number: 23H3260

Enclosed are results of analyses for samples as received by the laboratory on August 22, 2023. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Rebecca Faust
Project Manager

Table of Contents

Sample Summary 4

Case Narrative 5

Sample Results 6

23H3260-01 6

23H3260-02 7

23H3260-03 8

23H3260-04 9

23H3260-05 10

23H3260-06 11

23H3260-07 12

23H3260-08 13

23H3260-09 14

23H3260-10 15

23H3260-11 16

23H3260-12 17

23H3260-13 18

23H3260-14 19

23H3260-15 20

23H3260-16 21

23H3260-17 22

23H3260-18 23

23H3260-19 24

23H3260-20 25

Sample Preparation Information 26

QC Data 27

Table of Contents (continued)

Polychlorinated Biphenyls with 3540 Soxhlet Extraction 27

B351180 27

Dual Column RPD Report 29

Flag/Qualifier Summary 53

Certifications 54

Chain of Custody/Sample Receipt 55

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Nobis Engineering
585 Middlesex Street
Lowell, MA 01851
ATTN: Tim Andrews

REPORT DATE: 9/11/2023

PURCHASE ORDER NUMBER:

PROJECT NUMBER: S00001.017

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23H3260

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: St. Johnsbury, VT

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
P-161-R16SWP	23H3260-01	Product/Solid		SW-846 8082A	
P-162-R12SDW	23H3260-02	Product/Solid		SW-846 8082A	
P-163-R14WDW	23H3260-03	Product/Solid		SW-846 8082A	
P-164-R11WP	23H3260-04	Product/Solid		SW-846 8082A	
P-165-R16D	23H3260-05	Product/Solid		SW-846 8082A	
P-166-EX	23H3260-06	Product/Solid		SW-846 8082A	
P-167-EX	23H3260-07	Product/Solid		SW-846 8082A	
P-168-EX	23H3260-08	Product/Solid		SW-846 8082A	
P-169-EX	23H3260-09	Product/Solid		SW-846 8082A	
P-170-EX	23H3260-10	Product/Solid		SW-846 8082A	
P-171-EX	23H3260-11	Product/Solid		SW-846 8082A	
P-172-EX	23H3260-12	Product/Solid		SW-846 8082A	
P-173-EX	23H3260-13	Product/Solid		SW-846 8082A	
P-174-EX	23H3260-14	Product/Solid		SW-846 8082A	
P-175-EX	23H3260-15	Product/Solid		SW-846 8082A	
P-176-EX	23H3260-16	Product/Solid		SW-846 8082A	
P-177-EX	23H3260-17	Product/Solid		SW-846 8082A	
P-178-EX	23H3260-18	Product/Solid		SW-846 8082A	
P-179-EX	23H3260-19	Product/Solid		SW-846 8082A	
P-180-EX	23H3260-20	Product/Solid		SW-846 8082A	

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

SW-846 8082A

Qualifications:

S-01

The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

Analyte & Samples(s) Qualified:

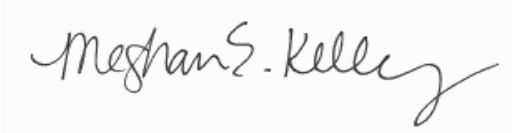
Decachlorobiphenyl
23H3260-01[P-161-R16SWP], 23H3260-04[P-164-R11WP], 23H3260-05[P-165-R16D], 23H3260-12[P-172-EX], 23H3260-13[P-173-EX], 23H3260-14[P-174-EX]

Decachlorobiphenyl [2C]
23H3260-01[P-161-R16SWP], 23H3260-04[P-164-R11WP], 23H3260-05[P-165-R16D], 23H3260-12[P-172-EX], 23H3260-13[P-173-EX], 23H3260-14[P-174-EX]

Tetrachloro-m-xylene
23H3260-01[P-161-R16SWP], 23H3260-04[P-164-R11WP], 23H3260-05[P-165-R16D], 23H3260-12[P-172-EX], 23H3260-13[P-173-EX], 23H3260-14[P-174-EX]

Tetrachloro-m-xylene [2C]
23H3260-01[P-161-R16SWP], 23H3260-04[P-164-R11WP], 23H3260-05[P-165-R16D], 23H3260-12[P-172-EX], 23H3260-13[P-173-EX], 23H3260-14[P-174-EX]

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Meghan E. Kelley
Reporting Specialist

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3260

Date Received: 8/22/2023

Field Sample #: P-161-R16SWP | Sampled: 8/16/2023 08:07

Sample ID: 23H3260-01

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	5.0	mg/Kg	50		SW-846 8082A	9/6/23	9/10/23 10:36	TG
Aroclor-1221 [1]	ND	5.0	mg/Kg	50		SW-846 8082A	9/6/23	9/10/23 10:36	TG
Aroclor-1232 [1]	ND	5.0	mg/Kg	50		SW-846 8082A	9/6/23	9/10/23 10:36	TG
Aroclor-1242 [1]	ND	5.0	mg/Kg	50		SW-846 8082A	9/6/23	9/10/23 10:36	TG
Aroclor-1248 [2]	17	5.0	mg/Kg	50		SW-846 8082A	9/6/23	9/10/23 10:36	TG
Aroclor-1254 [2]	18	5.0	mg/Kg	50		SW-846 8082A	9/6/23	9/10/23 10:36	TG
Aroclor-1260 [1]	ND	5.0	mg/Kg	50		SW-846 8082A	9/6/23	9/10/23 10:36	TG
Aroclor-1262 [1]	ND	5.0	mg/Kg	50		SW-846 8082A	9/6/23	9/10/23 10:36	TG
Aroclor-1268 [1]	ND	5.0	mg/Kg	50		SW-846 8082A	9/6/23	9/10/23 10:36	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/10/23 10:36
Decachlorobiphenyl [2]	*	30-150	S-01	9/10/23 10:36
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/10/23 10:36
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/10/23 10:36

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3260

Date Received: 8/22/2023

Field Sample #: P-162-R12SDW | Sampled: 8/16/2023 08:08

Sample ID: 23H3260-02

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.80	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 10:53	TG
Aroclor-1221 [1]	ND	0.80	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 10:53	TG
Aroclor-1232 [1]	ND	0.80	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 10:53	TG
Aroclor-1242 [1]	ND	0.80	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 10:53	TG
Aroclor-1248 [2]	3.6	0.80	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 10:53	TG
Aroclor-1254 [2]	3.3	0.80	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 10:53	TG
Aroclor-1260 [1]	ND	0.80	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 10:53	TG
Aroclor-1262 [1]	ND	0.80	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 10:53	TG
Aroclor-1268 [1]	ND	0.80	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 10:53	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	87.9	30-150		9/10/23 10:53
Decachlorobiphenyl [2]	84.2	30-150		9/10/23 10:53
Tetrachloro-m-xylene [1]	85.0	30-150		9/10/23 10:53
Tetrachloro-m-xylene [2]	81.5	30-150		9/10/23 10:53

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3260

Date Received: 8/22/2023

Field Sample #: P-163-R14WDW | Sampled: 8/16/2023 08:09

Sample ID: 23H3260-03

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.89	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 11:10	TG
Aroclor-1221 [1]	ND	0.89	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 11:10	TG
Aroclor-1232 [1]	ND	0.89	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 11:10	TG
Aroclor-1242 [1]	ND	0.89	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 11:10	TG
Aroclor-1248 [1]	3.5	0.89	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 11:10	TG
Aroclor-1254 [2]	2.1	0.89	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 11:10	TG
Aroclor-1260 [1]	ND	0.89	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 11:10	TG
Aroclor-1262 [1]	ND	0.89	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 11:10	TG
Aroclor-1268 [1]	ND	0.89	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 11:10	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	99.9	30-150		9/10/23 11:10
Decachlorobiphenyl [2]	96.4	30-150		9/10/23 11:10
Tetrachloro-m-xylene [1]	94.6	30-150		9/10/23 11:10
Tetrachloro-m-xylene [2]	91.8	30-150		9/10/23 11:10

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3260

Date Received: 8/22/2023

Field Sample #: P-164-R11WP | Sampled: 8/16/2023 08:10

Sample ID: 23H3260-04

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.1	mg/Kg	50		SW-846 8082A	9/6/23	9/10/23 11:27	TG
Aroclor-1221 [1]	ND	4.1	mg/Kg	50		SW-846 8082A	9/6/23	9/10/23 11:27	TG
Aroclor-1232 [1]	ND	4.1	mg/Kg	50		SW-846 8082A	9/6/23	9/10/23 11:27	TG
Aroclor-1242 [1]	ND	4.1	mg/Kg	50		SW-846 8082A	9/6/23	9/10/23 11:27	TG
Aroclor-1248 [1]	ND	4.1	mg/Kg	50		SW-846 8082A	9/6/23	9/10/23 11:27	TG
Aroclor-1254 [1]	20	4.1	mg/Kg	50		SW-846 8082A	9/6/23	9/10/23 11:27	TG
Aroclor-1260 [1]	ND	4.1	mg/Kg	50		SW-846 8082A	9/6/23	9/10/23 11:27	TG
Aroclor-1262 [1]	ND	4.1	mg/Kg	50		SW-846 8082A	9/6/23	9/10/23 11:27	TG
Aroclor-1268 [1]	ND	4.1	mg/Kg	50		SW-846 8082A	9/6/23	9/10/23 11:27	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/10/23 11:27
Decachlorobiphenyl [2]	*	30-150	S-01	9/10/23 11:27
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/10/23 11:27
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/10/23 11:27

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3260

Date Received: 8/22/2023

Field Sample #: P-165-R16D | Sampled: 8/16/2023 08:11

Sample ID: 23H3260-05

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.4	mg/Kg	50		SW-846 8082A	9/6/23	9/10/23 11:44	TG
Aroclor-1221 [1]	ND	4.4	mg/Kg	50		SW-846 8082A	9/6/23	9/10/23 11:44	TG
Aroclor-1232 [1]	ND	4.4	mg/Kg	50		SW-846 8082A	9/6/23	9/10/23 11:44	TG
Aroclor-1242 [1]	ND	4.4	mg/Kg	50		SW-846 8082A	9/6/23	9/10/23 11:44	TG
Aroclor-1248 [1]	ND	4.4	mg/Kg	50		SW-846 8082A	9/6/23	9/10/23 11:44	TG
Aroclor-1254 [1]	34	4.4	mg/Kg	50		SW-846 8082A	9/6/23	9/10/23 11:44	TG
Aroclor-1260 [1]	ND	4.4	mg/Kg	50		SW-846 8082A	9/6/23	9/10/23 11:44	TG
Aroclor-1262 [1]	ND	4.4	mg/Kg	50		SW-846 8082A	9/6/23	9/10/23 11:44	TG
Aroclor-1268 [1]	ND	4.4	mg/Kg	50		SW-846 8082A	9/6/23	9/10/23 11:44	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/10/23 11:44
Decachlorobiphenyl [2]	*	30-150	S-01	9/10/23 11:44
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/10/23 11:44
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/10/23 11:44

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3260

Date Received: 8/22/2023

Field Sample #: P-166-EX | Sampled: 8/16/2023 08:12

Sample ID: 23H3260-06

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.95	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 12:02	TG
Aroclor-1221 [1]	ND	0.95	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 12:02	TG
Aroclor-1232 [1]	ND	0.95	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 12:02	TG
Aroclor-1242 [1]	ND	0.95	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 12:02	TG
Aroclor-1248 [1]	ND	0.95	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 12:02	TG
Aroclor-1254 [2]	5.7	0.95	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 12:02	TG
Aroclor-1260 [1]	ND	0.95	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 12:02	TG
Aroclor-1262 [1]	ND	0.95	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 12:02	TG
Aroclor-1268 [1]	ND	0.95	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 12:02	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	112	30-150		9/10/23 12:02
Decachlorobiphenyl [2]	109	30-150		9/10/23 12:02
Tetrachloro-m-xylene [1]	94.0	30-150		9/10/23 12:02
Tetrachloro-m-xylene [2]	94.8	30-150		9/10/23 12:02

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3260

Date Received: 8/22/2023

Field Sample #: P-167-EX | Sampled: 8/16/2023 08:13

Sample ID: 23H3260-07

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.96	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 12:19	TG
Aroclor-1221 [1]	ND	0.96	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 12:19	TG
Aroclor-1232 [1]	ND	0.96	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 12:19	TG
Aroclor-1242 [1]	ND	0.96	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 12:19	TG
Aroclor-1248 [1]	ND	0.96	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 12:19	TG
Aroclor-1254 [1]	4.5	0.96	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 12:19	TG
Aroclor-1260 [1]	ND	0.96	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 12:19	TG
Aroclor-1262 [1]	ND	0.96	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 12:19	TG
Aroclor-1268 [1]	ND	0.96	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 12:19	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	103	30-150		9/10/23 12:19
Decachlorobiphenyl [2]	98.7	30-150		9/10/23 12:19
Tetrachloro-m-xylene [1]	89.4	30-150		9/10/23 12:19
Tetrachloro-m-xylene [2]	87.9	30-150		9/10/23 12:19

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3260

Date Received: 8/22/2023

Field Sample #: P-168-EX | Sampled: 8/16/2023 08:14

Sample ID: 23H3260-08

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.46	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 12:36	TG
Aroclor-1221 [1]	ND	0.46	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 12:36	TG
Aroclor-1232 [1]	ND	0.46	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 12:36	TG
Aroclor-1242 [1]	ND	0.46	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 12:36	TG
Aroclor-1248 [1]	ND	0.46	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 12:36	TG
Aroclor-1254 [2]	1.0	0.46	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 12:36	TG
Aroclor-1260 [1]	ND	0.46	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 12:36	TG
Aroclor-1262 [1]	ND	0.46	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 12:36	TG
Aroclor-1268 [1]	ND	0.46	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 12:36	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	96.6	30-150		9/10/23 12:36
Decachlorobiphenyl [2]	92.8	30-150		9/10/23 12:36
Tetrachloro-m-xylene [1]	89.6	30-150		9/10/23 12:36
Tetrachloro-m-xylene [2]	88.8	30-150		9/10/23 12:36

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3260

Date Received: 8/22/2023

Field Sample #: P-169-EX | Sampled: 8/16/2023 08:15

Sample ID: 23H3260-09

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.47	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 12:53	TG
Aroclor-1221 [1]	ND	0.47	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 12:53	TG
Aroclor-1232 [1]	ND	0.47	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 12:53	TG
Aroclor-1242 [1]	ND	0.47	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 12:53	TG
Aroclor-1248 [1]	ND	0.47	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 12:53	TG
Aroclor-1254 [2]	1.8	0.47	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 12:53	TG
Aroclor-1260 [1]	ND	0.47	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 12:53	TG
Aroclor-1262 [1]	ND	0.47	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 12:53	TG
Aroclor-1268 [1]	ND	0.47	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 12:53	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	90.9	30-150		9/10/23 12:53
Decachlorobiphenyl [2]	87.8	30-150		9/10/23 12:53
Tetrachloro-m-xylene [1]	87.0	30-150		9/10/23 12:53
Tetrachloro-m-xylene [2]	85.4	30-150		9/10/23 12:53

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3260

Date Received: 8/22/2023

Field Sample #: P-170-EX | Sampled: 8/16/2023 08:16

Sample ID: 23H3260-10

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.48	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 13:10	TG
Aroclor-1221 [1]	ND	0.48	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 13:10	TG
Aroclor-1232 [1]	ND	0.48	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 13:10	TG
Aroclor-1242 [1]	ND	0.48	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 13:10	TG
Aroclor-1248 [1]	ND	0.48	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 13:10	TG
Aroclor-1254 [2]	1.0	0.48	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 13:10	TG
Aroclor-1260 [1]	ND	0.48	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 13:10	TG
Aroclor-1262 [1]	ND	0.48	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 13:10	TG
Aroclor-1268 [1]	ND	0.48	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 13:10	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	89.2	30-150		9/10/23 13:10
Decachlorobiphenyl [2]	85.3	30-150		9/10/23 13:10
Tetrachloro-m-xylene [1]	83.0	30-150		9/10/23 13:10
Tetrachloro-m-xylene [2]	82.2	30-150		9/10/23 13:10

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3260

Date Received: 8/22/2023

Field Sample #: P-171-EX | Sampled: 8/16/2023 08:17

Sample ID: 23H3260-11

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.49	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 14:31	TG
Aroclor-1221 [1]	ND	0.49	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 14:31	TG
Aroclor-1232 [1]	ND	0.49	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 14:31	TG
Aroclor-1242 [1]	ND	0.49	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 14:31	TG
Aroclor-1248 [1]	ND	0.49	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 14:31	TG
Aroclor-1254 [2]	1.7	0.49	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 14:31	TG
Aroclor-1260 [1]	ND	0.49	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 14:31	TG
Aroclor-1262 [1]	ND	0.49	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 14:31	TG
Aroclor-1268 [1]	ND	0.49	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 14:31	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	86.3	30-150		9/10/23 14:31
Decachlorobiphenyl [2]	82.5	30-150		9/10/23 14:31
Tetrachloro-m-xylene [1]	80.7	30-150		9/10/23 14:31
Tetrachloro-m-xylene [2]	80.2	30-150		9/10/23 14:31

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3260

Date Received: 8/22/2023

Field Sample #: P-172-EX | Sampled: 8/16/2023 08:18

Sample ID: 23H3260-12

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	900	mg/Kg	10000		SW-846 8082A	9/6/23	9/11/23 4:39	TG
Aroclor-1221 [1]	ND	900	mg/Kg	10000		SW-846 8082A	9/6/23	9/11/23 4:39	TG
Aroclor-1232 [1]	ND	900	mg/Kg	10000		SW-846 8082A	9/6/23	9/11/23 4:39	TG
Aroclor-1242 [1]	ND	900	mg/Kg	10000		SW-846 8082A	9/6/23	9/11/23 4:39	TG
Aroclor-1248 [1]	ND	900	mg/Kg	10000		SW-846 8082A	9/6/23	9/11/23 4:39	TG
Aroclor-1254 [1]	9700	900	mg/Kg	10000		SW-846 8082A	9/6/23	9/11/23 4:39	TG
Aroclor-1260 [1]	ND	900	mg/Kg	10000		SW-846 8082A	9/6/23	9/11/23 4:39	TG
Aroclor-1262 [1]	ND	900	mg/Kg	10000		SW-846 8082A	9/6/23	9/11/23 4:39	TG
Aroclor-1268 [1]	ND	900	mg/Kg	10000		SW-846 8082A	9/6/23	9/11/23 4:39	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/11/23 4:39
Decachlorobiphenyl [2]	*	30-150	S-01	9/11/23 4:39
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/11/23 4:39
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/11/23 4:39

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3260

Date Received: 8/22/2023

Field Sample #: P-173-EX | Sampled: 8/16/2023 08:19

Sample ID: 23H3260-13

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	1400	mg/Kg	20000		SW-846 8082A	9/6/23	9/11/23 4:56	TG
Aroclor-1221 [1]	ND	1400	mg/Kg	20000		SW-846 8082A	9/6/23	9/11/23 4:56	TG
Aroclor-1232 [1]	ND	1400	mg/Kg	20000		SW-846 8082A	9/6/23	9/11/23 4:56	TG
Aroclor-1242 [1]	ND	1400	mg/Kg	20000		SW-846 8082A	9/6/23	9/11/23 4:56	TG
Aroclor-1248 [1]	ND	1400	mg/Kg	20000		SW-846 8082A	9/6/23	9/11/23 4:56	TG
Aroclor-1254 [1]	7100	1400	mg/Kg	20000		SW-846 8082A	9/6/23	9/11/23 4:56	TG
Aroclor-1260 [1]	ND	1400	mg/Kg	20000		SW-846 8082A	9/6/23	9/11/23 4:56	TG
Aroclor-1262 [1]	ND	1400	mg/Kg	20000		SW-846 8082A	9/6/23	9/11/23 4:56	TG
Aroclor-1268 [1]	ND	1400	mg/Kg	20000		SW-846 8082A	9/6/23	9/11/23 4:56	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/11/23 4:56
Decachlorobiphenyl [2]	*	30-150	S-01	9/11/23 4:56
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/11/23 4:56
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/11/23 4:56

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3260

Date Received: 8/22/2023

Field Sample #: P-174-EX | Sampled: 8/16/2023 08:20

Sample ID: 23H3260-14

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	3400	mg/Kg	40000		SW-846 8082A	9/6/23	9/11/23 5:14	TG
Aroclor-1221 [1]	ND	3400	mg/Kg	40000		SW-846 8082A	9/6/23	9/11/23 5:14	TG
Aroclor-1232 [1]	ND	3400	mg/Kg	40000		SW-846 8082A	9/6/23	9/11/23 5:14	TG
Aroclor-1242 [1]	ND	3400	mg/Kg	40000		SW-846 8082A	9/6/23	9/11/23 5:14	TG
Aroclor-1248 [1]	ND	3400	mg/Kg	40000		SW-846 8082A	9/6/23	9/11/23 5:14	TG
Aroclor-1254 [1]	20000	3400	mg/Kg	40000		SW-846 8082A	9/6/23	9/11/23 5:14	TG
Aroclor-1260 [1]	ND	3400	mg/Kg	40000		SW-846 8082A	9/6/23	9/11/23 5:14	TG
Aroclor-1262 [1]	ND	3400	mg/Kg	40000		SW-846 8082A	9/6/23	9/11/23 5:14	TG
Aroclor-1268 [1]	ND	3400	mg/Kg	40000		SW-846 8082A	9/6/23	9/11/23 5:14	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/11/23 5:14
Decachlorobiphenyl [2]	*	30-150	S-01	9/11/23 5:14
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/11/23 5:14
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/11/23 5:14

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3260

Date Received: 8/22/2023

Field Sample #: P-175-EX | Sampled: 8/16/2023 08:21

Sample ID: 23H3260-15

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.43	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 15:39	TG
Aroclor-1221 [1]	ND	0.43	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 15:39	TG
Aroclor-1232 [1]	ND	0.43	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 15:39	TG
Aroclor-1242 [1]	ND	0.43	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 15:39	TG
Aroclor-1248 [1]	ND	0.43	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 15:39	TG
Aroclor-1254 [2]	1.8	0.43	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 15:39	TG
Aroclor-1260 [1]	ND	0.43	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 15:39	TG
Aroclor-1262 [1]	ND	0.43	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 15:39	TG
Aroclor-1268 [1]	ND	0.43	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 15:39	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	88.5	30-150		9/10/23 15:39
Decachlorobiphenyl [2]	83.2	30-150		9/10/23 15:39
Tetrachloro-m-xylene [1]	79.0	30-150		9/10/23 15:39
Tetrachloro-m-xylene [2]	78.5	30-150		9/10/23 15:39

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3260

Date Received: 8/22/2023

Field Sample #: P-176-EX | Sampled: 8/16/2023 08:22

Sample ID: 23H3260-16

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.47	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 15:57	TG
Aroclor-1221 [1]	ND	0.47	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 15:57	TG
Aroclor-1232 [1]	ND	0.47	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 15:57	TG
Aroclor-1242 [1]	ND	0.47	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 15:57	TG
Aroclor-1248 [1]	ND	0.47	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 15:57	TG
Aroclor-1254 [1]	0.62	0.47	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 15:57	TG
Aroclor-1260 [1]	ND	0.47	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 15:57	TG
Aroclor-1262 [1]	ND	0.47	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 15:57	TG
Aroclor-1268 [1]	ND	0.47	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 15:57	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	100	30-150		9/10/23 15:57
Decachlorobiphenyl [2]	94.5	30-150		9/10/23 15:57
Tetrachloro-m-xylene [1]	89.5	30-150		9/10/23 15:57
Tetrachloro-m-xylene [2]	89.1	30-150		9/10/23 15:57

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3260

Date Received: 8/22/2023

Field Sample #: P-177-EX | Sampled: 8/16/2023 08:23

Sample ID: 23H3260-17

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.47	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 16:14	TG
Aroclor-1221 [1]	ND	0.47	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 16:14	TG
Aroclor-1232 [1]	ND	0.47	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 16:14	TG
Aroclor-1242 [1]	ND	0.47	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 16:14	TG
Aroclor-1248 [1]	ND	0.47	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 16:14	TG
Aroclor-1254 [1]	0.72	0.47	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 16:14	TG
Aroclor-1260 [1]	ND	0.47	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 16:14	TG
Aroclor-1262 [1]	ND	0.47	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 16:14	TG
Aroclor-1268 [1]	ND	0.47	mg/Kg	5		SW-846 8082A	9/6/23	9/10/23 16:14	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	90.4	30-150		9/10/23 16:14
Decachlorobiphenyl [2]	85.3	30-150		9/10/23 16:14
Tetrachloro-m-xylene [1]	82.4	30-150		9/10/23 16:14
Tetrachloro-m-xylene [2]	82.2	30-150		9/10/23 16:14

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3260

Date Received: 8/22/2023

Field Sample #: P-178-EX | Sampled: 8/16/2023 08:24

Sample ID: 23H3260-18

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.93	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 16:31	TG
Aroclor-1221 [1]	ND	0.93	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 16:31	TG
Aroclor-1232 [1]	ND	0.93	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 16:31	TG
Aroclor-1242 [1]	ND	0.93	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 16:31	TG
Aroclor-1248 [1]	ND	0.93	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 16:31	TG
Aroclor-1254 [2]	2.4	0.93	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 16:31	TG
Aroclor-1260 [1]	ND	0.93	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 16:31	TG
Aroclor-1262 [1]	ND	0.93	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 16:31	TG
Aroclor-1268 [1]	ND	0.93	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 16:31	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	107	30-150		9/10/23 16:31
Decachlorobiphenyl [2]	100	30-150		9/10/23 16:31
Tetrachloro-m-xylene [1]	103	30-150		9/10/23 16:31
Tetrachloro-m-xylene [2]	99.0	30-150		9/10/23 16:31

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3260

Date Received: 8/22/2023

Field Sample #: P-179-EX | Sampled: 8/16/2023 08:25

Sample ID: 23H3260-19

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.97	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 16:48	TG
Aroclor-1221 [1]	ND	0.97	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 16:48	TG
Aroclor-1232 [1]	ND	0.97	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 16:48	TG
Aroclor-1242 [1]	ND	0.97	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 16:48	TG
Aroclor-1248 [1]	ND	0.97	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 16:48	TG
Aroclor-1254 [2]	1.8	0.97	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 16:48	TG
Aroclor-1260 [1]	ND	0.97	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 16:48	TG
Aroclor-1262 [1]	ND	0.97	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 16:48	TG
Aroclor-1268 [1]	ND	0.97	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 16:48	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	111	30-150		9/10/23 16:48
Decachlorobiphenyl [2]	103	30-150		9/10/23 16:48
Tetrachloro-m-xylene [1]	110	30-150		9/10/23 16:48
Tetrachloro-m-xylene [2]	104	30-150		9/10/23 16:48

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3260

Date Received: 8/22/2023

Field Sample #: P-180-EX | Sampled: 8/16/2023 08:26

Sample ID: 23H3260-20

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.92	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 17:05	TG
Aroclor-1221 [1]	ND	0.92	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 17:05	TG
Aroclor-1232 [1]	ND	0.92	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 17:05	TG
Aroclor-1242 [1]	ND	0.92	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 17:05	TG
Aroclor-1248 [1]	ND	0.92	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 17:05	TG
Aroclor-1254 [2]	3.0	0.92	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 17:05	TG
Aroclor-1260 [1]	ND	0.92	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 17:05	TG
Aroclor-1262 [1]	ND	0.92	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 17:05	TG
Aroclor-1268 [1]	ND	0.92	mg/Kg	10		SW-846 8082A	9/6/23	9/10/23 17:05	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	103	30-150		9/10/23 17:05
Decachlorobiphenyl [2]	95.6	30-150		9/10/23 17:05
Tetrachloro-m-xylene [1]	94.8	30-150		9/10/23 17:05
Tetrachloro-m-xylene [2]	93.2	30-150		9/10/23 17:05

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method:SW-846 3540C **Analytical Method:SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23H3260-01 [P-161-R16SWP]	B351180	2.01	10.0	09/06/23
23H3260-02 [P-162-R12SDW]	B351180	2.51	10.0	09/06/23
23H3260-03 [P-163-R14WDW]	B351180	2.24	10.0	09/06/23
23H3260-04 [P-164-R11WP]	B351180	2.43	10.0	09/06/23
23H3260-05 [P-165-R16D]	B351180	2.27	10.0	09/06/23
23H3260-06 [P-166-EX]	B351180	2.11	10.0	09/06/23
23H3260-07 [P-167-EX]	B351180	2.08	10.0	09/06/23
23H3260-08 [P-168-EX]	B351180	2.19	10.0	09/06/23
23H3260-09 [P-169-EX]	B351180	2.13	10.0	09/06/23
23H3260-10 [P-170-EX]	B351180	2.07	10.0	09/06/23
23H3260-11 [P-171-EX]	B351180	2.06	10.0	09/06/23
23H3260-12 [P-172-EX]	B351180	2.22	10.0	09/06/23
23H3260-13 [P-173-EX]	B351180	2.81	10.0	09/06/23
23H3260-14 [P-174-EX]	B351180	2.35	10.0	09/06/23
23H3260-15 [P-175-EX]	B351180	2.32	10.0	09/06/23
23H3260-16 [P-176-EX]	B351180	2.11	10.0	09/06/23
23H3260-17 [P-177-EX]	B351180	2.13	10.0	09/06/23
23H3260-18 [P-178-EX]	B351180	2.14	10.0	09/06/23
23H3260-19 [P-179-EX]	B351180	2.06	10.0	09/06/23
23H3260-20 [P-180-EX]	B351180	2.18	10.0	09/06/23

con-test® A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B351180 - SW-846 3540C										
Blank (B351180-BLK1)				Prepared: 09/06/23 Analyzed: 09/10/23						
Aroclor-1016	ND	0.10	mg/Kg							
Aroclor-1016 [2C]	ND	0.10	mg/Kg							
Aroclor-1221	ND	0.10	mg/Kg							
Aroclor-1221 [2C]	ND	0.10	mg/Kg							
Aroclor-1232	ND	0.10	mg/Kg							
Aroclor-1232 [2C]	ND	0.10	mg/Kg							
Aroclor-1242	ND	0.10	mg/Kg							
Aroclor-1242 [2C]	ND	0.10	mg/Kg							
Aroclor-1248	ND	0.10	mg/Kg							
Aroclor-1248 [2C]	ND	0.10	mg/Kg							
Aroclor-1254	ND	0.10	mg/Kg							
Aroclor-1254 [2C]	ND	0.10	mg/Kg							
Aroclor-1260	ND	0.10	mg/Kg							
Aroclor-1260 [2C]	ND	0.10	mg/Kg							
Aroclor-1262	ND	0.10	mg/Kg							
Aroclor-1262 [2C]	ND	0.10	mg/Kg							
Aroclor-1268	ND	0.10	mg/Kg							
Aroclor-1268 [2C]	ND	0.10	mg/Kg							
Surrogate: Decachlorobiphenyl	*0.919*		mg/Kg	1.00		91.9	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.890*		mg/Kg	1.00		89.0	30-150			
Surrogate: Tetrachloro-m-xylene	*0.788*		mg/Kg	1.00		78.8	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.811*		mg/Kg	1.00		81.1	30-150			
LCS (B351180-BS1)				Prepared: 09/06/23 Analyzed: 09/10/23						
Aroclor-1016	0.71	0.10	mg/Kg	1.00		71.3	40-140			
Aroclor-1016 [2C]	0.76	0.10	mg/Kg	1.00		76.0	40-140			
Aroclor-1260	0.74	0.10	mg/Kg	1.00		73.9	40-140			
Aroclor-1260 [2C]	0.73	0.10	mg/Kg	1.00		72.9	40-140			
Surrogate: Decachlorobiphenyl	*0.894*		mg/Kg	1.00		89.4	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.897*		mg/Kg	1.00		89.7	30-150			
Surrogate: Tetrachloro-m-xylene	*0.793*		mg/Kg	1.00		79.3	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.824*		mg/Kg	1.00		82.4	30-150			
LCS Dup (B351180-BSD1)				Prepared: 09/06/23 Analyzed: 09/10/23						
Aroclor-1016	0.56	0.10	mg/Kg	1.00		55.7	40-140	24.5	30	
Aroclor-1016 [2C]	0.60	0.10	mg/Kg	1.00		60.0	40-140	23.4	30	
Aroclor-1260	0.79	0.10	mg/Kg	1.00		78.9	40-140	6.53	30	
Aroclor-1260 [2C]	0.81	0.10	mg/Kg	1.00		81.1	40-140	10.7	30	
Surrogate: Decachlorobiphenyl	*0.786*		mg/Kg	1.00		78.6	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.782*		mg/Kg	1.00		78.2	30-150			
Surrogate: Tetrachloro-m-xylene	*0.431*		mg/Kg	1.00		43.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.439*		mg/Kg	1.00		43.9	30-150			

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B351180 - SW-846 3540C										
Matrix Spike (B351180-MS1)	**Source: 23H3260-17**			Prepared: 09/06/23 Analyzed: 09/10/23						
Aroclor-1016	0.79	0.49	mg/Kg	0.985	ND	80.5	40-140			
Aroclor-1016 [2C]	0.79	0.49	mg/Kg	0.985	ND	80.5	40-140			
Aroclor-1260	0.97	0.49	mg/Kg	0.985	ND	98.2	40-140			
Aroclor-1260 [2C]	0.87	0.49	mg/Kg	0.985	ND	88.7	40-140			
Surrogate: Decachlorobiphenyl	*0.890*		mg/Kg	0.985		90.3	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.838*		mg/Kg	0.985		85.1	30-150			
Surrogate: Tetrachloro-m-xylene	*0.806*		mg/Kg	0.985		81.8	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.802*		mg/Kg	0.985		81.4	30-150			
Matrix Spike Dup (B351180-MSD1)	**Source: 23H3260-17**			Prepared: 09/06/23 Analyzed: 09/10/23						
Aroclor-1016	0.58	0.38	mg/Kg	0.752	ND	77.7	40-140	30.3	50	
Aroclor-1016 [2C]	0.56	0.38	mg/Kg	0.752	ND	74.0	40-140	35.0	50	
Aroclor-1260	0.69	0.38	mg/Kg	0.752	ND	91.2	40-140	34.2	50	
Aroclor-1260 [2C]	0.67	0.38	mg/Kg	0.752	ND	88.7	40-140	26.9	50	
Surrogate: Decachlorobiphenyl	*0.669*		mg/Kg	0.752		89.0	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.629*		mg/Kg	0.752		83.7	30-150			
Surrogate: Tetrachloro-m-xylene	*0.621*		mg/Kg	0.752		82.6	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.611*		mg/Kg	0.752		81.2	30-150			

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-161-R16SWP

Lab Sample ID: 23H3260-01 Date(s) Analyzed: 09/10/2023 09/10/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1248	1	0.000	0.000	0.000	15	
	2	0.000	0.000	0.000	17	12.5
Aroclor-1254	1	0.000	0.000	0.000	15	
	2	0.000	0.000	0.000	18	18.2

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-162-R12SDW

Lab Sample ID: 23H3260-02 Date(s) Analyzed: 09/10/2023 09/10/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1248	1	0.000	0.000	0.000	3.2	
	2	0.000	0.000	0.000	3.6	11.8
Aroclor-1254	1	0.000	0.000	0.000	2.7	
	2	0.000	0.000	0.000	3.3	16.4

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-163-R14WDW

Lab Sample ID: 23H3260-03 Date(s) Analyzed: 09/10/2023 09/10/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1248	1	0.000	0.000	0.000	3.5	
	2	0.000	0.000	0.000	2.9	18.8
Aroclor-1254	1	0.000	0.000	0.000	1.8	
	2	0.000	0.000	0.000	2.1	15.4

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-164-R11WP

Lab Sample ID: 23H3260-04 Date(s) Analyzed: 09/10/2023 09/10/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	20	
	2	0.000	0.000	0.000	20	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-165-R16D

Lab Sample ID: 23H3260-05

Date(s) Analyzed: 09/10/2023 09/10/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	34	
	2	0.000	0.000	0.000	30	12.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-166-EX

Lab Sample ID: 23H3260-06

Date(s) Analyzed: 09/10/2023 09/10/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	5.6	
	2	0.000	0.000	0.000	5.7	1.8

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-167-EX

Lab Sample ID: 23H3260-07

Date(s) Analyzed: 09/10/2023 09/10/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	4.5	
	2	0.000	0.000	0.000	4.0	11.8

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-168-EX

Lab Sample ID: 23H3260-08

Date(s) Analyzed: 09/10/2023 09/10/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	0.96	
	2	0.000	0.000	0.000	1.0	3.1

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-169-EX

Lab Sample ID: 23H3260-09

Date(s) Analyzed: 09/10/2023 09/10/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	1.6	
	2	0.000	0.000	0.000	1.8	11.8

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-170-EX

Lab Sample ID: 23H3260-10 Date(s) Analyzed: 09/10/2023 09/10/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	0.98	
	2	0.000	0.000	0.000	1.0	2.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-171-EX

Lab Sample ID: 23H3260-11

Date(s) Analyzed: 09/10/2023 09/10/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	1.4	
	2	0.000	0.000	0.000	1.7	19.4

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-172-EX

Lab Sample ID: 23H3260-12

Date(s) Analyzed: 09/11/2023 09/11/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	9700	
	2	0.000	0.000	0.000	9500	2.1

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-173-EX

Lab Sample ID: 23H3260-13

Date(s) Analyzed: 09/11/2023 09/11/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	7100	
	2	0.000	0.000	0.000	6800	4.3

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-174-EX

Lab Sample ID: 23H3260-14

Date(s) Analyzed: 09/11/2023 09/11/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	20000	
	2	0.000	0.000	0.000	20000	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-175-EX

Lab Sample ID: 23H3260-15

Date(s) Analyzed: 09/10/2023 09/10/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	1.6	
	2	0.000	0.000	0.000	1.8	11.8

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-176-EX

Lab Sample ID: 23H3260-16

Date(s) Analyzed: 09/10/2023 09/10/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	0.62	
	2	0.000	0.000	0.000	0.57	8.4

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-177-EX

Lab Sample ID: 23H3260-17

Date(s) Analyzed: 09/10/2023 09/10/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	0.72	
	2	0.000	0.000	0.000	0.66	8.7

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-178-EX

Lab Sample ID: 23H3260-18

Date(s) Analyzed: 09/10/2023 09/10/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	2.3	
	2	0.000	0.000	0.000	2.4	4.3

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-179-EX

Lab Sample ID: 23H3260-19

Date(s) Analyzed: 09/10/2023 09/10/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	1.8	
	2	0.000	0.000	0.000	1.8	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-180-EX

Lab Sample ID: 23H3260-20 Date(s) Analyzed: 09/10/2023 09/10/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	3.0	
	2	0.000	0.000	0.000	3.0	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B351180-BS1

Date(s) Analyzed: 09/10/2023 09/10/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.71	
	2	0.000	0.000	0.000	0.76	6.8
Aroclor-1260	1	0.000	0.000	0.000	0.74	
	2	0.000	0.000	0.000	0.73	1.4

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B351180-BSD1 Date(s) Analyzed: 09/10/2023 09/10/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.56	
	2	0.000	0.000	0.000	0.60	6.9
Aroclor-1260	1	0.000	0.000	0.000	0.79	
	2	0.000	0.000	0.000	0.81	2.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike

Lab Sample ID: B351180-MS1 Date(s) Analyzed: 09/10/2023 09/10/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.79	
	2	0.000	0.000	0.000	0.79	0.0
Aroclor-1260	1	0.000	0.000	0.000	0.97	
	2	0.000	0.000	0.000	0.87	10.9

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike Dup

Lab Sample ID: B351180-MSD1 Date(s) Analyzed: 09/10/2023 09/10/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.58	
	2	0.000	0.000	0.000	0.56	5.2
Aroclor-1260	1	0.000	0.000	0.000	0.69	
	2	0.000	0.000	0.000	0.67	2.9

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
S-01	The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8082A in Product/Solid	
Aroclor-1016	CT,NH,NY,ME,NC,VA,PA
Aroclor-1016 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1262	NY,NC,VA,PA
Aroclor-1262 [2C]	NY,NC,VA,PA
Aroclor-1268	NY,NC,VA,PA
Aroclor-1268 [2C]	NY,NC,VA,PA

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2024
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2024
NC	North Carolina Div. of Water Quality	652	12/31/2023
ME	State of Maine	MA00100	06/9/2025
VA	Commonwealth of Virginia	460217	12/14/2023
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2024

23H3260

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time

7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
1	P-161-R16SWP	8/16/2023	8:07	GRAB	O	U		1				x
2	P-162-R12SDW	8/16/2023	8:08	GRAB	O	U		1				x
3	P-163-R14WDW	8/16/2023	8:09	GRAB	O	U		1				x
4	P-164-R11WP	8/16/2023	8:10	GRAB	O	U		1				x
5	P-165-R16D	8/16/2023	8:11	GRAB	O	U		1				x
6	P-166-Ex	8/16/2023	8:12	GRAB	O	U		1				x
7	P-167-Ex	8/16/2023	8:13	GRAB	O	U		1				x
8	P-168-Ex	8/16/2023	8:14	GRAB	O	U		1				x
9	P-169-Ex	8/16/2023	8:15	GRAB	O	U		1				x
10	P-170-Ex	8/16/2023	8:16	GRAB	O	U		1				x

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time: 8-22-23 1258
Received by: (signature)	Date/Time: 8-22-23 1258
Relinquished by: (signature)	Date/Time: 8-22-23 1746
Received by: (signature)	Date/Time: 8/22/23
Relinquished by: (signature) 3.8, 2.2, 3.9	Date/Time:
Received by: (signature) 2.6, 5.6	Date/Time: 1742
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

NELAC and AIHA-LAP, LLC Accredited

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

23H3260

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time

7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
11	P-171-Ex	8/16/2023	8:17	GRAB	O	U		1				x
12	P-172-Ex	8/16/2023	8:18	GRAB	O	U		1				x
13	P-173-Ex	8/16/2023	8:19	GRAB	O	U		1				x
14	P-174-Ex	8/16/2023	8:20	GRAB	O	U		1				x
15	P-175-Ex	8/16/2023	8:21	GRAB	O	U		1				x
16	P-176-Ex	8/16/2023	8:22	GRAB	O	U		1				x
17	P-177-Ex	8/16/2023	8:23	GRAB	O	U		3				x
18	P-178-Ex	8/16/2023	8:24	GRAB	O	U		1				x
19	P-179-Ex	8/16/2023	8:25	GRAB	O	U		1				x
20	P-180-Ex	8/16/2023	8:26	GRAB	O	U		1				x

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS
GLASS
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time:	8/22/23 1258
Received by: (signature)	Date/Time:	8/22/23 1258
Relinquished by: (signature)	Date/Time:	8-22-23 1746
Received by: (signature)	Date/Time:	8-22-23 1746
Relinquished by: (signature) 38, 22, 3.9	Date/Time:	8/22/23
Received by: (signature) 26, 56	Date/Time:	1746
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other

☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist
	Effective Date: 07/13/2023

Log In Back-Sheet

Client: Nobis Group

Project: St Johnsbury Armory

MCP/RCP Required: no

Deliverable Package Requirement: none

Location: St Johnsbury, VT

PWSID# (When Applicable): n/a

Arrival Method:

Courier ☑ Fed Ex ☐ Walk In ☐ Other ☐

Received By / Date / Time: ER 8/22/23 1746

Back-Sheet By / Date / Time: MCM 8/22/23 2217

Temperature Method: Gun # 5

Temp < 6° C Actual Temperature: 22.26 38.39.56

Rush Samples: Yes / No Notify: No

Short Hold: Yes / No Notify: No

Notes regarding Samples/COC outside of SOP:

* Sample split into fifteen separate work orders

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy) Any False statement will be brought to the attention of the Client – True or False

	True	False
Received on Ice	☑	☐
Received in Cooler	☑	☐
Custody Seal: DATE TIME	☐	☑
COC Relinquished	☑	☐
COC/Samples Labels Agree	☑	☐
All Samples in Good Condition	☑	☐
Samples Received within Holding Time	☑	☐
Is there enough Volume	☑	☐
Proper Media/Container Used	☑	☐
Splitting Samples Required	☑ see notes	☐
MS/MSD	☑	☐
Trip Blanks	☐	☑
Lab to Filters	☐	☑
COC Legible	☑	☐

COC Included: (Check all included)

Client ☑ Analysis ☑ Sampler Name ☑

Project ☑ IDs ☑ Collection Date/Time ☑

All Samples Proper pH: N/A ☐ ☐

Additional Container Notes

Note: West Virginia requires all samples to have their temperature taken. Note any outliers.

Qualtrax ID: 120836

Pace ANALYTICAL SERVICES

DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist

Effective Date: 07/13/2023

Sample	Soils Jars (Circle Amb/Clear)			Ambers					Plastics										VOA Vials					Other / Fill in				
	16oz Amb/Clear	8oz Amb/Clear	4oz Amb/Clear	2oz Amb/Clear	1 Liter		250mL		100mL	1 Liter		500mL	250mL															
					Unpreserved	HCL	Sulfuric	Sulfuric	Phosphoric	HCl	Unpreserved	Unpreserved	Sulfuric	Unpreserved	Trizma	Sulfuric	Nitric	NaOH	Ammonium Acetate	NaOH/Zinc	Unpreserved	HCl	MeOH	D.I. Water	Bisulfate	Col/Bact				
1			1																									
2			1																									
3			1																									
4			1																									
5			1																									
6			1																									
7			1																									
8			1																									
9			1																									
10			1																									
11			1																									
12			1																									
13			1																									
14			1																									
15			1																									
16			1																									
17			3																									
18			1																									
19			1																									
20			1																									

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

September 12, 2023

Tim Andrews
Nobis Engineering
585 Middlesex Street
Lowell, MA 01851

Project Location: St. Johnsbury, VT
Client Job Number:
Project Number: S00001.017
Laboratory Work Order Number: 23H3261

Enclosed are results of analyses for samples as received by the laboratory on August 22, 2023. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Rebecca Faust
Project Manager

Table of Contents

Sample Summary 4

Case Narrative 5

Sample Results 6

23H3261-01 6

23H3261-02 7

23H3261-03 8

23H3261-04 9

23H3261-05 10

23H3261-06 11

23H3261-07 12

23H3261-08 13

23H3261-09 14

23H3261-10 15

23H3261-11 16

23H3261-12 17

23H3261-13 18

23H3261-14 19

23H3261-15 20

23H3261-16 21

23H3261-17 22

23H3261-18 23

23H3261-19 24

23H3261-20 25

Sample Preparation Information 26

QC Data 27

Table of Contents (continued)

Polychlorinated Biphenyls with 3540 Soxhlet Extraction 27

B351286 27

Dual Column RPD Report 29

Flag/Qualifier Summary 53

Certifications 54

Chain of Custody/Sample Receipt 55

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Nobis Engineering
585 Middlesex Street
Lowell, MA 01851
ATTN: Tim Andrews

REPORT DATE: 9/12/2023

PURCHASE ORDER NUMBER:

PROJECT NUMBER: S00001.017

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23H3261

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: St. Johnsbury, VT

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
P-181-EX	23H3261-01	Paint		SW-846 8082A	
P-182-EX	23H3261-02	Paint		SW-846 8082A	
P-183-EX	23H3261-03	Paint		SW-846 8082A	
P-184-EX	23H3261-04	Paint		SW-846 8082A	
P-185-EX	23H3261-05	Paint		SW-846 8082A	
P-186-EX	23H3261-06	Paint		SW-846 8082A	
P-187-EX	23H3261-07	Paint		SW-846 8082A	
P-188-EX	23H3261-08	Paint		SW-846 8082A	
P-189-EX	23H3261-09	Paint		SW-846 8082A	
P-190-EX	23H3261-10	Paint		SW-846 8082A	
P-191-EX	23H3261-11	Paint		SW-846 8082A	
P-192-EX	23H3261-12	Paint		SW-846 8082A	
P-193-GC	23H3261-13	Paint		SW-846 8082A	
P-194-GC	23H3261-14	Paint		SW-846 8082A	
P-195-GC	23H3261-15	Paint		SW-846 8082A	
P-196-GC	23H3261-16	Paint		SW-846 8082A	
P-197-GC	23H3261-17	Paint		SW-846 8082A	
P-198-GC	23H3261-18	Paint		SW-846 8082A	
P-199	23H3261-19	Paint		SW-846 8082A	
P-200	23H3261-20	Paint		SW-846 8082A	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

SW-846 8082A

Qualifications:

MS-21

Matrix spike and/or spike duplicate recovery bias high due to contribution of other Aroclors present in the source sample.

Analyte & Samples(s) Qualified:

Aroclor-1016
B351286-MS1, B351286-MSD1

Aroclor-1016 [2C]
B351286-MS1, B351286-MSD1

Aroclor-1260
B351286-MS1, B351286-MSD1

Aroclor-1260 [2C]
B351286-MS1, B351286-MSD1

S-01

The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

Analyte & Samples(s) Qualified:

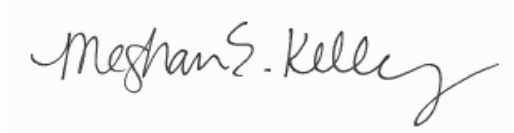
Decachlorobiphenyl
23H3261-04[P-184-EX], 23H3261-05[P-185-EX], 23H3261-06[P-186-EX], 23H3261-09[P-189-EX], B351286-MS1, B351286-MSD1

Decachlorobiphenyl [2C]
23H3261-04[P-184-EX], 23H3261-05[P-185-EX], 23H3261-06[P-186-EX], 23H3261-09[P-189-EX], B351286-MS1, B351286-MSD1

Tetrachloro-m-xylene
23H3261-04[P-184-EX], 23H3261-05[P-185-EX], 23H3261-06[P-186-EX], 23H3261-09[P-189-EX], B351286-MS1, B351286-MSD1

Tetrachloro-m-xylene [2C]
23H3261-04[P-184-EX], 23H3261-05[P-185-EX], 23H3261-06[P-186-EX], 23H3261-09[P-189-EX], B351286-MS1, B351286-MSD1

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Meghan E. Kelley
Reporting Specialist

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3261

Date Received: 8/22/2023

Field Sample #: P-181-EX | Sampled: 8/16/2023 08:27

Sample ID: 23H3261-01

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	2.3	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 9:37	TG
Aroclor-1221 [1]	ND	2.3	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 9:37	TG
Aroclor-1232 [1]	ND	2.3	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 9:37	TG
Aroclor-1242 [1]	ND	2.3	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 9:37	TG
Aroclor-1248 [1]	11	2.3	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 9:37	TG
Aroclor-1254 [2]	11	2.3	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 9:37	TG
Aroclor-1260 [1]	ND	2.3	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 9:37	TG
Aroclor-1262 [1]	ND	2.3	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 9:37	TG
Aroclor-1268 [1]	ND	2.3	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 9:37	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	102	30-150		9/12/23 9:37
Decachlorobiphenyl [2]	93.4	30-150		9/12/23 9:37
Tetrachloro-m-xylene [1]	101	30-150		9/12/23 9:37
Tetrachloro-m-xylene [2]	96.7	30-150		9/12/23 9:37

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3261

Date Received: 8/22/2023

Field Sample #: P-182-EX | Sampled: 8/16/2023 08:28

Sample ID: 23H3261-02

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	2.0	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 9:54	TG
Aroclor-1221 [1]	ND	2.0	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 9:54	TG
Aroclor-1232 [1]	ND	2.0	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 9:54	TG
Aroclor-1242 [1]	ND	2.0	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 9:54	TG
Aroclor-1248 [1]	8.8	2.0	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 9:54	TG
Aroclor-1254 [2]	12	2.0	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 9:54	TG
Aroclor-1260 [1]	ND	2.0	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 9:54	TG
Aroclor-1262 [1]	ND	2.0	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 9:54	TG
Aroclor-1268 [1]	ND	2.0	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 9:54	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	93.2	30-150		9/12/23 9:54
Decachlorobiphenyl [2]	86.0	30-150		9/12/23 9:54
Tetrachloro-m-xylene [1]	95.9	30-150		9/12/23 9:54
Tetrachloro-m-xylene [2]	91.1	30-150		9/12/23 9:54

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3261

Date Received: 8/22/2023

Field Sample #: P-183-EX | Sampled: 8/16/2023 08:29

Sample ID: 23H3261-03

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	2.1	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 10:11	TG
Aroclor-1221 [1]	ND	2.1	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 10:11	TG
Aroclor-1232 [1]	ND	2.1	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 10:11	TG
Aroclor-1242 [1]	ND	2.1	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 10:11	TG
Aroclor-1248 [1]	13	2.1	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 10:11	TG
Aroclor-1254 [2]	12	2.1	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 10:11	TG
Aroclor-1260 [1]	ND	2.1	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 10:11	TG
Aroclor-1262 [1]	ND	2.1	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 10:11	TG
Aroclor-1268 [1]	ND	2.1	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 10:11	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	98.4	30-150		9/12/23 10:11
Decachlorobiphenyl [2]	90.0	30-150		9/12/23 10:11
Tetrachloro-m-xylene [1]	99.4	30-150		9/12/23 10:11
Tetrachloro-m-xylene [2]	92.5	30-150		9/12/23 10:11

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3261

Date Received: 8/22/2023

Field Sample #: P-184-EX | Sampled: 8/16/2023 08:30

Sample ID: 23H3261-04

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	200	mg/Kg	500		SW-846 8082A	9/7/23	9/12/23 10:29	TG
Aroclor-1221 [1]	ND	200	mg/Kg	500		SW-846 8082A	9/7/23	9/12/23 10:29	TG
Aroclor-1232 [1]	ND	200	mg/Kg	500		SW-846 8082A	9/7/23	9/12/23 10:29	TG
Aroclor-1242 [1]	ND	200	mg/Kg	500		SW-846 8082A	9/7/23	9/12/23 10:29	TG
Aroclor-1248 [1]	ND	200	mg/Kg	500		SW-846 8082A	9/7/23	9/12/23 10:29	TG
Aroclor-1254 [2]	7500	200	mg/Kg	500		SW-846 8082A	9/7/23	9/12/23 10:29	TG
Aroclor-1260 [1]	ND	200	mg/Kg	500		SW-846 8082A	9/7/23	9/12/23 10:29	TG
Aroclor-1262 [1]	ND	200	mg/Kg	500		SW-846 8082A	9/7/23	9/12/23 10:29	TG
Aroclor-1268 [1]	ND	200	mg/Kg	500		SW-846 8082A	9/7/23	9/12/23 10:29	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/12/23 10:29
Decachlorobiphenyl [2]	*	30-150	S-01	9/12/23 10:29
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/12/23 10:29
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/12/23 10:29

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3261

Date Received: 8/22/2023

Field Sample #: P-185-EX | Sampled: 8/16/2023 08:31

Sample ID: 23H3261-05

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	230	mg/Kg	500		SW-846 8082A	9/7/23	9/12/23 10:46	TG
Aroclor-1221 [1]	ND	230	mg/Kg	500		SW-846 8082A	9/7/23	9/12/23 10:46	TG
Aroclor-1232 [1]	ND	230	mg/Kg	500		SW-846 8082A	9/7/23	9/12/23 10:46	TG
Aroclor-1242 [1]	ND	230	mg/Kg	500		SW-846 8082A	9/7/23	9/12/23 10:46	TG
Aroclor-1248 [1]	ND	230	mg/Kg	500		SW-846 8082A	9/7/23	9/12/23 10:46	TG
Aroclor-1254 [1]	7700	230	mg/Kg	500		SW-846 8082A	9/7/23	9/12/23 10:46	TG
Aroclor-1260 [1]	ND	230	mg/Kg	500		SW-846 8082A	9/7/23	9/12/23 10:46	TG
Aroclor-1262 [1]	ND	230	mg/Kg	500		SW-846 8082A	9/7/23	9/12/23 10:46	TG
Aroclor-1268 [1]	ND	230	mg/Kg	500		SW-846 8082A	9/7/23	9/12/23 10:46	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/12/23 10:46
Decachlorobiphenyl [2]	*	30-150	S-01	9/12/23 10:46
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/12/23 10:46
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/12/23 10:46

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3261

Date Received: 8/22/2023

Field Sample #: P-186-EX | Sampled: 8/16/2023 08:32

Sample ID: 23H3261-06

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	220	mg/Kg	500		SW-846 8082A	9/7/23	9/12/23 11:03	TG
Aroclor-1221 [1]	ND	220	mg/Kg	500		SW-846 8082A	9/7/23	9/12/23 11:03	TG
Aroclor-1232 [1]	ND	220	mg/Kg	500		SW-846 8082A	9/7/23	9/12/23 11:03	TG
Aroclor-1242 [1]	ND	220	mg/Kg	500		SW-846 8082A	9/7/23	9/12/23 11:03	TG
Aroclor-1248 [1]	ND	220	mg/Kg	500		SW-846 8082A	9/7/23	9/12/23 11:03	TG
Aroclor-1254 [1]	9600	220	mg/Kg	500		SW-846 8082A	9/7/23	9/12/23 11:03	TG
Aroclor-1260 [1]	ND	220	mg/Kg	500		SW-846 8082A	9/7/23	9/12/23 11:03	TG
Aroclor-1262 [1]	ND	220	mg/Kg	500		SW-846 8082A	9/7/23	9/12/23 11:03	TG
Aroclor-1268 [1]	ND	220	mg/Kg	500		SW-846 8082A	9/7/23	9/12/23 11:03	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/12/23 11:03
Decachlorobiphenyl [2]	*	30-150	S-01	9/12/23 11:03
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/12/23 11:03
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/12/23 11:03

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3261

Date Received: 8/22/2023

Field Sample #: P-187-EX | Sampled: 8/16/2023 08:33

Sample ID: 23H3261-07

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.3	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 11:20	TG
Aroclor-1221 [1]	ND	4.3	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 11:20	TG
Aroclor-1232 [1]	ND	4.3	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 11:20	TG
Aroclor-1242 [1]	ND	4.3	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 11:20	TG
Aroclor-1248 [1]	ND	4.3	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 11:20	TG
Aroclor-1254 [1]	38	4.3	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 11:20	TG
Aroclor-1260 [1]	ND	4.3	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 11:20	TG
Aroclor-1262 [1]	ND	4.3	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 11:20	TG
Aroclor-1268 [1]	ND	4.3	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 11:20	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	97.1	30-150		9/12/23 11:20
Decachlorobiphenyl [2]	88.3	30-150		9/12/23 11:20
Tetrachloro-m-xylene [1]	89.2	30-150		9/12/23 11:20
Tetrachloro-m-xylene [2]	82.5	30-150		9/12/23 11:20

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3261

Date Received: 8/22/2023

Field Sample #: P-188-EX | Sampled: 8/16/2023 08:34

Sample ID: 23H3261-08

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	8.1	mg/Kg	20		SW-846 8082A	9/7/23	9/12/23 11:37	TG
Aroclor-1221 [1]	ND	8.1	mg/Kg	20		SW-846 8082A	9/7/23	9/12/23 11:37	TG
Aroclor-1232 [1]	ND	8.1	mg/Kg	20		SW-846 8082A	9/7/23	9/12/23 11:37	TG
Aroclor-1242 [1]	ND	8.1	mg/Kg	20		SW-846 8082A	9/7/23	9/12/23 11:37	TG
Aroclor-1248 [1]	ND	8.1	mg/Kg	20		SW-846 8082A	9/7/23	9/12/23 11:37	TG
Aroclor-1254 [1]	110	8.1	mg/Kg	20		SW-846 8082A	9/7/23	9/12/23 11:37	TG
Aroclor-1260 [1]	ND	8.1	mg/Kg	20		SW-846 8082A	9/7/23	9/12/23 11:37	TG
Aroclor-1262 [1]	ND	8.1	mg/Kg	20		SW-846 8082A	9/7/23	9/12/23 11:37	TG
Aroclor-1268 [1]	ND	8.1	mg/Kg	20		SW-846 8082A	9/7/23	9/12/23 11:37	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	119	30-150		9/12/23 11:37
Decachlorobiphenyl [2]	108	30-150		9/12/23 11:37
Tetrachloro-m-xylene [1]	109	30-150		9/12/23 11:37
Tetrachloro-m-xylene [2]	100	30-150		9/12/23 11:37

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3261

Date Received: 8/22/2023

Field Sample #: P-189-EX | Sampled: 8/16/2023 08:35

Sample ID: 23H3261-09

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	21	mg/Kg	50		SW-846 8082A	9/7/23	9/12/23 11:54	TG
Aroclor-1221 [1]	ND	21	mg/Kg	50		SW-846 8082A	9/7/23	9/12/23 11:54	TG
Aroclor-1232 [1]	ND	21	mg/Kg	50		SW-846 8082A	9/7/23	9/12/23 11:54	TG
Aroclor-1242 [1]	ND	21	mg/Kg	50		SW-846 8082A	9/7/23	9/12/23 11:54	TG
Aroclor-1248 [1]	ND	21	mg/Kg	50		SW-846 8082A	9/7/23	9/12/23 11:54	TG
Aroclor-1254 [1]	360	21	mg/Kg	50		SW-846 8082A	9/7/23	9/12/23 11:54	TG
Aroclor-1260 [1]	ND	21	mg/Kg	50		SW-846 8082A	9/7/23	9/12/23 11:54	TG
Aroclor-1262 [1]	ND	21	mg/Kg	50		SW-846 8082A	9/7/23	9/12/23 11:54	TG
Aroclor-1268 [1]	ND	21	mg/Kg	50		SW-846 8082A	9/7/23	9/12/23 11:54	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/12/23 11:54
Decachlorobiphenyl [2]	*	30-150	S-01	9/12/23 11:54
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/12/23 11:54
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/12/23 11:54

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3261

Date Received: 8/22/2023

Field Sample #: P-190-EX | Sampled: 8/16/2023 08:36

Sample ID: 23H3261-10

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.45	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 12:12	TG
Aroclor-1221 [1]	ND	0.45	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 12:12	TG
Aroclor-1232 [1]	ND	0.45	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 12:12	TG
Aroclor-1242 [1]	ND	0.45	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 12:12	TG
Aroclor-1248 [1]	ND	0.45	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 12:12	TG
Aroclor-1254 [1]	1.1	0.45	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 12:12	TG
Aroclor-1260 [1]	ND	0.45	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 12:12	TG
Aroclor-1262 [1]	ND	0.45	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 12:12	TG
Aroclor-1268 [1]	ND	0.45	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 12:12	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	98.2	30-150		9/12/23 12:12
Decachlorobiphenyl [2]	94.5	30-150		9/12/23 12:12
Tetrachloro-m-xylene [1]	93.3	30-150		9/12/23 12:12
Tetrachloro-m-xylene [2]	93.6	30-150		9/12/23 12:12

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3261

Date Received: 8/22/2023

Field Sample #: P-191-EX | Sampled: 8/16/2023 08:37

Sample ID: 23H3261-11

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.44	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 9:56	TG
Aroclor-1221 [1]	ND	0.44	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 9:56	TG
Aroclor-1232 [1]	ND	0.44	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 9:56	TG
Aroclor-1242 [1]	ND	0.44	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 9:56	TG
Aroclor-1248 [1]	ND	0.44	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 9:56	TG
Aroclor-1254 [2]	1.0	0.44	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 9:56	TG
Aroclor-1260 [1]	ND	0.44	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 9:56	TG
Aroclor-1262 [1]	ND	0.44	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 9:56	TG
Aroclor-1268 [1]	ND	0.44	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 9:56	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	82.5	30-150		9/12/23 9:56
Decachlorobiphenyl [2]	80.9	30-150		9/12/23 9:56
Tetrachloro-m-xylene [1]	81.2	30-150		9/12/23 9:56
Tetrachloro-m-xylene [2]	85.3	30-150		9/12/23 9:56

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3261

Date Received: 8/22/2023

Field Sample #: P-192-EX | Sampled: 8/16/2023 08:38

Sample ID: 23H3261-12

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.41	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 10:08	TG
Aroclor-1221 [1]	ND	0.41	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 10:08	TG
Aroclor-1232 [1]	ND	0.41	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 10:08	TG
Aroclor-1242 [1]	ND	0.41	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 10:08	TG
Aroclor-1248 [1]	ND	0.41	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 10:08	TG
Aroclor-1254 [2]	1.7	0.41	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 10:08	TG
Aroclor-1260 [1]	ND	0.41	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 10:08	TG
Aroclor-1262 [1]	ND	0.41	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 10:08	TG
Aroclor-1268 [1]	ND	0.41	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 10:08	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	77.1	30-150		9/12/23 10:08
Decachlorobiphenyl [2]	76.5	30-150		9/12/23 10:08
Tetrachloro-m-xylene [1]	76.5	30-150		9/12/23 10:08
Tetrachloro-m-xylene [2]	80.6	30-150		9/12/23 10:08

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3261

Date Received: 8/22/2023

Field Sample #: P-193-GC | Sampled: 8/16/2023 08:39

Sample ID: 23H3261-13

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.48	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 10:26	TG
Aroclor-1221 [1]	ND	0.48	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 10:26	TG
Aroclor-1232 [1]	ND	0.48	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 10:26	TG
Aroclor-1242 [1]	ND	0.48	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 10:26	TG
Aroclor-1248 [1]	ND	0.48	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 10:26	TG
Aroclor-1254 [2]	1.6	0.48	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 10:26	TG
Aroclor-1260 [1]	ND	0.48	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 10:26	TG
Aroclor-1262 [1]	ND	0.48	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 10:26	TG
Aroclor-1268 [1]	ND	0.48	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 10:26	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	81.7	30-150		9/12/23 10:26
Decachlorobiphenyl [2]	81.7	30-150		9/12/23 10:26
Tetrachloro-m-xylene [1]	83.1	30-150		9/12/23 10:26
Tetrachloro-m-xylene [2]	85.6	30-150		9/12/23 10:26

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3261

Date Received: 8/22/2023

Field Sample #: P-194-GC | Sampled: 8/16/2023 08:40

Sample ID: 23H3261-14

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.38	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 10:43	TG
Aroclor-1221 [1]	ND	0.38	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 10:43	TG
Aroclor-1232 [1]	ND	0.38	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 10:43	TG
Aroclor-1242 [1]	ND	0.38	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 10:43	TG
Aroclor-1248 [1]	ND	0.38	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 10:43	TG
Aroclor-1254 [1]	0.64	0.38	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 10:43	TG
Aroclor-1260 [1]	ND	0.38	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 10:43	TG
Aroclor-1262 [1]	ND	0.38	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 10:43	TG
Aroclor-1268 [1]	ND	0.38	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 10:43	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	83.8	30-150		9/12/23 10:43
Decachlorobiphenyl [2]	82.3	30-150		9/12/23 10:43
Tetrachloro-m-xylene [1]	82.3	30-150		9/12/23 10:43
Tetrachloro-m-xylene [2]	85.3	30-150		9/12/23 10:43

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3261

Date Received: 8/22/2023

Field Sample #: P-195-GC | Sampled: 8/16/2023 08:41

Sample ID: 23H3261-15

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.37	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 11:01	TG
Aroclor-1221 [1]	ND	0.37	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 11:01	TG
Aroclor-1232 [1]	ND	0.37	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 11:01	TG
Aroclor-1242 [1]	ND	0.37	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 11:01	TG
Aroclor-1248 [1]	ND	0.37	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 11:01	TG
Aroclor-1254 [2]	0.85	0.37	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 11:01	TG
Aroclor-1260 [1]	ND	0.37	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 11:01	TG
Aroclor-1262 [1]	ND	0.37	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 11:01	TG
Aroclor-1268 [1]	ND	0.37	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 11:01	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	80.6	30-150		9/12/23 11:01
Decachlorobiphenyl [2]	80.9	30-150		9/12/23 11:01
Tetrachloro-m-xylene [1]	81.9	30-150		9/12/23 11:01
Tetrachloro-m-xylene [2]	84.9	30-150		9/12/23 11:01

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3261

Date Received: 8/22/2023

Field Sample #: P-196-GC | Sampled: 8/16/2023 08:42

Sample ID: 23H3261-16

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.42	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 11:18	TG
Aroclor-1221 [1]	ND	0.42	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 11:18	TG
Aroclor-1232 [1]	ND	0.42	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 11:18	TG
Aroclor-1242 [1]	ND	0.42	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 11:18	TG
Aroclor-1248 [1]	ND	0.42	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 11:18	TG
Aroclor-1254 [1]	1.5	0.42	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 11:18	TG
Aroclor-1260 [1]	ND	0.42	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 11:18	TG
Aroclor-1262 [1]	ND	0.42	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 11:18	TG
Aroclor-1268 [1]	ND	0.42	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 11:18	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	83.4	30-150		9/12/23 11:18
Decachlorobiphenyl [2]	82.0	30-150		9/12/23 11:18
Tetrachloro-m-xylene [1]	82.2	30-150		9/12/23 11:18
Tetrachloro-m-xylene [2]	84.8	30-150		9/12/23 11:18

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3261

Date Received: 8/22/2023

Field Sample #: P-197-GC | Sampled: 8/16/2023 08:43

Sample ID: 23H3261-17

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.37	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 11:35	TG
Aroclor-1221 [1]	ND	0.37	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 11:35	TG
Aroclor-1232 [1]	ND	0.37	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 11:35	TG
Aroclor-1242 [1]	ND	0.37	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 11:35	TG
Aroclor-1248 [1]	ND	0.37	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 11:35	TG
Aroclor-1254 [1]	0.57	0.37	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 11:35	TG
Aroclor-1260 [1]	ND	0.37	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 11:35	TG
Aroclor-1262 [1]	ND	0.37	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 11:35	TG
Aroclor-1268 [1]	ND	0.37	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 11:35	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	71.4	30-150		9/12/23 11:35
Decachlorobiphenyl [2]	70.1	30-150		9/12/23 11:35
Tetrachloro-m-xylene [1]	69.8	30-150		9/12/23 11:35
Tetrachloro-m-xylene [2]	72.8	30-150		9/12/23 11:35

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3261

Date Received: 8/22/2023

Field Sample #: P-198-GC | Sampled: 8/16/2023 08:44

Sample ID: 23H3261-18

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.40	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 11:53	TG
Aroclor-1221 [1]	ND	0.40	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 11:53	TG
Aroclor-1232 [1]	ND	0.40	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 11:53	TG
Aroclor-1242 [1]	ND	0.40	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 11:53	TG
Aroclor-1248 [1]	ND	0.40	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 11:53	TG
Aroclor-1254 [2]	1.1	0.40	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 11:53	TG
Aroclor-1260 [1]	ND	0.40	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 11:53	TG
Aroclor-1262 [1]	ND	0.40	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 11:53	TG
Aroclor-1268 [1]	ND	0.40	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 11:53	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	85.3	30-150		9/12/23 11:53
Decachlorobiphenyl [2]	84.0	30-150		9/12/23 11:53
Tetrachloro-m-xylene [1]	83.8	30-150		9/12/23 11:53
Tetrachloro-m-xylene [2]	87.1	30-150		9/12/23 11:53

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3261

Date Received: 8/22/2023

Field Sample #: P-199 | Sampled: 8/16/2023 08:45

Sample ID: 23H3261-19

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	1.9	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 12:10	TG
Aroclor-1221 [1]	ND	1.9	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 12:10	TG
Aroclor-1232 [1]	ND	1.9	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 12:10	TG
Aroclor-1242 [1]	ND	1.9	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 12:10	TG
Aroclor-1248 [1]	ND	1.9	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 12:10	TG
Aroclor-1254 [2]	7.6	1.9	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 12:10	TG
Aroclor-1260 [1]	ND	1.9	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 12:10	TG
Aroclor-1262 [1]	ND	1.9	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 12:10	TG
Aroclor-1268 [1]	ND	1.9	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 12:10	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	80.2	30-150		9/12/23 12:10
Decachlorobiphenyl [2]	78.2	30-150		9/12/23 12:10
Tetrachloro-m-xylene [1]	81.3	30-150		9/12/23 12:10
Tetrachloro-m-xylene [2]	80.8	30-150		9/12/23 12:10

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3261

Date Received: 8/22/2023

Field Sample #: P-200 | Sampled: 8/16/2023 08:46

Sample ID: 23H3261-20

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.46	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 12:28	TG
Aroclor-1221 [1]	ND	0.46	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 12:28	TG
Aroclor-1232 [1]	ND	0.46	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 12:28	TG
Aroclor-1242 [1]	ND	0.46	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 12:28	TG
Aroclor-1248 [1]	ND	0.46	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 12:28	TG
Aroclor-1254 [1]	4.6	0.46	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 12:28	TG
Aroclor-1260 [1]	ND	0.46	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 12:28	TG
Aroclor-1262 [1]	ND	0.46	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 12:28	TG
Aroclor-1268 [1]	ND	0.46	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 12:28	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	70.4	30-150		9/12/23 12:28
Decachlorobiphenyl [2]	70.9	30-150		9/12/23 12:28
Tetrachloro-m-xylene [1]	72.8	30-150		9/12/23 12:28
Tetrachloro-m-xylene [2]	74.6	30-150		9/12/23 12:28

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method:SW-846 3540C **Analytical Method:SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23H3261-01 [P-181-EX]	B351286	0.214	10.0	09/07/23
23H3261-02 [P-182-EX]	B351286	0.253	10.0	09/07/23
23H3261-03 [P-183-EX]	B351286	0.234	10.0	09/07/23
23H3261-04 [P-184-EX]	B351286	0.248	10.0	09/07/23
23H3261-05 [P-185-EX]	B351286	0.220	10.0	09/07/23
23H3261-06 [P-186-EX]	B351286	0.223	10.0	09/07/23
23H3261-07 [P-187-EX]	B351286	0.231	10.0	09/07/23
23H3261-08 [P-188-EX]	B351286	0.246	10.0	09/07/23
23H3261-09 [P-189-EX]	B351286	0.243	10.0	09/07/23
23H3261-10 [P-190-EX]	B351286	0.224	10.0	09/07/23
23H3261-11 [P-191-EX]	B351286	0.229	10.0	09/07/23
23H3261-12 [P-192-EX]	B351286	0.242	10.0	09/07/23
23H3261-13 [P-193-GC]	B351286	0.210	10.0	09/07/23
23H3261-14 [P-194-GC]	B351286	0.264	10.0	09/07/23
23H3261-15 [P-195-GC]	B351286	0.270	10.0	09/07/23
23H3261-16 [P-196-GC]	B351286	0.239	10.0	09/07/23
23H3261-17 [P-197-GC]	B351286	0.270	10.0	09/07/23
23H3261-18 [P-198-GC]	B351286	0.249	10.0	09/07/23
23H3261-19 [P-199]	B351286	0.265	10.0	09/07/23
23H3261-20 [P-200]	B351286	0.216	10.0	09/07/23

con-test® A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B351286 - SW-846 3540C										
Blank (B351286-BLK1)				Prepared: 09/07/23 Analyzed: 09/12/23						
Aroclor-1016	ND	0.48	mg/Kg							
Aroclor-1016 [2C]	ND	0.48	mg/Kg							
Aroclor-1221	ND	0.48	mg/Kg							
Aroclor-1221 [2C]	ND	0.48	mg/Kg							
Aroclor-1232	ND	0.48	mg/Kg							
Aroclor-1232 [2C]	ND	0.48	mg/Kg							
Aroclor-1242	ND	0.48	mg/Kg							
Aroclor-1242 [2C]	ND	0.48	mg/Kg							
Aroclor-1248	ND	0.48	mg/Kg							
Aroclor-1248 [2C]	ND	0.48	mg/Kg							
Aroclor-1254	ND	0.48	mg/Kg							
Aroclor-1254 [2C]	ND	0.48	mg/Kg							
Aroclor-1260	ND	0.48	mg/Kg							
Aroclor-1260 [2C]	ND	0.48	mg/Kg							
Aroclor-1262	ND	0.48	mg/Kg							
Aroclor-1262 [2C]	ND	0.48	mg/Kg							
Aroclor-1268	ND	0.48	mg/Kg							
Aroclor-1268 [2C]	ND	0.48	mg/Kg							
Surrogate: Decachlorobiphenyl	*9.39*		mg/Kg	9.62		97.6	30-150			
Surrogate: Decachlorobiphenyl [2C]	*8.73*		mg/Kg	9.62		90.7	30-150			
Surrogate: Tetrachloro-m-xylene	*8.64*		mg/Kg	9.62		89.8	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*8.43*		mg/Kg	9.62		87.6	30-150			
LCS (B351286-BS1)				Prepared: 09/07/23 Analyzed: 09/12/23						
Aroclor-1016	1.8	0.37	mg/Kg	1.87		94.5	40-140			
Aroclor-1016 [2C]	1.7	0.37	mg/Kg	1.87		91.3	40-140			
Aroclor-1260	1.6	0.37	mg/Kg	1.87		84.7	40-140			
Aroclor-1260 [2C]	1.5	0.37	mg/Kg	1.87		80.7	40-140			
Surrogate: Decachlorobiphenyl	*7.08*		mg/Kg	7.47		94.8	30-150			
Surrogate: Decachlorobiphenyl [2C]	*6.71*		mg/Kg	7.47		89.8	30-150			
Surrogate: Tetrachloro-m-xylene	*7.00*		mg/Kg	7.47		93.6	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*6.78*		mg/Kg	7.47		90.8	30-150			
LCS Dup (B351286-BSD1)				Prepared: 09/07/23 Analyzed: 09/12/23						
Aroclor-1016	2.2	0.49	mg/Kg	2.46		88.0	40-140	20.4	30	
Aroclor-1016 [2C]	2.1	0.49	mg/Kg	2.46		85.0	40-140	20.5	30	
Aroclor-1260	1.9	0.49	mg/Kg	2.46		77.0	40-140	18.1	30	
Aroclor-1260 [2C]	1.9	0.49	mg/Kg	2.46		79.1	40-140	25.6	30	
Surrogate: Decachlorobiphenyl	*9.56*		mg/Kg	9.85		97.0	30-150			
Surrogate: Decachlorobiphenyl [2C]	*9.12*		mg/Kg	9.85		92.5	30-150			
Surrogate: Tetrachloro-m-xylene	*9.43*		mg/Kg	9.85		95.7	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*9.31*		mg/Kg	9.85		94.5	30-150			

con-test® A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B351286 - SW-846 3540C											
Matrix Spike (B351286-MS1)	**Source: 23H3261-09**			Prepared: 09/07/23 Analyzed: 09/12/23							
Aroclor-1016	13	19	mg/Kg	1.91	ND	**678**	*	40-140			MS-21
Aroclor-1016 [2C]	32	19	mg/Kg	1.91	ND	**1680**	*	40-140			MS-21
Aroclor-1260	130	19	mg/Kg	1.91	ND	**6780**	*	40-140			MS-21
Aroclor-1260 [2C]	110	19	mg/Kg	1.91	ND	**5830**	*	40-140			MS-21
Surrogate: Decachlorobiphenyl	*0.00*		mg/Kg	7.64			*	30-150			S-01
Surrogate: Decachlorobiphenyl [2C]	*0.00*		mg/Kg	7.64			*	30-150			S-01
Surrogate: Tetrachloro-m-xylene	*0.00*		mg/Kg	7.64			*	30-150			S-01
Surrogate: Tetrachloro-m-xylene [2C]	*0.00*		mg/Kg	7.64			*	30-150			S-01
Matrix Spike Dup (B351286-MSD1)	**Source: 23H3261-09**			Prepared: 09/07/23 Analyzed: 09/12/23							
Aroclor-1016	13	20	mg/Kg	1.95	ND	**677**	*	40-140	2.18	50	MS-21
Aroclor-1016 [2C]	30	20	mg/Kg	1.95	ND	**1550**	*	40-140	6.03	50	MS-21
Aroclor-1260	160	20	mg/Kg	1.95	ND	**8070**	*	40-140	19.6	50	MS-21
Aroclor-1260 [2C]	120	20	mg/Kg	1.95	ND	**6300**	*	40-140	9.98	50	MS-21
Surrogate: Decachlorobiphenyl	*0.00*		mg/Kg	7.82			*	30-150			S-01
Surrogate: Decachlorobiphenyl [2C]	*0.00*		mg/Kg	7.82			*	30-150			S-01
Surrogate: Tetrachloro-m-xylene	*0.00*		mg/Kg	7.82			*	30-150			S-01
Surrogate: Tetrachloro-m-xylene [2C]	*0.00*		mg/Kg	7.82			*	30-150			S-01

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-181-EX

Lab Sample ID: 23H3261-01 Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1248	1	0.000	0.000	0.000	11	
	2	0.000	0.000	0.000	10	9.5
Aroclor-1254	1	0.000	0.000	0.000	9.6	
	2	0.000	0.000	0.000	11	13.6

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-182-EX

Lab Sample ID: 23H3261-02

Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1248	1	0.000	0.000	0.000	8.8	
	2	0.000	0.000	0.000	7.5	16.0
Aroclor-1254	1	0.000	0.000	0.000	10	
	2	0.000	0.000	0.000	12	18.2

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-183-EX

Lab Sample ID: 23H3261-03

Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1248	1	0.000	0.000	0.000	13	
	2	0.000	0.000	0.000	11	16.7
Aroclor-1254	1	0.000	0.000	0.000	10	
	2	0.000	0.000	0.000	12	18.2

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-184-EX

Lab Sample ID: 23H3261-04 Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	7500	
	2	0.000	0.000	0.000	7500	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-185-EX

Lab Sample ID: 23H3261-05 Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	7700	
	2	0.000	0.000	0.000	7300	5.3

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-186-EX

Lab Sample ID: 23H3261-06 Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	9600	
	2	0.000	0.000	0.000	9100	5.4

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-187-EX

Lab Sample ID: 23H3261-07

Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	38	
	2	0.000	0.000	0.000	37	2.7

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-188-EX

Lab Sample ID: 23H3261-08 Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	110	
	2	0.000	0.000	0.000	110	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-189-EX

Lab Sample ID: 23H3261-09 Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	360	
	2	0.000	0.000	0.000	350	2.8

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-190-EX

Lab Sample ID: 23H3261-10

Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	1.1	
	2	0.000	0.000	0.000	0.85	25.6

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-191-EX

Lab Sample ID: 23H3261-11

Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	0.79	
	2	0.000	0.000	0.000	1.0	23.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-192-EX

Lab Sample ID: 23H3261-12

Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	1.5	
	2	0.000	0.000	0.000	1.7	12.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-193-GC

Lab Sample ID: 23H3261-13

Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	1.4	
	2	0.000	0.000	0.000	1.6	6.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-194-GC

Lab Sample ID: 23H3261-14

Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	0.64	
	2	0.000	0.000	0.000	0.56	13.3

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-195-GC

Lab Sample ID: 23H3261-15

Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	0.82	
	2	0.000	0.000	0.000	0.85	3.6

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-196-GC

Lab Sample ID: 23H3261-16

Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	1.5	
	2	0.000	0.000	0.000	1.4	6.9

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-197-GC

Lab Sample ID: 23H3261-17

Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	0.57	
	2	0.000	0.000	0.000	0.52	9.2

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-198-GC

Lab Sample ID: 23H3261-18

Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	1.0	
	2	0.000	0.000	0.000	1.1	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-199

Lab Sample ID: 23H3261-19

Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	5.8	
	2	0.000	0.000	0.000	7.6	26.9

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-200

Lab Sample ID: 23H3261-20

Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	4.6	
	2	0.000	0.000	0.000	4.0	14.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B351286-BS1

Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	1.8	
	2	0.000	0.000	0.000	1.7	5.7
Aroclor-1260	1	0.000	0.000	0.000	1.6	
	2	0.000	0.000	0.000	1.5	6.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B351286-BSD1 Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	2.2	
	2	0.000	0.000	0.000	2.1	4.7
Aroclor-1260	1	0.000	0.000	0.000	1.9	
	2	0.000	0.000	0.000	1.9	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike

Lab Sample ID: B351286-MS1 Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	13	
	2	0.000	0.000	0.000	32	84.4
Aroclor-1260	1	0.000	0.000	0.000	130	
	2	0.000	0.000	0.000	110	16.7

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike Dup

Lab Sample ID: B351286-MSD1 Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	13	
	2	0.000	0.000	0.000	30	79.1
Aroclor-1260	1	0.000	0.000	0.000	160	
	2	0.000	0.000	0.000	120	28.6

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
MS-21	Matrix spike and/or spike duplicate recovery bias high due to contribution of other Aroclors present in the source sample.
S-01	The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications

No certified Analyses included in this Report

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires

2343261

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time
7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
1	P-181-Ex	8/16/2023	8;27	GRAB	O	U		1				x
2	P-182-Ex	8/16/2023	8:28	GRAB	O	U		1				x
3	P-183-Ex	8/16/2023	8:29	GRAB	O	U		1				x
4	P-184-Ex	8/16/2023	8:30	GRAB	O	U		1				x
5	P-185-Ex	8/16/2023	8:31	GRAB	O	U		1				x
6	P-186-Ex	8/16/2023	8:32	GRAB	O	U		1				x
7	P-187-Ex	8/16/2023	8:33	GRAB	O	U		1				x
8	P-188-Ex	8/16/2023	8:34	GRAB	O	U		1				x
9	P-189-Ex	8/16/2023	8:35	GRAB	O	U		3				x
10	P-190-Ex	8/16/2023	8:36	GRAB	O	U		1				x

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time: 1245 8.2.23	Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS
Received by: (signature)	Date/Time: 1245 8.2.23	
Relinquished by: (signature)	Date/Time: 1746 8.2.23	
Received by: (signature) 38.2, 5.9	Date/Time: 8/2/23	
Relinquished by: (signature) 26, 5.6	Date/Time: 1746	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

23H13261

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time
7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
11	P-191-Ex	8/16/2023	8:37	GRAB	O	U		1				x
12	P-192-Ex	8/16/2023	8:38	GRAB	O	U		1				x
13	P-193-GC	8/16/2023	8:39	GRAB	O	U		1				x
14	P-194-GC	8/16/2023	8:40	GRAB	O	U		1				x
15	P-195-GC	8/16/2023	8:41	GRAB	O	U		1				x
16	P-196-GC	8/16/2023	8:42	GRAB	O	U		1				x
17	P-197-GC	8/16/2023	8:43	GRAB	O	U		1				x
18	P-198-GC	8/16/2023	8:44	GRAB	O	U		1				x
19	P-199	8/16/2023	8:45	GRAB	O	U		1				x
20	P-200	8/16/2023	8:46	GRAB	O	U		1				x

[1] Preservation Code
Lauer Use Only
Total Number Of:
VIALS
GLASS
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

	Date/Time:
Relinquished by: (signature)	8-22-23 1325
Received by: (signature)	Date/Time: 8-22-23 1325
Relinquished by: (signature)	Date/Time: 8-22-23 1746
Received by: (signature) 3.8, 2.2, 3.9	Date/Time: 8/22/23
Relinquished by: (signature) 26, 5.6	Date/Time: 1746
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist
	Effective Date: 07/13/2023

Log In Back-Sheet

Client: Nobis Group

Project: St Johnsbury Armory

MCP/RCP Required: no

Deliverable Package Requirement: none

Location: St Johnsbury, VT

PWSID# (When Applicable): n/a

Arrival Method:

Courier ☑ Fed Ex ☐ Walk In ☐ Other ☐

Received By / Date / Time: ER 8/22/23 1746

Back-Sheet By / Date / Time: Mem 8/22/23 2217

Temperature Method: Gun # 5

Temp < 6° C Actual Temperature: 22.26, 38.39.56

Rush Samples: Yes / No Notify: No

Short Hold: Yes / No Notify: No

Notes regarding Samples/COC outside of SOP:

* Sample split into fifteen seperate work orders

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy) Any False statement will be brought to the attention of the Client – True or False

	True	False
Received on Ice	☑	☐
Received in Cooler	☑	☐
Custody Seal: DATE TIME	☐	☑
COC Relinquished	☑	☐
COC/Samples Labels Agree	☑	☐
All Samples in Good Condition	☑	☐
Samples Received within Holding Time	☑	☐
Is there enough Volume	☑	☐
Proper Media/Container Used	☑	☐
Splitting Samples Required	☑ see notes	☐
MS/MSD	☑	☐
Trip Blanks	☐	☑
Lab to Filters	☐	☑
COC Legible	☑	☐

COC Included: (Check all included)

Client ☑ Analysis ☑ Sampler Name ☑

Project ☑ IDs ☑ Collection Date/Time ☑

All Samples Proper pH: N/A ☐ ☐

Additional Container Notes

Note: West Virginia requires all samples to have their temperature taken. Note any outliers.

Qualtrax ID: 120836

DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist	Effective Date: 07/13/2023

Sample	Soils Jars (Circle Amb/Clear)				Ambers				Plastics												VOA Vials					Other / Fill in				
	16oz Amb/Clear	8oz Amb/Clear	4oz Amb/Clear	2oz Amb/Clear	1 Liter			250mL	100mL	1 Liter			500mL		250mL															
					Unpreserved	HCL	Sulfuric	Sulfuric	Unpreserved	Unpreserved	Sulfuric	Unpreserved	Sulfuric	Unpreserved	HCl	Phosphoric	Sulfuric	Unpreserved	Zinc Acetate	NaOH	Nitric	Sulfuric	Unpreserved	Ammonium Acetate	NaOH/Zinc	Unpreserved	HCl	MeOH	D.I. Water	Bisulfate	Col/Bact	
1			1																											
2			1																											
3			1																											
4			1																											
5			1																											
6			1																											
7			1																											
8			1																											
9			3																											
10			1																											
11			1																											
12			1																											
13			1																											
14			1																											
15			1																											
16			1																											
17			1																											
18			1																											
19			1																											
20			1																											

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

September 13, 2023

Tim Andrews
Nobis Engineering
585 Middlesex Street
Lowell, MA 01851

Project Location: St. Johnsbury, VT
Client Job Number:
Project Number: S00001.017
Laboratory Work Order Number: 23H3264

Enclosed are results of analyses for samples as received by the laboratory on August 22, 2023. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Rebecca Faust
Project Manager

Table of Contents

Sample Summary 4

Case Narrative 5

Sample Results 6

23H3264-01 6

23H3264-02 7

23H3264-03 8

23H3264-04 9

23H3264-05 10

23H3264-06 11

23H3264-07 12

23H3264-08 13

23H3264-09 14

23H3264-10 15

23H3264-11 16

23H3264-12 17

23H3264-13 18

23H3264-14 19

23H3264-15 20

23H3264-16 21

23H3264-17 22

23H3264-18 23

23H3264-19 24

23H3264-20 25

Sample Preparation Information 26

QC Data 27

Table of Contents (continued)

Polychlorinated Biphenyls with 3540 Soxhlet Extraction 27

B351289 27

B351344 28

B351347 29

Dual Column RPD Report 30

Flag/Qualifier Summary 56

Certifications 57

Chain of Custody/Sample Receipt 58

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Nobis Engineering
585 Middlesex Street
Lowell, MA 01851
ATTN: Tim Andrews

REPORT DATE: 9/13/2023

PURCHASE ORDER NUMBER:

PROJECT NUMBER: S00001.017

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23H3264

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: St. Johnsbury, VT

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
P-201	23H3264-01	Product/Solid		SW-846 8082A	
P-202	23H3264-02	Paint		SW-846 8082A	
P-203-EX	23H3264-03	Product/Solid		SW-846 8082A	
P-204-R17W	23H3264-04	Paint		SW-846 8082A	
P-205-R17W	23H3264-05	Paint		SW-846 8082A	
P-206-R17W	23H3264-06	Paint		SW-846 8082A	
P-207-R16C	23H3264-07	Paint		SW-846 8082A	
P-208-R14SP	23H3264-08	Product/Solid		SW-846 8082A	
P-209-R16SP	23H3264-09	Product/Solid		SW-846 8082A	
P-210-R16NWP	23H3264-10	Paint		SW-846 8082A	
P-211-R15CP	23H3264-11	Product/Solid		SW-846 8082A	
P-212-R11EP	23H3264-12	Paint		SW-846 8082A	
P-213-R12CPB	23H3264-13	Paint		SW-846 8082A	
P-214-R12CDW	23H3264-14	Product/Solid		SW-846 8082A	
P-215-R15CPW	23H3264-15	Paint		SW-846 8082A	
P-216-R13CP	23H3264-16	Product/Solid		SW-846 8082A	
P-217-R11SDW	23H3264-17	Paint		SW-846 8082A	
P-218-R13WT	23H3264-18	Paint		SW-846 8082A	
P-219-R14EDW	23H3264-19	Paint		SW-846 8082A	
P-220-S12C	23H3264-20	Product/Solid		SW-846 8082A	

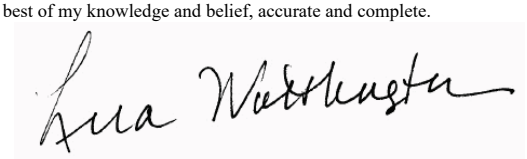
con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Lisa A. Worthington
Technical Representative

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3264

Date Received: 8/22/2023

Field Sample #: P-201 | Sampled: 8/16/2023 08:47

Sample ID: 23H3264-01

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	9/7/23	9/13/23 10:42	SFM
Aroclor-1221 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	9/7/23	9/13/23 10:42	SFM
Aroclor-1232 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	9/7/23	9/13/23 10:42	SFM
Aroclor-1242 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	9/7/23	9/13/23 10:42	SFM
Aroclor-1248 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	9/7/23	9/13/23 10:42	SFM
Aroclor-1254 [1]	7.9	1.0	mg/Kg	10		SW-846 8082A	9/7/23	9/13/23 10:42	SFM
Aroclor-1260 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	9/7/23	9/13/23 10:42	SFM
Aroclor-1262 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	9/7/23	9/13/23 10:42	SFM
Aroclor-1268 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	9/7/23	9/13/23 10:42	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	96.8	30-150		9/13/23 10:42
Decachlorobiphenyl [2]	95.7	30-150		9/13/23 10:42
Tetrachloro-m-xylene [1]	94.8	30-150		9/13/23 10:42
Tetrachloro-m-xylene [2]	94.4	30-150		9/13/23 10:42

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3264

Date Received: 8/22/2023

Field Sample #: P-202 | Sampled: 8/16/2023 08:48

Sample ID: 23H3264-02

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	1.9	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 15:36	SFM
Aroclor-1221 [1]	ND	1.9	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 15:36	SFM
Aroclor-1232 [1]	ND	1.9	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 15:36	SFM
Aroclor-1242 [1]	ND	1.9	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 15:36	SFM
Aroclor-1248 [1]	ND	1.9	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 15:36	SFM
Aroclor-1254 [2]	8.5	1.9	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 15:36	SFM
Aroclor-1260 [1]	ND	1.9	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 15:36	SFM
Aroclor-1262 [1]	ND	1.9	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 15:36	SFM
Aroclor-1268 [1]	ND	1.9	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 15:36	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	86.3	30-150		9/12/23 15:36
Decachlorobiphenyl [2]	83.3	30-150		9/12/23 15:36
Tetrachloro-m-xylene [1]	83.6	30-150		9/12/23 15:36
Tetrachloro-m-xylene [2]	85.1	30-150		9/12/23 15:36

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3264

Date Received: 8/22/2023

Field Sample #: P-203-EX | Sampled: 8/16/2023 08:49

Sample ID: 23H3264-03

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.089	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 21:20	TG
Aroclor-1221 [1]	ND	0.089	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 21:20	TG
Aroclor-1232 [1]	ND	0.089	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 21:20	TG
Aroclor-1242 [1]	ND	0.089	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 21:20	TG
Aroclor-1248 [1]	ND	0.089	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 21:20	TG
Aroclor-1254 [2]	0.53	0.089	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 21:20	TG
Aroclor-1260 [1]	ND	0.089	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 21:20	TG
Aroclor-1262 [1]	ND	0.089	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 21:20	TG
Aroclor-1268 [1]	ND	0.089	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 21:20	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	85.8	30-150		9/12/23 21:20
Decachlorobiphenyl [2]	86.5	30-150		9/12/23 21:20
Tetrachloro-m-xylene [1]	82.1	30-150		9/12/23 21:20
Tetrachloro-m-xylene [2]	87.2	30-150		9/12/23 21:20

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3264

Date Received: 8/22/2023

Field Sample #: P-204-R17W | Sampled: 8/16/2023 08:50

Sample ID: 23H3264-04

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	1.8	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 15:53	SFM
Aroclor-1221 [1]	ND	1.8	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 15:53	SFM
Aroclor-1232 [1]	ND	1.8	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 15:53	SFM
Aroclor-1242 [1]	ND	1.8	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 15:53	SFM
Aroclor-1248 [1]	ND	1.8	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 15:53	SFM
Aroclor-1254 [2]	4.8	1.8	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 15:53	SFM
Aroclor-1260 [1]	ND	1.8	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 15:53	SFM
Aroclor-1262 [1]	ND	1.8	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 15:53	SFM
Aroclor-1268 [1]	ND	1.8	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 15:53	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	71.8	30-150		9/12/23 15:53
Decachlorobiphenyl [2]	69.6	30-150		9/12/23 15:53
Tetrachloro-m-xylene [1]	68.0	30-150		9/12/23 15:53
Tetrachloro-m-xylene [2]	71.7	30-150		9/12/23 15:53

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3264

Date Received: 8/22/2023

Field Sample #: P-205-R17W | Sampled: 8/16/2023 08:51

Sample ID: 23H3264-05

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	2.3	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 16:11	SFM
Aroclor-1221 [1]	ND	2.3	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 16:11	SFM
Aroclor-1232 [1]	ND	2.3	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 16:11	SFM
Aroclor-1242 [1]	ND	2.3	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 16:11	SFM
Aroclor-1248 [1]	ND	2.3	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 16:11	SFM
Aroclor-1254 [2]	8.2	2.3	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 16:11	SFM
Aroclor-1260 [1]	ND	2.3	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 16:11	SFM
Aroclor-1262 [1]	ND	2.3	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 16:11	SFM
Aroclor-1268 [1]	ND	2.3	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 16:11	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	84.6	30-150		9/12/23 16:11
Decachlorobiphenyl [2]	82.4	30-150		9/12/23 16:11
Tetrachloro-m-xylene [1]	74.0	30-150		9/12/23 16:11
Tetrachloro-m-xylene [2]	84.5	30-150		9/12/23 16:11

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3264

Date Received: 8/22/2023

Field Sample #: P-206-R17W | Sampled: 8/16/2023 08:52

Sample ID: 23H3264-06

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	1.9	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 16:28	SFM
Aroclor-1221 [1]	ND	1.9	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 16:28	SFM
Aroclor-1232 [1]	ND	1.9	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 16:28	SFM
Aroclor-1242 [1]	ND	1.9	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 16:28	SFM
Aroclor-1248 [1]	ND	1.9	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 16:28	SFM
Aroclor-1254 [2]	10	1.9	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 16:28	SFM
Aroclor-1260 [1]	ND	1.9	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 16:28	SFM
Aroclor-1262 [1]	ND	1.9	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 16:28	SFM
Aroclor-1268 [1]	ND	1.9	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 16:28	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	86.2	30-150		9/12/23 16:28
Decachlorobiphenyl [2]	83.4	30-150		9/12/23 16:28
Tetrachloro-m-xylene [1]	71.1	30-150		9/12/23 16:28
Tetrachloro-m-xylene [2]	84.3	30-150		9/12/23 16:28

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3264

Date Received: 8/22/2023

Field Sample #: P-207-R16C | Sampled: 8/16/2023 08:53

Sample ID: 23H3264-07

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.2	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 16:46	SFM
Aroclor-1221 [1]	ND	4.2	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 16:46	SFM
Aroclor-1232 [1]	ND	4.2	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 16:46	SFM
Aroclor-1242 [1]	ND	4.2	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 16:46	SFM
Aroclor-1248 [1]	ND	4.2	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 16:46	SFM
Aroclor-1254 [2]	16	4.2	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 16:46	SFM
Aroclor-1260 [1]	ND	4.2	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 16:46	SFM
Aroclor-1262 [1]	ND	4.2	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 16:46	SFM
Aroclor-1268 [1]	ND	4.2	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 16:46	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	87.0	30-150		9/12/23 16:46
Decachlorobiphenyl [2]	83.8	30-150		9/12/23 16:46
Tetrachloro-m-xylene [1]	72.8	30-150		9/12/23 16:46
Tetrachloro-m-xylene [2]	74.8	30-150		9/12/23 16:46

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3264

Date Received: 8/22/2023

Field Sample #: P-208-R14SP | Sampled: 8/16/2023 08:54

Sample ID: 23H3264-08

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.48	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 21:37	TG
Aroclor-1221 [1]	ND	0.48	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 21:37	TG
Aroclor-1232 [1]	ND	0.48	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 21:37	TG
Aroclor-1242 [1]	ND	0.48	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 21:37	TG
Aroclor-1248 [1]	ND	0.48	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 21:37	TG
Aroclor-1254 [2]	1.4	0.48	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 21:37	TG
Aroclor-1260 [1]	ND	0.48	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 21:37	TG
Aroclor-1262 [1]	ND	0.48	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 21:37	TG
Aroclor-1268 [1]	ND	0.48	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 21:37	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	72.7	30-150		9/12/23 21:37
Decachlorobiphenyl [2]	67.1	30-150		9/12/23 21:37
Tetrachloro-m-xylene [1]	77.2	30-150		9/12/23 21:37
Tetrachloro-m-xylene [2]	74.7	30-150		9/12/23 21:37

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3264

Date Received: 8/22/2023

Field Sample #: P-209-R16SP | Sampled: 8/16/2023 08:55

Sample ID: 23H3264-09

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.97	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 21:54	TG
Aroclor-1221 [1]	ND	0.97	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 21:54	TG
Aroclor-1232 [1]	ND	0.97	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 21:54	TG
Aroclor-1242 [1]	ND	0.97	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 21:54	TG
Aroclor-1248 [1]	2.1	0.97	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 21:54	TG
Aroclor-1254 [1]	2.3	0.97	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 21:54	TG
Aroclor-1260 [1]	ND	0.97	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 21:54	TG
Aroclor-1262 [1]	ND	0.97	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 21:54	TG
Aroclor-1268 [1]	ND	0.97	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 21:54	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	93.3	30-150		9/12/23 21:54
Decachlorobiphenyl [2]	86.4	30-150		9/12/23 21:54
Tetrachloro-m-xylene [1]	83.2	30-150		9/12/23 21:54
Tetrachloro-m-xylene [2]	82.9	30-150		9/12/23 21:54

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3264

Date Received: 8/22/2023

Field Sample #: P-210-R16NWP | Sampled: 8/16/2023 08:56

Sample ID: 23H3264-10

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 17:03	SFM
Aroclor-1221 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 17:03	SFM
Aroclor-1232 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 17:03	SFM
Aroclor-1242 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 17:03	SFM
Aroclor-1248 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 17:03	SFM
Aroclor-1254 [2]	26	4.4	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 17:03	SFM
Aroclor-1260 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 17:03	SFM
Aroclor-1262 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 17:03	SFM
Aroclor-1268 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 17:03	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	118	30-150		9/12/23 17:03
Decachlorobiphenyl [2]	113	30-150		9/12/23 17:03
Tetrachloro-m-xylene [1]	108	30-150		9/12/23 17:03
Tetrachloro-m-xylene [2]	109	30-150		9/12/23 17:03

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3264

Date Received: 8/22/2023

Field Sample #: P-211-R15CP | Sampled: 8/16/2023 08:57

Sample ID: 23H3264-11

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.43	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 22:11	TG
Aroclor-1221 [1]	ND	0.43	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 22:11	TG
Aroclor-1232 [1]	ND	0.43	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 22:11	TG
Aroclor-1242 [1]	ND	0.43	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 22:11	TG
Aroclor-1248 [1]	ND	0.43	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 22:11	TG
Aroclor-1254 [1]	0.59	0.43	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 22:11	TG
Aroclor-1260 [1]	ND	0.43	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 22:11	TG
Aroclor-1262 [1]	ND	0.43	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 22:11	TG
Aroclor-1268 [1]	ND	0.43	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 22:11	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	97.3	30-150		9/12/23 22:11
Decachlorobiphenyl [2]	89.7	30-150		9/12/23 22:11
Tetrachloro-m-xylene [1]	85.4	30-150		9/12/23 22:11
Tetrachloro-m-xylene [2]	82.9	30-150		9/12/23 22:11

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3264

Date Received: 8/22/2023

Field Sample #: P-212-R11EP | Sampled: 8/16/2023 08:58

Sample ID: 23H3264-12

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 17:21	SFM
Aroclor-1221 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 17:21	SFM
Aroclor-1232 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 17:21	SFM
Aroclor-1242 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 17:21	SFM
Aroclor-1248 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 17:21	SFM
Aroclor-1254 [1]	16	3.9	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 17:21	SFM
Aroclor-1260 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 17:21	SFM
Aroclor-1262 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 17:21	SFM
Aroclor-1268 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 17:21	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	108	30-150		9/12/23 17:21
Decachlorobiphenyl [2]	103	30-150		9/12/23 17:21
Tetrachloro-m-xylene [1]	99.0	30-150		9/12/23 17:21
Tetrachloro-m-xylene [2]	118	30-150		9/12/23 17:21

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3264

Date Received: 8/22/2023

Field Sample #: P-213-R12CPB | Sampled: 8/16/2023 08:59

Sample ID: 23H3264-13

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	2.3	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 17:38	SFM
Aroclor-1221 [1]	ND	2.3	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 17:38	SFM
Aroclor-1232 [1]	ND	2.3	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 17:38	SFM
Aroclor-1242 [1]	ND	2.3	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 17:38	SFM
Aroclor-1248 [1]	ND	2.3	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 17:38	SFM
Aroclor-1254 [2]	9.0	2.3	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 17:38	SFM
Aroclor-1260 [1]	ND	2.3	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 17:38	SFM
Aroclor-1262 [1]	ND	2.3	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 17:38	SFM
Aroclor-1268 [1]	ND	2.3	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 17:38	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	101	30-150		9/12/23 17:38
Decachlorobiphenyl [2]	98.0	30-150		9/12/23 17:38
Tetrachloro-m-xylene [1]	90.5	30-150		9/12/23 17:38
Tetrachloro-m-xylene [2]	91.8	30-150		9/12/23 17:38

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3264

Date Received: 8/22/2023

Field Sample #: P-214-R12CDW | Sampled: 8/16/2023 09:00

Sample ID: 23H3264-14

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	9/7/23	9/13/23 10:59	SFM
Aroclor-1221 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	9/7/23	9/13/23 10:59	SFM
Aroclor-1232 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	9/7/23	9/13/23 10:59	SFM
Aroclor-1242 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	9/7/23	9/13/23 10:59	SFM
Aroclor-1248 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	9/7/23	9/13/23 10:59	SFM
Aroclor-1254 [1]	5.3	1.0	mg/Kg	10		SW-846 8082A	9/7/23	9/13/23 10:59	SFM
Aroclor-1260 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	9/7/23	9/13/23 10:59	SFM
Aroclor-1262 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	9/7/23	9/13/23 10:59	SFM
Aroclor-1268 [1]	ND	1.0	mg/Kg	10		SW-846 8082A	9/7/23	9/13/23 10:59	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	77.3	30-150		9/13/23 10:59
Decachlorobiphenyl [2]	75.3	30-150		9/13/23 10:59
Tetrachloro-m-xylene [1]	69.2	30-150		9/13/23 10:59
Tetrachloro-m-xylene [2]	69.3	30-150		9/13/23 10:59

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3264

Date Received: 8/22/2023

Field Sample #: P-215-R15CPW | Sampled: 8/16/2023 09:01

Sample ID: 23H3264-15

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.1	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 17:56	SFM
Aroclor-1221 [1]	ND	4.1	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 17:56	SFM
Aroclor-1232 [1]	ND	4.1	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 17:56	SFM
Aroclor-1242 [1]	ND	4.1	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 17:56	SFM
Aroclor-1248 [1]	ND	4.1	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 17:56	SFM
Aroclor-1254 [2]	25	4.1	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 17:56	SFM
Aroclor-1260 [1]	ND	4.1	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 17:56	SFM
Aroclor-1262 [1]	ND	4.1	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 17:56	SFM
Aroclor-1268 [1]	ND	4.1	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 17:56	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	102	30-150		9/12/23 17:56
Decachlorobiphenyl [2]	96.5	30-150		9/12/23 17:56
Tetrachloro-m-xylene [1]	90.7	30-150		9/12/23 17:56
Tetrachloro-m-xylene [2]	91.9	30-150		9/12/23 17:56

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3264

Date Received: 8/22/2023

Field Sample #: P-216-R13CP | Sampled: 8/16/2023 09:02

Sample ID: 23H3264-16

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.092	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 22:29	TG
Aroclor-1221 [1]	ND	0.092	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 22:29	TG
Aroclor-1232 [1]	ND	0.092	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 22:29	TG
Aroclor-1242 [1]	ND	0.092	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 22:29	TG
Aroclor-1248 [1]	ND	0.092	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 22:29	TG
Aroclor-1254 [2]	0.21	0.092	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 22:29	TG
Aroclor-1260 [1]	ND	0.092	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 22:29	TG
Aroclor-1262 [1]	ND	0.092	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 22:29	TG
Aroclor-1268 [1]	ND	0.092	mg/Kg	1		SW-846 8082A	9/7/23	9/12/23 22:29	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	101	30-150		9/12/23 22:29
Decachlorobiphenyl [2]	97.8	30-150		9/12/23 22:29
Tetrachloro-m-xylene [1]	88.6	30-150		9/12/23 22:29
Tetrachloro-m-xylene [2]	90.6	30-150		9/12/23 22:29

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3264

Date Received: 8/22/2023

Field Sample #: P-217-R11SDW | Sampled: 8/16/2023 09:03

Sample ID: 23H3264-17

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	1.8	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 18:13	SFM
Aroclor-1221 [1]	ND	1.8	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 18:13	SFM
Aroclor-1232 [1]	ND	1.8	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 18:13	SFM
Aroclor-1242 [1]	ND	1.8	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 18:13	SFM
Aroclor-1248 [1]	ND	1.8	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 18:13	SFM
Aroclor-1254 [2]	6.2	1.8	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 18:13	SFM
Aroclor-1260 [1]	ND	1.8	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 18:13	SFM
Aroclor-1262 [1]	ND	1.8	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 18:13	SFM
Aroclor-1268 [1]	ND	1.8	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 18:13	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	98.0	30-150		9/12/23 18:13
Decachlorobiphenyl [2]	94.7	30-150		9/12/23 18:13
Tetrachloro-m-xylene [1]	87.8	30-150		9/12/23 18:13
Tetrachloro-m-xylene [2]	88.4	30-150		9/12/23 18:13

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3264

Date Received: 8/22/2023

Field Sample #: P-218-R13WT | Sampled: 8/16/2023 09:04

Sample ID: 23H3264-18

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	3.4	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 18:31	SFM
Aroclor-1221 [1]	ND	3.4	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 18:31	SFM
Aroclor-1232 [1]	ND	3.4	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 18:31	SFM
Aroclor-1242 [1]	ND	3.4	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 18:31	SFM
Aroclor-1248 [1]	ND	3.4	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 18:31	SFM
Aroclor-1254 [2]	11	3.4	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 18:31	SFM
Aroclor-1260 [1]	ND	3.4	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 18:31	SFM
Aroclor-1262 [1]	ND	3.4	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 18:31	SFM
Aroclor-1268 [1]	ND	3.4	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 18:31	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	81.5	30-150		9/12/23 18:31
Decachlorobiphenyl [2]	79.0	30-150		9/12/23 18:31
Tetrachloro-m-xylene [1]	72.4	30-150		9/12/23 18:31
Tetrachloro-m-xylene [2]	75.9	30-150		9/12/23 18:31

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3264

Date Received: 8/22/2023

Field Sample #: P-219-R14EDW | Sampled: 8/16/2023 09:05

Sample ID: 23H3264-19

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	1.8	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 18:48	SFM
Aroclor-1221 [1]	ND	1.8	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 18:48	SFM
Aroclor-1232 [1]	ND	1.8	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 18:48	SFM
Aroclor-1242 [1]	ND	1.8	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 18:48	SFM
Aroclor-1248 [1]	ND	1.8	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 18:48	SFM
Aroclor-1254 [1]	6.8	1.8	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 18:48	SFM
Aroclor-1260 [1]	ND	1.8	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 18:48	SFM
Aroclor-1262 [1]	ND	1.8	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 18:48	SFM
Aroclor-1268 [1]	ND	1.8	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 18:48	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	98.7	30-150		9/12/23 18:48
Decachlorobiphenyl [2]	96.2	30-150		9/12/23 18:48
Tetrachloro-m-xylene [1]	86.5	30-150		9/12/23 18:48
Tetrachloro-m-xylene [2]	88.1	30-150		9/12/23 18:48

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3264

Date Received: 8/22/2023

Field Sample #: P-220-S12C | Sampled: 8/16/2023 09:06

Sample ID: 23H3264-20

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	3.5	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 19:05	SFM
Aroclor-1221 [1]	ND	3.5	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 19:05	SFM
Aroclor-1232 [1]	ND	3.5	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 19:05	SFM
Aroclor-1242 [1]	ND	3.5	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 19:05	SFM
Aroclor-1248 [1]	ND	3.5	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 19:05	SFM
Aroclor-1254 [1]	19	3.5	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 19:05	SFM
Aroclor-1260 [1]	ND	3.5	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 19:05	SFM
Aroclor-1262 [1]	ND	3.5	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 19:05	SFM
Aroclor-1268 [1]	ND	3.5	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 19:05	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	101	30-150		9/12/23 19:05
Decachlorobiphenyl [2]	98.7	30-150		9/12/23 19:05
Tetrachloro-m-xylene [1]	80.3	30-150		9/12/23 19:05
Tetrachloro-m-xylene [2]	82.1	30-150		9/12/23 19:05

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method:SW-846 3540C **Analytical Method:SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23H3264-02 [P-202]	B351289	0.260	10.0	09/07/23
23H3264-04 [P-204-R17W]	B351289	0.272	10.0	09/07/23
23H3264-05 [P-205-R17W]	B351289	0.218	10.0	09/07/23
23H3264-06 [P-206-R17W]	B351289	0.260	10.0	09/07/23
23H3264-07 [P-207-R16C]	B351289	0.235	10.0	09/07/23
23H3264-10 [P-210-R16NWP]	B351289	0.226	10.0	09/07/23
23H3264-12 [P-212-R11EP]	B351289	0.258	10.0	09/07/23
23H3264-13 [P-213-R12CPB]	B351289	0.216	10.0	09/07/23
23H3264-15 [P-215-R15CPW]	B351289	0.247	10.0	09/07/23
23H3264-17 [P-217-R11SDW]	B351289	0.271	10.0	09/07/23
23H3264-18 [P-218-R13WT]	B351289	0.290	10.0	09/07/23
23H3264-19 [P-219-R14EDW]	B351289	0.283	10.0	09/07/23
23H3264-20 [P-220-S12C]	B351289	0.290	10.0	09/07/23

Prep Method:SW-846 3540C **Analytical Method:SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23H3264-01 [P-201]	B351344	2.00	10.0	09/07/23
23H3264-14 [P-214-R12CDW]	B351344	2.00	10.0	09/07/23

Prep Method:SW-846 3540C **Analytical Method:SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23H3264-03 [P-203-EX]	B351347	2.24	10.0	09/07/23
23H3264-08 [P-208-R14SP]	B351347	2.10	10.0	09/07/23
23H3264-09 [P-209-R16SP]	B351347	2.06	10.0	09/07/23
23H3264-11 [P-211-R15CP]	B351347	2.33	10.0	09/07/23
23H3264-16 [P-216-R13CP]	B351347	2.18	10.0	09/07/23

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B351289 - SW-846 3540C										
Blank (B351289-BLK1)				Prepared: 09/07/23 Analyzed: 09/12/23						
Aroclor-1016	ND	0.50	mg/Kg							
Aroclor-1016 [2C]	ND	0.50	mg/Kg							
Aroclor-1221	ND	0.50	mg/Kg							
Aroclor-1221 [2C]	ND	0.50	mg/Kg							
Aroclor-1232	ND	0.50	mg/Kg							
Aroclor-1232 [2C]	ND	0.50	mg/Kg							
Aroclor-1242	ND	0.50	mg/Kg							
Aroclor-1242 [2C]	ND	0.50	mg/Kg							
Aroclor-1248	ND	0.50	mg/Kg							
Aroclor-1248 [2C]	ND	0.50	mg/Kg							
Aroclor-1254	ND	0.50	mg/Kg							
Aroclor-1254 [2C]	ND	0.50	mg/Kg							
Aroclor-1260	ND	0.50	mg/Kg							
Aroclor-1260 [2C]	ND	0.50	mg/Kg							
Aroclor-1262	ND	0.50	mg/Kg							
Aroclor-1262 [2C]	ND	0.50	mg/Kg							
Aroclor-1268	ND	0.50	mg/Kg							
Aroclor-1268 [2C]	ND	0.50	mg/Kg							
Surrogate: Decachlorobiphenyl	*6.63*		mg/Kg	9.94		66.7	30-150			
Surrogate: Decachlorobiphenyl [2C]	*6.57*		mg/Kg	9.94		66.1	30-150			
Surrogate: Tetrachloro-m-xylene	*5.88*		mg/Kg	9.94		59.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*6.55*		mg/Kg	9.94		65.9	30-150			
LCS (B351289-BS1)				Prepared: 09/07/23 Analyzed: 09/12/23						
Aroclor-1016	1.4	0.48	mg/Kg	2.41		56.9	40-140			
Aroclor-1016 [2C]	1.7	0.48	mg/Kg	2.41		70.0	40-140			
Aroclor-1260	1.5	0.48	mg/Kg	2.41		64.0	40-140			
Aroclor-1260 [2C]	1.6	0.48	mg/Kg	2.41		66.7	40-140			
Surrogate: Decachlorobiphenyl	*7.23*		mg/Kg	9.62		75.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	*7.14*		mg/Kg	9.62		74.2	30-150			
Surrogate: Tetrachloro-m-xylene	*6.71*		mg/Kg	9.62		69.7	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*7.22*		mg/Kg	9.62		75.0	30-150			
LCS Dup (B351289-BSD1)				Prepared: 09/07/23 Analyzed: 09/12/23						
Aroclor-1016	1.3	0.47	mg/Kg	2.37		55.9	40-140	3.49	30	
Aroclor-1016 [2C]	1.5	0.47	mg/Kg	2.37		62.3	40-140	13.3	30	
Aroclor-1260	1.4	0.47	mg/Kg	2.37		57.4	40-140	12.5	30	
Aroclor-1260 [2C]	1.5	0.47	mg/Kg	2.37		62.0	40-140	8.95	30	
Surrogate: Decachlorobiphenyl	*6.66*		mg/Kg	9.47		70.4	30-150			
Surrogate: Decachlorobiphenyl [2C]	*6.52*		mg/Kg	9.47		68.9	30-150			
Surrogate: Tetrachloro-m-xylene	*6.30*		mg/Kg	9.47		66.5	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*6.83*		mg/Kg	9.47		72.2	30-150			

con-test® A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B351344 - SW-846 3540C										
Blank (B351344-BLK1)				Prepared: 09/07/23 Analyzed: 09/13/23						
Aroclor-1016	ND	0.10	mg/Kg							
Aroclor-1016 [2C]	ND	0.10	mg/Kg							
Aroclor-1221	ND	0.10	mg/Kg							
Aroclor-1221 [2C]	ND	0.10	mg/Kg							
Aroclor-1232	ND	0.10	mg/Kg							
Aroclor-1232 [2C]	ND	0.10	mg/Kg							
Aroclor-1242	ND	0.10	mg/Kg							
Aroclor-1242 [2C]	ND	0.10	mg/Kg							
Aroclor-1248	ND	0.10	mg/Kg							
Aroclor-1248 [2C]	ND	0.10	mg/Kg							
Aroclor-1254	ND	0.10	mg/Kg							
Aroclor-1254 [2C]	ND	0.10	mg/Kg							
Aroclor-1260	ND	0.10	mg/Kg							
Aroclor-1260 [2C]	ND	0.10	mg/Kg							
Aroclor-1262	ND	0.10	mg/Kg							
Aroclor-1262 [2C]	ND	0.10	mg/Kg							
Aroclor-1268	ND	0.10	mg/Kg							
Aroclor-1268 [2C]	ND	0.10	mg/Kg							
Surrogate: Decachlorobiphenyl	*0.829*		mg/Kg	1.00		82.9	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.826*		mg/Kg	1.00		82.6	30-150			
Surrogate: Tetrachloro-m-xylene	*0.785*		mg/Kg	1.00		78.5	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.789*		mg/Kg	1.00		78.9	30-150			
LCS (B351344-BS1)				Prepared: 09/07/23 Analyzed: 09/13/23						
Aroclor-1016	0.61	0.10	mg/Kg	1.00		60.8	40-140			
Aroclor-1016 [2C]	0.63	0.10	mg/Kg	1.00		63.3	40-140			
Aroclor-1260	0.61	0.10	mg/Kg	1.00		60.5	40-140			
Aroclor-1260 [2C]	0.61	0.10	mg/Kg	1.00		61.2	40-140			
Surrogate: Decachlorobiphenyl	*0.767*		mg/Kg	1.00		76.7	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.770*		mg/Kg	1.00		77.0	30-150			
Surrogate: Tetrachloro-m-xylene	*0.684*		mg/Kg	1.00		68.4	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.688*		mg/Kg	1.00		68.8	30-150			
LCS Dup (B351344-BSD1)				Prepared: 09/07/23 Analyzed: 09/13/23						
Aroclor-1016	0.61	0.10	mg/Kg	1.00		60.9	40-140	0.214	30	
Aroclor-1016 [2C]	0.63	0.10	mg/Kg	1.00		63.2	40-140	0.179	30	
Aroclor-1260	0.60	0.10	mg/Kg	1.00		60.0	40-140	0.905	30	
Aroclor-1260 [2C]	0.61	0.10	mg/Kg	1.00		60.8	40-140	0.605	30	
Surrogate: Decachlorobiphenyl	*0.792*		mg/Kg	1.00		79.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.790*		mg/Kg	1.00		79.0	30-150			
Surrogate: Tetrachloro-m-xylene	*0.708*		mg/Kg	1.00		70.8	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.714*		mg/Kg	1.00		71.4	30-150			

con-test® A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B351347 - SW-846 3540C										
Blank (B351347-BLK1)				Prepared: 09/07/23 Analyzed: 09/12/23						
Aroclor-1016	ND	0.090	mg/Kg							
Aroclor-1016 [2C]	ND	0.090	mg/Kg							
Aroclor-1221	ND	0.090	mg/Kg							
Aroclor-1221 [2C]	ND	0.090	mg/Kg							
Aroclor-1232	ND	0.090	mg/Kg							
Aroclor-1232 [2C]	ND	0.090	mg/Kg							
Aroclor-1242	ND	0.090	mg/Kg							
Aroclor-1242 [2C]	ND	0.090	mg/Kg							
Aroclor-1248	ND	0.090	mg/Kg							
Aroclor-1248 [2C]	ND	0.090	mg/Kg							
Aroclor-1254	ND	0.090	mg/Kg							
Aroclor-1254 [2C]	ND	0.090	mg/Kg							
Aroclor-1260	ND	0.090	mg/Kg							
Aroclor-1260 [2C]	ND	0.090	mg/Kg							
Aroclor-1262	ND	0.090	mg/Kg							
Aroclor-1262 [2C]	ND	0.090	mg/Kg							
Aroclor-1268	ND	0.090	mg/Kg							
Aroclor-1268 [2C]	ND	0.090	mg/Kg							
Surrogate: Decachlorobiphenyl	*0.947*		mg/Kg	0.905		105	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.921*		mg/Kg	0.905		102	30-150			
Surrogate: Tetrachloro-m-xylene	*0.801*		mg/Kg	0.905		88.5	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.795*		mg/Kg	0.905		87.9	30-150			
LCS (B351347-BS1)				Prepared: 09/07/23 Analyzed: 09/12/23						
Aroclor-1016	0.62	0.086	mg/Kg	0.862		71.8	40-140			
Aroclor-1016 [2C]	0.65	0.086	mg/Kg	0.862		75.2	40-140			
Aroclor-1260	0.66	0.086	mg/Kg	0.862		77.1	40-140			
Aroclor-1260 [2C]	0.70	0.086	mg/Kg	0.862		81.0	40-140			
Surrogate: Decachlorobiphenyl	*0.779*		mg/Kg	0.862		90.3	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.756*		mg/Kg	0.862		87.7	30-150			
Surrogate: Tetrachloro-m-xylene	*0.611*		mg/Kg	0.862		70.9	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.615*		mg/Kg	0.862		71.3	30-150			
LCS Dup (B351347-BSD1)				Prepared: 09/07/23 Analyzed: 09/12/23						
Aroclor-1016	0.69	0.091	mg/Kg	0.913		75.6	40-140	11.0	30	
Aroclor-1016 [2C]	0.73	0.091	mg/Kg	0.913		79.6	40-140	11.4	30	
Aroclor-1260	0.72	0.091	mg/Kg	0.913		78.7	40-140	7.80	30	
Aroclor-1260 [2C]	0.74	0.091	mg/Kg	0.913		80.8	40-140	5.45	30	
Surrogate: Decachlorobiphenyl	*0.879*		mg/Kg	0.913		96.3	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.863*		mg/Kg	0.913		94.5	30-150			
Surrogate: Tetrachloro-m-xylene	*0.692*		mg/Kg	0.913		75.8	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.734*		mg/Kg	0.913		80.4	30-150			

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-201

Lab Sample ID: 23H3264-01

Date(s) Analyzed: 09/13/2023 09/13/2023

Instrument ID (1): ECD5

Instrument ID (2): ECD5

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	7.9	
	2	0.000	0.000	0.000	7.6	3.9

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-202

Lab Sample ID: 23H3264-02

Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	8.3	
	2	0.000	0.000	0.000	8.5	2.4

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-203-EX

Lab Sample ID: 23H3264-03

Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	0.47	
	2	0.000	0.000	0.000	0.53	12.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-204-R17W

Lab Sample ID: 23H3264-04 Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	4.0	
	2	0.000	0.000	0.000	4.8	18.2

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-205-R17W

Lab Sample ID: 23H3264-05 Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	7.4	
	2	0.000	0.000	0.000	8.2	10.3

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-206-R17W

Lab Sample ID: 23H3264-06 Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	9.0	
	2	0.000	0.000	0.000	10	10.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-207-R16C

Lab Sample ID: 23H3264-07

Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	15	
	2	0.000	0.000	0.000	16	6.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-208-R14SP

Lab Sample ID: 23H3264-08 Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	1.3	
	2	0.000	0.000	0.000	1.4	7.4

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-209-R16SP

Lab Sample ID: 23H3264-09 Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1248	1	0.000	0.000	0.000	2.1	
	2	0.000	0.000	0.000	1.7	25.6
Aroclor-1254	1	0.000	0.000	0.000	2.3	
	2	0.000	0.000	0.000	2.2	4.4

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-210-R16NWP

Lab Sample ID: 23H3264-10 Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	25	
	2	0.000	0.000	0.000	26	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-211-R15CP

Lab Sample ID: 23H3264-11

Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	0.59	
	2	0.000	0.000	0.000	0.57	3.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-212-R11EP

Lab Sample ID: 23H3264-12 Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	16	
	2	0.000	0.000	0.000	15	6.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-213-R12CPB

Lab Sample ID: 23H3264-13

Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	7.6	
	2	0.000	0.000	0.000	9.0	16.9

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-214-R12CDW

Lab Sample ID: 23H3264-14

Date(s) Analyzed: 09/13/2023 09/13/2023

Instrument ID (1): ECD5

Instrument ID (2): ECD5

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	5.3	
	2	0.000	0.000	0.000	5.0	5.8

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-215-R15CPW

Lab Sample ID: 23H3264-15

Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	25	
	2	0.000	0.000	0.000	25	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-216-R13CP

Lab Sample ID: 23H3264-16

Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	0.20	
	2	0.000	0.000	0.000	0.21	4.9

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-217-R11SDW

Lab Sample ID: 23H3264-17

Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	5.5	
	2	0.000	0.000	0.000	6.2	12.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-218-R13WT

Lab Sample ID: 23H3264-18 Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	10	
	2	0.000	0.000	0.000	11	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-219-R14EDW

Lab Sample ID: 23H3264-19 Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	6.8	
	2	0.000	0.000	0.000	6.7	1.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-220-S12C

Lab Sample ID: 23H3264-20

Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	19	
	2	0.000	0.000	0.000	18	5.4

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B351289-BS1

Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	1.4	
	2	0.000	0.000	0.000	1.7	19.4
Aroclor-1260	1	0.000	0.000	0.000	1.5	
	2	0.000	0.000	0.000	1.6	6.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B351289-BSD1 Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	1.3	
	2	0.000	0.000	0.000	1.5	14.3
Aroclor-1260	1	0.000	0.000	0.000	1.4	
	2	0.000	0.000	0.000	1.5	6.9

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B351344-BS1 Date(s) Analyzed: 09/13/2023 09/13/2023

Instrument ID (1): ECD5 Instrument ID (2): ECD5

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.61	
	2	0.000	0.000	0.000	0.63	3.2
Aroclor-1260	1	0.000	0.000	0.000	0.61	
	2	0.000	0.000	0.000	0.61	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B351344-BSD1 Date(s) Analyzed: 09/13/2023 09/13/2023

Instrument ID (1): ECD5 Instrument ID (2): ECD5

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.61	
	2	0.000	0.000	0.000	0.63	3.2
Aroclor-1260	1	0.000	0.000	0.000	0.60	
	2	0.000	0.000	0.000	0.61	1.7

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B351347-BS1 Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.62	
	2	0.000	0.000	0.000	0.65	4.7
Aroclor-1260	1	0.000	0.000	0.000	0.66	
	2	0.000	0.000	0.000	0.70	4.4

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B351347-BSD1 Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.69	
	2	0.000	0.000	0.000	0.73	5.6
Aroclor-1260	1	0.000	0.000	0.000	0.72	
	2	0.000	0.000	0.000	0.74	2.7

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level

Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.

No results have been blank subtracted unless specified in the case narrative section.

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8082A in Product/Solid	
Aroclor-1016	CT,NH,NY,ME,NC,VA,PA
Aroclor-1016 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1262	NY,NC,VA,PA
Aroclor-1262 [2C]	NY,NC,VA,PA
Aroclor-1268	NY,NC,VA,PA
Aroclor-1268 [2C]	NY,NC,VA,PA

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2024
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2024
NC	North Carolina Div. of Water Quality	652	12/31/2023
ME	State of Maine	MA00100	06/9/2025
VA	Commonwealth of Virginia	460217	12/14/2023
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2024

23H3264

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time			
7-Day	☑	10-Day	☐
PFAS 10-Day (std)	☐	Due Date:	

Rush-Approval Required			
1-Day	☐	3-Day	☐
2-Day	☐	4-Day	☐

Dissolved Metals Samples	
○	Field Filtered
○	Lab to Filter

Orthophosphate Samples	
○	Field Filtered
○	Lab to Filter

Data Delivery			
Format:	PDF ☑	EXCEL ☑	
Other:	Equis EDD		
CLP Like Data Pkg Required:	☐		
Email To:	tandrews@nobis-group.com		
Fax To #:			

PCB ONLY

SOXHLET ☑

NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
1	P-201	8/16/2023	8:47	GRAB	O	U		1				x
2	P-202	8/16/2023	8:48	GRAB	O	U		1				x
3	P-203-Ex	8/16/2023	8:49	GRAB	O	U		1				x
4	P-204-R17W	8/16/2023	8:50	GRAB	O	U		1				x
5	P-205-R17W	8/16/2023	8:51	GRAB	O	U		1				x
6	P-206-R17W	8/16/2023	8:52	GRAB	O	U		1				x
7	P-207-R16C	8/16/2023	8:53	GRAB	O	U		1				x
8	P-208-R14CP	8/16/2023	8:54	GRAB	O	U		1				x
9	P-209-R16SP	8/16/2023	8:55	GRAB	O	U		1				x
10	P-210-R16NWP	8/16/2023	8:56	GRAB	O	U		1				x

[2] Preservation Code

Courier Use Only

Total Number Of:

VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N

Glassware in freezer? Y / N

Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time: 8:22:23
Received by: (signature)	Date/Time: 1255 8.22.23
Relinquished by: (signature)	Date/Time: 8-22-23 1746
Received by: (signature) 3.8, 2.2, 3.9	Date/Time: 8/22/23
Relinquished by: (signature) 26, 5.6	Date/Time: 1746
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS

Detection Limit Requirements	
MA	
CT	
Other:	

Special Requirements	
☐	MA MCP Required
	MCP Certification Form Required
☐	CT RCP Required
	RCP Certification Form Required
☐	MA State DW Required
PWSID #	

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government	☐	Municipality	☐	MWRA	☐	WRTA	☐
Federal	☐	21 J	☐	School	☐		
City	☐	Brownfield	☐	MBTA	☐		

Other

☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

23H3264

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time

7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1] Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
11	P-211-R15CP	8/16/2023	8:57	GRAB	O	U		1				x
12	P-212-R11EP	8/16/2023	8:58	GRAB	O	U		1				x
13	P-213-R12CPB	8/16/2023	8:59	GRAB	O	U		1				x
14	P-214-R12CDW	8/16/2023	9:00	GRAB	O	U		1				x
15	P-215-R15CPW	8/16/2023	9:01	GRAB	O	U		1				x
16	P-216-R13CP	8/16/2023	9:02	GRAB	O	U		1				x
17	P-217-R11SDW	8/16/2023	9:03	GRAB	O	U		1				x
18	P-218-R13WT	8/16/2023	9:04	GRAB	O	U		1				x
19	P-219-R14EDW	8/16/2023	9:05	GRAB	O	U		1				x
20	P-220-S12C	8/16/2023	9:06	GRAB	O	U		1				x

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS
GLASS
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

	Date/Time:
Relinquished by: (signature)	8/22/23 1258
Received by: (signature)	8-22-23 1258
Relinquished by: (signature)	8-22-23 1746
Received by: (signature) 3.8, 2.2, 3.9	8/22/23
Relinquished by: (signature) 2.6, 5.6	1746
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other

☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist
	Effective Date: 07/13/2023

Log In Back-Sheet

Client: Nobis Group

Project: St Johnsbury Armory

MCP/RCP Required: no

Deliverable Package Requirement: none

Location: St. Johnsbury, VT

PWSID# (When Applicable): n/a

Arrival Method:

Courier ☑ Fed Ex ☐ Walk In ☐ Other ☐

Received By / Date / Time: ER 8/22/23 1746

Back-Sheet By / Date / Time: Mem 8/22/23 2217

Temperature Method: Gun # 5

Temp < 6° C Actual Temperature: 22.26, 38.39.56

Rush Samples: Yes / No Notify: No

Short Hold: Yes / No Notify: No

Notes regarding Samples/COC outside of SOP:

* Sample split into fifteen Separate work orders

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy) Any False statement will be brought to the attention of the Client – True or False

	True	False
Received on Ice	☑	☐
Received in Cooler	☑	☐
Custody Seal: DATE TIME	☐	☑
COC Relinquished	☑	☐
COC/Samples Labels Agree	☑	☐
All Samples in Good Condition	☑	☐
Samples Received within Holding Time	☑	☐
Is there enough Volume	☑	☐
Proper Media/Container Used	☑	☐
Splitting Samples Required	☑ see notes	☐
MS/MSD	☑	☐
Trip Blanks	☐	☑
Lab to Filters	☐	☑
COC Legible	☑	☐

COC Included: (Check all included)

Client ☑ Analysis ☑ Sampler Name ☑

Project ☑ IDs ☑ Collection Date/Time ☑

All Samples Proper pH: N/A ☐ ☐

Additional Container Notes

Note: West Virginia requires all samples to have their temperature taken. Note any outliers.

Qualtrax ID: 120836

Pace ANALYTICAL SERVICES

DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist

Effective Date: 07/13/2023

Sample			
16oz Amb/Clear	Soils Jars (Circle Amb/Clear)		
8oz Amb/Clear			
4oz Amb/Clear			
2oz Amb/Clear			
Unpreserved	Ambers	1 Liter	
HCL			
Sulfuric			
Sulfuric		250mL	
Phosphoric			
HCl			
Unpreserved		100mL	
Unpreserved	Plastics	1 Liter	
Sulfuric			
Unpreserved		500mL	
Sulfuric			
Unpreserved		250mL	
Trizma			
Sulfuric			
Nitric			
NaOH			
Ammonium Acetate			
NaOH/Zinc			
Unpreserved	VOA Vials		
HCl			
MeOH			
D.I. Water			
BiSulfate			
Col/Bact	Other / Fill in		

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Qualtrax ID: 120836

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

September 13, 2023

Tim Andrews
Nobis Engineering
585 Middlesex Street
Lowell, MA 01851

Project Location: St. Johnsbury, VT
Client Job Number:
Project Number: S00001.017
Laboratory Work Order Number: 23H3265

Enclosed are results of analyses for samples as received by the laboratory on August 22, 2023. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Rebecca Faust
Project Manager

Table of Contents

Sample Summary 4

Case Narrative 5

Sample Results 7

23H3265-01 7

23H3265-02 8

23H3265-03 9

23H3265-04 10

23H3265-05 11

23H3265-06 12

23H3265-07 13

23H3265-08 14

23H3265-09 15

23H3265-10 16

23H3265-11 17

23H3265-12 18

23H3265-13 19

23H3265-14 20

23H3265-15 21

23H3265-16 22

23H3265-17 23

23H3265-18 24

23H3265-19 25

23H3265-20 26

Sample Preparation Information 27

QC Data 28

Table of Contents (continued)

Polychlorinated Biphenyls with 3540 Soxhlet Extraction 28

B351288 28

B351289 29

B351347 30

B351490 31

Dual Column RPD Report 33

Flag/Qualifier Summary 65

Certifications 66

Chain of Custody/Sample Receipt 67

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Nobis Engineering
585 Middlesex Street
Lowell, MA 01851
ATTN: Tim Andrews

REPORT DATE: 9/13/2023

PURCHASE ORDER NUMBER:

PROJECT NUMBER: S00001.017

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23H3265

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: St. Johnsbury, VT

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
P-221-R15WT	23H3265-01	Paint		SW-846 8082A	
P-222-R16NP	23H3265-02	Paint		SW-846 8082A	
P-223-S12N	23H3265-03	Paint		SW-846 8082A	
P-224-R23C	23H3265-04	Paint		SW-846 8082A	
P-225-R13S	23H3265-05	Product/Solid		SW-846 8082A	
P-226-R14SDW	23H3265-06	Paint		SW-846 8082A	
P-227-R14-EP	23H3265-07	Product/Solid		SW-846 8082A	
P-228-R12WT	23H3265-08	Paint		SW-846 8082A	
P-229-R14CDW	23H3265-09	Paint		SW-846 8082A	
P-230-R13CWP	23H3265-10	Paint		SW-846 8082A	
P-231-R11CP	23H3265-11	Product/Solid		SW-846 8082A	
P-232-R13F	23H3265-12	Product/Solid		SW-846 8082A	
P-233-R13E	23H3265-13	Paint		SW-846 8082A	
P-234-R12F	23H3265-14	Product/Solid		SW-846 8082A	
P-235-R25D	23H3265-15	Paint		SW-846 8082A	
P-236-R15S	23H3265-16	Paint		SW-846 8082A	
P-237-R33NB	23H3265-17	Paint		SW-846 8082A	
P-238-R35C	23H3265-18	Paint		SW-846 8082A	
P-239-S01F	23H3265-19	Paint		SW-846 8082A	
P-240-R13D	23H3265-20	Paint		SW-846 8082A	

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

SW-846 8082A

Qualifications:

MS-21

Matrix spike and/or spike duplicate recovery bias high due to contribution of other Aroclors present in the source sample.

Analyte & Samples(s) Qualified:

Aroclor-1016
B351347-MS1, B351347-MSD1

Aroclor-1016 [2C]
B351347-MS1, B351347-MSD1

Aroclor-1260
B351347-MS1, B351347-MSD1, B351490-MS1, B351490-MSD1

Aroclor-1260 [2C]
B351347-MS1, B351347-MSD1, B351490-MS1, B351490-MSD1

S-01

The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

Analyte & Samples(s) Qualified:

Decachlorobiphenyl
23H3265-04[P-224-R23C], 23H3265-05[P-225-R13S], 23H3265-12[P-232-R13F], 23H3265-17[P-237-R33NB], B351347-MS1, B351347-MSD1, B351490-MS1, B351490-MSD1

Decachlorobiphenyl [2C]
23H3265-04[P-224-R23C], 23H3265-05[P-225-R13S], 23H3265-12[P-232-R13F], 23H3265-17[P-237-R33NB], B351347-MS1, B351347-MSD1, B351490-MS1, B351490-MSD1

Tetrachloro-m-xylene
23H3265-04[P-224-R23C], 23H3265-05[P-225-R13S], 23H3265-12[P-232-R13F], 23H3265-17[P-237-R33NB], B351347-MS1, B351347-MSD1, B351490-MS1, B351490-MSD1

Tetrachloro-m-xylene [2C]
23H3265-04[P-224-R23C], 23H3265-05[P-225-R13S], 23H3265-12[P-232-R13F], 23H3265-17[P-237-R33NB], B351347-MS1, B351347-MSD1, B351490-MS1, B351490-MSD1

Z-01

The spike recovery for this MS/MSD is not available due to dilution below the spike reporting limit required from high analyte concentration and/or matrix interferences.

Analyte & Samples(s) Qualified:

Aroclor-1016
B351490-MS1, B351490-MSD1

Aroclor-1016 [2C]
B351490-MS1, B351490-MSD1

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Lisa A. Worthington
Technical Representative

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3265

Date Received: 8/22/2023

Field Sample #: P-221-R15WT | Sampled: 8/16/2023 09:07

Sample ID: 23H3265-01

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	3.8	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 13:22	TG
Aroclor-1221 [1]	ND	3.8	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 13:22	TG
Aroclor-1232 [1]	ND	3.8	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 13:22	TG
Aroclor-1242 [1]	ND	3.8	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 13:22	TG
Aroclor-1248 [1]	ND	3.8	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 13:22	TG
Aroclor-1254 [2]	63	3.8	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 13:22	TG
Aroclor-1260 [1]	ND	3.8	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 13:22	TG
Aroclor-1262 [1]	ND	3.8	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 13:22	TG
Aroclor-1268 [1]	ND	3.8	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 13:22	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	97.6	30-150		9/12/23 13:22
Decachlorobiphenyl [2]	96.0	30-150		9/12/23 13:22
Tetrachloro-m-xylene [1]	91.7	30-150		9/12/23 13:22
Tetrachloro-m-xylene [2]	94.6	30-150		9/12/23 13:22

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3265

Date Received: 8/22/2023

Field Sample #: P-222-R16NP | Sampled: 8/16/2023 09:08

Sample ID: 23H3265-02

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	3.6	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 12:28	SFM
Aroclor-1221 [1]	ND	3.6	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 12:28	SFM
Aroclor-1232 [1]	ND	3.6	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 12:28	SFM
Aroclor-1242 [1]	ND	3.6	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 12:28	SFM
Aroclor-1248 [1]	ND	3.6	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 12:28	SFM
Aroclor-1254 [2]	16	3.6	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 12:28	SFM
Aroclor-1260 [1]	ND	3.6	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 12:28	SFM
Aroclor-1262 [1]	ND	3.6	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 12:28	SFM
Aroclor-1268 [1]	ND	3.6	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 12:28	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	97.8	30-150		9/12/23 12:28
Decachlorobiphenyl [2]	97.2	30-150		9/12/23 12:28
Tetrachloro-m-xylene [1]	89.1	30-150		9/12/23 12:28
Tetrachloro-m-xylene [2]	89.8	30-150		9/12/23 12:28

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3265

Date Received: 8/22/2023

Field Sample #: P-223-S12N | Sampled: 8/16/2023 09:09

Sample ID: 23H3265-03

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 12:45	SFM
Aroclor-1221 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 12:45	SFM
Aroclor-1232 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 12:45	SFM
Aroclor-1242 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 12:45	SFM
Aroclor-1248 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 12:45	SFM
Aroclor-1254 [1]	64	4.7	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 12:45	SFM
Aroclor-1260 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 12:45	SFM
Aroclor-1262 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 12:45	SFM
Aroclor-1268 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 12:45	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	99.1	30-150		9/12/23 12:45
Decachlorobiphenyl [2]	98.7	30-150		9/12/23 12:45
Tetrachloro-m-xylene [1]	91.8	30-150		9/12/23 12:45
Tetrachloro-m-xylene [2]	90.6	30-150		9/12/23 12:45

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3265

Date Received: 8/22/2023

Field Sample #: P-224-R23C | Sampled: 8/16/2023 09:10

Sample ID: 23H3265-04

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	45	mg/Kg	100		SW-846 8082A	9/7/23	9/12/23 13:02	SFM
Aroclor-1221 [1]	ND	45	mg/Kg	100		SW-846 8082A	9/7/23	9/12/23 13:02	SFM
Aroclor-1232 [1]	ND	45	mg/Kg	100		SW-846 8082A	9/7/23	9/12/23 13:02	SFM
Aroclor-1242 [1]	ND	45	mg/Kg	100		SW-846 8082A	9/7/23	9/12/23 13:02	SFM
Aroclor-1248 [1]	ND	45	mg/Kg	100		SW-846 8082A	9/7/23	9/12/23 13:02	SFM
Aroclor-1254 [2]	950	45	mg/Kg	100		SW-846 8082A	9/7/23	9/12/23 13:02	SFM
Aroclor-1260 [1]	ND	45	mg/Kg	100		SW-846 8082A	9/7/23	9/12/23 13:02	SFM
Aroclor-1262 [1]	ND	45	mg/Kg	100		SW-846 8082A	9/7/23	9/12/23 13:02	SFM
Aroclor-1268 [1]	ND	45	mg/Kg	100		SW-846 8082A	9/7/23	9/12/23 13:02	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/12/23 13:02
Decachlorobiphenyl [2]	*	30-150	S-01	9/12/23 13:02
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/12/23 13:02
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/12/23 13:02

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3265

Date Received: 8/22/2023

Field Sample #: P-225-R13S | Sampled: 8/16/2023 09:11

Sample ID: 23H3265-05

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.2	mg/Kg	50		SW-846 8082A	9/7/23	9/12/23 22:46	TG
Aroclor-1221 [1]	ND	4.2	mg/Kg	50		SW-846 8082A	9/7/23	9/12/23 22:46	TG
Aroclor-1232 [1]	ND	4.2	mg/Kg	50		SW-846 8082A	9/7/23	9/12/23 22:46	TG
Aroclor-1242 [1]	ND	4.2	mg/Kg	50		SW-846 8082A	9/7/23	9/12/23 22:46	TG
Aroclor-1248 [1]	ND	4.2	mg/Kg	50		SW-846 8082A	9/7/23	9/12/23 22:46	TG
Aroclor-1254 [1]	4.5	4.2	mg/Kg	50		SW-846 8082A	9/7/23	9/12/23 22:46	TG
Aroclor-1260 [1]	ND	4.2	mg/Kg	50		SW-846 8082A	9/7/23	9/12/23 22:46	TG
Aroclor-1262 [1]	ND	4.2	mg/Kg	50		SW-846 8082A	9/7/23	9/12/23 22:46	TG
Aroclor-1268 [1]	ND	4.2	mg/Kg	50		SW-846 8082A	9/7/23	9/12/23 22:46	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/12/23 22:46
Decachlorobiphenyl [2]	*	30-150	S-01	9/12/23 22:46
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/12/23 22:46
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/12/23 22:46

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3265

Date Received: 8/22/2023

Field Sample #: P-226-R14SDW | Sampled: 8/16/2023 09:12

Sample ID: 23H3265-06

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	2.1	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 13:19	SFM
Aroclor-1221 [1]	ND	2.1	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 13:19	SFM
Aroclor-1232 [1]	ND	2.1	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 13:19	SFM
Aroclor-1242 [1]	ND	2.1	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 13:19	SFM
Aroclor-1248 [1]	ND	2.1	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 13:19	SFM
Aroclor-1254 [1]	12	2.1	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 13:19	SFM
Aroclor-1260 [1]	ND	2.1	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 13:19	SFM
Aroclor-1262 [1]	ND	2.1	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 13:19	SFM
Aroclor-1268 [1]	ND	2.1	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 13:19	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	101	30-150		9/12/23 13:19
Decachlorobiphenyl [2]	100	30-150		9/12/23 13:19
Tetrachloro-m-xylene [1]	93.1	30-150		9/12/23 13:19
Tetrachloro-m-xylene [2]	94.2	30-150		9/12/23 13:19

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3265

Date Received: 8/22/2023

Field Sample #: P-227-R14-EP | Sampled: 8/16/2023 09:13

Sample ID: 23H3265-07

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	1.7	mg/Kg	20		SW-846 8082A	9/7/23	9/12/23 23:03	TG
Aroclor-1221 [1]	ND	1.7	mg/Kg	20		SW-846 8082A	9/7/23	9/12/23 23:03	TG
Aroclor-1232 [1]	ND	1.7	mg/Kg	20		SW-846 8082A	9/7/23	9/12/23 23:03	TG
Aroclor-1242 [1]	ND	1.7	mg/Kg	20		SW-846 8082A	9/7/23	9/12/23 23:03	TG
Aroclor-1248 [1]	1.8	1.7	mg/Kg	20		SW-846 8082A	9/7/23	9/12/23 23:03	TG
Aroclor-1254 [1]	3.0	1.7	mg/Kg	20		SW-846 8082A	9/7/23	9/12/23 23:03	TG
Aroclor-1260 [1]	ND	1.7	mg/Kg	20		SW-846 8082A	9/7/23	9/12/23 23:03	TG
Aroclor-1262 [1]	ND	1.7	mg/Kg	20		SW-846 8082A	9/7/23	9/12/23 23:03	TG
Aroclor-1268 [1]	ND	1.7	mg/Kg	20		SW-846 8082A	9/7/23	9/12/23 23:03	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	106	30-150		9/12/23 23:03
Decachlorobiphenyl [2]	97.0	30-150		9/12/23 23:03
Tetrachloro-m-xylene [1]	93.1	30-150		9/12/23 23:03
Tetrachloro-m-xylene [2]	88.9	30-150		9/12/23 23:03

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3265

Date Received: 8/22/2023

Field Sample #: P-228-R12WT | Sampled: 8/16/2023 09:14

Sample ID: 23H3265-08

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.1	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 13:36	SFM
Aroclor-1221 [1]	ND	4.1	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 13:36	SFM
Aroclor-1232 [1]	ND	4.1	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 13:36	SFM
Aroclor-1242 [1]	ND	4.1	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 13:36	SFM
Aroclor-1248 [1]	ND	4.1	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 13:36	SFM
Aroclor-1254 [1]	26	4.1	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 13:36	SFM
Aroclor-1260 [1]	ND	4.1	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 13:36	SFM
Aroclor-1262 [1]	ND	4.1	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 13:36	SFM
Aroclor-1268 [1]	ND	4.1	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 13:36	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	102	30-150		9/12/23 13:36
Decachlorobiphenyl [2]	101	30-150		9/12/23 13:36
Tetrachloro-m-xylene [1]	93.4	30-150		9/12/23 13:36
Tetrachloro-m-xylene [2]	93.8	30-150		9/12/23 13:36

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3265

Date Received: 8/22/2023

Field Sample #: P-229-R14CDW | Sampled: 8/16/2023 09:51

Sample ID: 23H3265-09

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	2.2	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 13:53	SFM
Aroclor-1221 [1]	ND	2.2	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 13:53	SFM
Aroclor-1232 [1]	ND	2.2	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 13:53	SFM
Aroclor-1242 [1]	ND	2.2	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 13:53	SFM
Aroclor-1248 [1]	ND	2.2	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 13:53	SFM
Aroclor-1254 [2]	8.9	2.2	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 13:53	SFM
Aroclor-1260 [1]	ND	2.2	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 13:53	SFM
Aroclor-1262 [1]	ND	2.2	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 13:53	SFM
Aroclor-1268 [1]	ND	2.2	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 13:53	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	70.9	30-150		9/12/23 13:53
Decachlorobiphenyl [2]	70.2	30-150		9/12/23 13:53
Tetrachloro-m-xylene [1]	58.6	30-150		9/12/23 13:53
Tetrachloro-m-xylene [2]	59.2	30-150		9/12/23 13:53

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3265

Date Received: 8/22/2023

Field Sample #: P-230-R13CWP | Sampled: 8/16/2023 09:16

Sample ID: 23H3265-10

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	2.2	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 14:10	SFM
Aroclor-1221 [1]	ND	2.2	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 14:10	SFM
Aroclor-1232 [1]	ND	2.2	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 14:10	SFM
Aroclor-1242 [1]	ND	2.2	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 14:10	SFM
Aroclor-1248 [1]	ND	2.2	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 14:10	SFM
Aroclor-1254 [1]	4.5	2.2	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 14:10	SFM
Aroclor-1260 [1]	ND	2.2	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 14:10	SFM
Aroclor-1262 [1]	ND	2.2	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 14:10	SFM
Aroclor-1268 [1]	ND	2.2	mg/Kg	5		SW-846 8082A	9/7/23	9/12/23 14:10	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	93.3	30-150		9/12/23 14:10
Decachlorobiphenyl [2]	92.6	30-150		9/12/23 14:10
Tetrachloro-m-xylene [1]	88.0	30-150		9/12/23 14:10
Tetrachloro-m-xylene [2]	90.5	30-150		9/12/23 14:10

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3265

Date Received: 8/22/2023

Field Sample #: P-231-R11CP | Sampled: 8/16/2023 09:17

Sample ID: 23H3265-11

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.91	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 23:20	TG
Aroclor-1221 [1]	ND	0.91	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 23:20	TG
Aroclor-1232 [1]	ND	0.91	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 23:20	TG
Aroclor-1242 [1]	ND	0.91	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 23:20	TG
Aroclor-1248 [1]	ND	0.91	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 23:20	TG
Aroclor-1254 [2]	1.7	0.91	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 23:20	TG
Aroclor-1260 [1]	ND	0.91	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 23:20	TG
Aroclor-1262 [1]	ND	0.91	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 23:20	TG
Aroclor-1268 [1]	ND	0.91	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 23:20	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	85.3	30-150		9/12/23 23:20
Decachlorobiphenyl [2]	77.0	30-150		9/12/23 23:20
Tetrachloro-m-xylene [1]	97.6	30-150		9/12/23 23:20
Tetrachloro-m-xylene [2]	88.5	30-150		9/12/23 23:20

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3265

Date Received: 8/22/2023

Field Sample #: P-232-R13F | Sampled: 8/16/2023 09:18

Sample ID: 23H3265-12

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.8	mg/Kg	50		SW-846 8082A	9/7/23	9/12/23 23:37	TG
Aroclor-1221 [1]	ND	4.8	mg/Kg	50		SW-846 8082A	9/7/23	9/12/23 23:37	TG
Aroclor-1232 [1]	ND	4.8	mg/Kg	50		SW-846 8082A	9/7/23	9/12/23 23:37	TG
Aroclor-1242 [1]	ND	4.8	mg/Kg	50		SW-846 8082A	9/7/23	9/12/23 23:37	TG
Aroclor-1248 [1]	ND	4.8	mg/Kg	50		SW-846 8082A	9/7/23	9/12/23 23:37	TG
Aroclor-1254 [2]	27	4.8	mg/Kg	50		SW-846 8082A	9/7/23	9/12/23 23:37	TG
Aroclor-1260 [1]	ND	4.8	mg/Kg	50		SW-846 8082A	9/7/23	9/12/23 23:37	TG
Aroclor-1262 [1]	ND	4.8	mg/Kg	50		SW-846 8082A	9/7/23	9/12/23 23:37	TG
Aroclor-1268 [1]	ND	4.8	mg/Kg	50		SW-846 8082A	9/7/23	9/12/23 23:37	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/12/23 23:37
Decachlorobiphenyl [2]	*	30-150	S-01	9/12/23 23:37
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/12/23 23:37
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/12/23 23:37

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3265

Date Received: 8/22/2023

Field Sample #: P-233-R13E | Sampled: 8/16/2023 09:19

Sample ID: 23H3265-13

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.1	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 14:27	SFM
Aroclor-1221 [1]	ND	4.1	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 14:27	SFM
Aroclor-1232 [1]	ND	4.1	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 14:27	SFM
Aroclor-1242 [1]	ND	4.1	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 14:27	SFM
Aroclor-1248 [1]	ND	4.1	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 14:27	SFM
Aroclor-1254 [1]	8.3	4.1	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 14:27	SFM
Aroclor-1260 [1]	ND	4.1	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 14:27	SFM
Aroclor-1262 [1]	ND	4.1	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 14:27	SFM
Aroclor-1268 [1]	ND	4.1	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 14:27	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	106	30-150		9/12/23 14:27
Decachlorobiphenyl [2]	105	30-150		9/12/23 14:27
Tetrachloro-m-xylene [1]	97.4	30-150		9/12/23 14:27
Tetrachloro-m-xylene [2]	98.4	30-150		9/12/23 14:27

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3265

Date Received: 8/22/2023

Field Sample #: P-234-R12F | Sampled: 8/16/2023 09:20

Sample ID: 23H3265-14

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.94	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 23:54	TG
Aroclor-1221 [1]	ND	0.94	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 23:54	TG
Aroclor-1232 [1]	ND	0.94	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 23:54	TG
Aroclor-1242 [1]	ND	0.94	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 23:54	TG
Aroclor-1248 [1]	6.6	0.94	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 23:54	TG
Aroclor-1254 [2]	6.4	0.94	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 23:54	TG
Aroclor-1260 [1]	ND	0.94	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 23:54	TG
Aroclor-1262 [1]	ND	0.94	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 23:54	TG
Aroclor-1268 [1]	ND	0.94	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 23:54	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	77.1	30-150		9/12/23 23:54
Decachlorobiphenyl [2]	77.0	30-150		9/12/23 23:54
Tetrachloro-m-xylene [1]	94.9	30-150		9/12/23 23:54
Tetrachloro-m-xylene [2]	92.3	30-150		9/12/23 23:54

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3265

Date Received: 8/22/2023

Field Sample #: P-235-R25D | Sampled: 8/16/2023 09:21

Sample ID: 23H3265-15

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.5	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 14:44	SFM
Aroclor-1221 [1]	ND	4.5	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 14:44	SFM
Aroclor-1232 [1]	ND	4.5	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 14:44	SFM
Aroclor-1242 [1]	ND	4.5	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 14:44	SFM
Aroclor-1248 [1]	ND	4.5	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 14:44	SFM
Aroclor-1254 [1]	19	4.5	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 14:44	SFM
Aroclor-1260 [1]	ND	4.5	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 14:44	SFM
Aroclor-1262 [1]	ND	4.5	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 14:44	SFM
Aroclor-1268 [1]	ND	4.5	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 14:44	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	99.0	30-150		9/12/23 14:44
Decachlorobiphenyl [2]	97.6	30-150		9/12/23 14:44
Tetrachloro-m-xylene [1]	87.4	30-150		9/12/23 14:44
Tetrachloro-m-xylene [2]	89.0	30-150		9/12/23 14:44

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3265

Date Received: 8/22/2023

Field Sample #: P-236-R15S | Sampled: 8/16/2023 09:22

Sample ID: 23H3265-16

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	3.8	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 15:01	SFM
Aroclor-1221 [1]	ND	3.8	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 15:01	SFM
Aroclor-1232 [1]	ND	3.8	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 15:01	SFM
Aroclor-1242 [1]	ND	3.8	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 15:01	SFM
Aroclor-1248 [1]	ND	3.8	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 15:01	SFM
Aroclor-1254 [1]	59	3.8	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 15:01	SFM
Aroclor-1260 [1]	ND	3.8	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 15:01	SFM
Aroclor-1262 [1]	ND	3.8	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 15:01	SFM
Aroclor-1268 [1]	ND	3.8	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 15:01	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	96.9	30-150		9/12/23 15:01
Decachlorobiphenyl [2]	95.8	30-150		9/12/23 15:01
Tetrachloro-m-xylene [1]	91.4	30-150		9/12/23 15:01
Tetrachloro-m-xylene [2]	93.0	30-150		9/12/23 15:01

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3265

Date Received: 8/22/2023

Field Sample #: P-237-R33NB | Sampled: 8/16/2023 08:23

Sample ID: 23H3265-17

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	24	mg/Kg	50		SW-846 8082A	9/8/23	9/12/23 22:56	SFM
Aroclor-1221 [1]	ND	24	mg/Kg	50		SW-846 8082A	9/8/23	9/12/23 22:56	SFM
Aroclor-1232 [1]	ND	24	mg/Kg	50		SW-846 8082A	9/8/23	9/12/23 22:56	SFM
Aroclor-1242 [1]	ND	24	mg/Kg	50		SW-846 8082A	9/8/23	9/12/23 22:56	SFM
Aroclor-1248 [1]	ND	24	mg/Kg	50		SW-846 8082A	9/8/23	9/12/23 22:56	SFM
Aroclor-1254 [1]	320	24	mg/Kg	50		SW-846 8082A	9/8/23	9/12/23 22:56	SFM
Aroclor-1260 [1]	ND	24	mg/Kg	50		SW-846 8082A	9/8/23	9/12/23 22:56	SFM
Aroclor-1262 [1]	ND	24	mg/Kg	50		SW-846 8082A	9/8/23	9/12/23 22:56	SFM
Aroclor-1268 [1]	ND	24	mg/Kg	50		SW-846 8082A	9/8/23	9/12/23 22:56	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/12/23 22:56
Decachlorobiphenyl [2]	*	30-150	S-01	9/12/23 22:56
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/12/23 22:56
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/12/23 22:56

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3265

Date Received: 8/22/2023

Field Sample #: P-238-R35C | Sampled: 8/16/2023 09:24

Sample ID: 23H3265-18

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	9.3	mg/Kg	20		SW-846 8082A	9/7/23	9/12/23 15:18	SFM
Aroclor-1221 [1]	ND	9.3	mg/Kg	20		SW-846 8082A	9/7/23	9/12/23 15:18	SFM
Aroclor-1232 [1]	ND	9.3	mg/Kg	20		SW-846 8082A	9/7/23	9/12/23 15:18	SFM
Aroclor-1242 [1]	ND	9.3	mg/Kg	20		SW-846 8082A	9/7/23	9/12/23 15:18	SFM
Aroclor-1248 [1]	ND	9.3	mg/Kg	20		SW-846 8082A	9/7/23	9/12/23 15:18	SFM
Aroclor-1254 [1]	130	9.3	mg/Kg	20		SW-846 8082A	9/7/23	9/12/23 15:18	SFM
Aroclor-1260 [1]	ND	9.3	mg/Kg	20		SW-846 8082A	9/7/23	9/12/23 15:18	SFM
Aroclor-1262 [1]	ND	9.3	mg/Kg	20		SW-846 8082A	9/7/23	9/12/23 15:18	SFM
Aroclor-1268 [1]	ND	9.3	mg/Kg	20		SW-846 8082A	9/7/23	9/12/23 15:18	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	100	30-150		9/12/23 15:18
Decachlorobiphenyl [2]	98.1	30-150		9/12/23 15:18
Tetrachloro-m-xylene [1]	92.6	30-150		9/12/23 15:18
Tetrachloro-m-xylene [2]	93.2	30-150		9/12/23 15:18

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3265

Date Received: 8/22/2023

Field Sample #: P-239-S01F | Sampled: 8/16/2023 09:25

Sample ID: 23H3265-19

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	7.6	mg/Kg	20		SW-846 8082A	9/7/23	9/12/23 15:35	SFM
Aroclor-1221 [1]	ND	7.6	mg/Kg	20		SW-846 8082A	9/7/23	9/12/23 15:35	SFM
Aroclor-1232 [1]	ND	7.6	mg/Kg	20		SW-846 8082A	9/7/23	9/12/23 15:35	SFM
Aroclor-1242 [1]	ND	7.6	mg/Kg	20		SW-846 8082A	9/7/23	9/12/23 15:35	SFM
Aroclor-1248 [1]	ND	7.6	mg/Kg	20		SW-846 8082A	9/7/23	9/12/23 15:35	SFM
Aroclor-1254 [2]	110	7.6	mg/Kg	20		SW-846 8082A	9/7/23	9/12/23 15:35	SFM
Aroclor-1260 [1]	ND	7.6	mg/Kg	20		SW-846 8082A	9/7/23	9/12/23 15:35	SFM
Aroclor-1262 [1]	ND	7.6	mg/Kg	20		SW-846 8082A	9/7/23	9/12/23 15:35	SFM
Aroclor-1268 [1]	ND	7.6	mg/Kg	20		SW-846 8082A	9/7/23	9/12/23 15:35	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	101	30-150		9/12/23 15:35
Decachlorobiphenyl [2]	98.6	30-150		9/12/23 15:35
Tetrachloro-m-xylene [1]	92.2	30-150		9/12/23 15:35
Tetrachloro-m-xylene [2]	91.9	30-150		9/12/23 15:35

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3265

Date Received: 8/22/2023

Field Sample #: P-240-R13D | Sampled: 8/16/2023 09:26

Sample ID: 23H3265-20

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 15:52	SFM
Aroclor-1221 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 15:52	SFM
Aroclor-1232 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 15:52	SFM
Aroclor-1242 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 15:52	SFM
Aroclor-1248 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 15:52	SFM
Aroclor-1254 [2]	25	3.9	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 15:52	SFM
Aroclor-1260 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 15:52	SFM
Aroclor-1262 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 15:52	SFM
Aroclor-1268 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 15:52	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	96.4	30-150		9/12/23 15:52
Decachlorobiphenyl [2]	94.8	30-150		9/12/23 15:52
Tetrachloro-m-xylene [1]	92.0	30-150		9/12/23 15:52
Tetrachloro-m-xylene [2]	92.2	30-150		9/12/23 15:52

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method:SW-846 3540C **Analytical Method:SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23H3265-02 [P-222-R16NP]	B351288	0.280	10.0	09/07/23
23H3265-03 [P-223-S12N]	B351288	0.213	10.0	09/07/23
23H3265-04 [P-224-R23C]	B351288	0.221	10.0	09/07/23
23H3265-06 [P-226-R14SDW]	B351288	0.236	10.0	09/07/23
23H3265-08 [P-228-R12WT]	B351288	0.246	10.0	09/07/23
23H3265-09 [P-229-R14CDW]	B351288	0.232	10.0	09/07/23
23H3265-10 [P-230-R13CWP]	B351288	0.223	10.0	09/07/23
23H3265-13 [P-233-R13E]	B351288	0.247	10.0	09/07/23
23H3265-15 [P-235-R25D]	B351288	0.223	10.0	09/07/23
23H3265-16 [P-236-R15S]	B351288	0.266	10.0	09/07/23
23H3265-18 [P-238-R35C]	B351288	0.214	10.0	09/07/23
23H3265-19 [P-239-S01F]	B351288	0.263	10.0	09/07/23
23H3265-20 [P-240-R13D]	B351288	0.258	10.0	09/07/23

Prep Method:SW-846 3540C **Analytical Method:SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23H3265-01 [P-221-R15WT]	B351289	0.260	10.0	09/07/23

Prep Method:SW-846 3540C **Analytical Method:SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23H3265-17 [P-237-R33NB]	B351490	0.205	10.0	09/08/23

Prep Method:SW-846 3540C **Analytical Method:SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23H3265-05 [P-225-R13S]	B351347	2.40	10.0	09/07/23
23H3265-07 [P-227-R14-EP]	B351347	2.33	10.0	09/07/23
23H3265-11 [P-231-R11CP]	B351347	2.20	10.0	09/07/23
23H3265-12 [P-232-R13F]	B351347	2.09	10.0	09/07/23
23H3265-14 [P-234-R12F]	B351347	2.13	10.0	09/07/23

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B351288 - SW-846 3540C										
Blank (B351288-BLK1)				Prepared: 09/07/23 Analyzed: 09/12/23						
Aroclor-1016	ND	0.42	mg/Kg							
Aroclor-1016 [2C]	ND	0.42	mg/Kg							
Aroclor-1221	ND	0.42	mg/Kg							
Aroclor-1221 [2C]	ND	0.42	mg/Kg							
Aroclor-1232	ND	0.42	mg/Kg							
Aroclor-1232 [2C]	ND	0.42	mg/Kg							
Aroclor-1242	ND	0.42	mg/Kg							
Aroclor-1242 [2C]	ND	0.42	mg/Kg							
Aroclor-1248	ND	0.42	mg/Kg							
Aroclor-1248 [2C]	ND	0.42	mg/Kg							
Aroclor-1254	ND	0.42	mg/Kg							
Aroclor-1254 [2C]	ND	0.42	mg/Kg							
Aroclor-1260	ND	0.42	mg/Kg							
Aroclor-1260 [2C]	ND	0.42	mg/Kg							
Aroclor-1262	ND	0.42	mg/Kg							
Aroclor-1262 [2C]	ND	0.42	mg/Kg							
Aroclor-1268	ND	0.42	mg/Kg							
Aroclor-1268 [2C]	ND	0.42	mg/Kg							
Surrogate: Decachlorobiphenyl	*6.33*		mg/Kg	8.48		74.7	30-150			
Surrogate: Decachlorobiphenyl [2C]	*6.30*		mg/Kg	8.48		74.3	30-150			
Surrogate: Tetrachloro-m-xylene	*5.74*		mg/Kg	8.48		67.7	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*5.83*		mg/Kg	8.48		68.8	30-150			
LCS (B351288-BS1)				Prepared: 09/07/23 Analyzed: 09/12/23						
Aroclor-1016	1.7	0.41	mg/Kg	2.06		84.9	40-140			
Aroclor-1016 [2C]	1.9	0.41	mg/Kg	2.06		94.2	40-140			
Aroclor-1260	1.7	0.41	mg/Kg	2.06		83.4	40-140			
Aroclor-1260 [2C]	1.7	0.41	mg/Kg	2.06		84.8	40-140			
Surrogate: Decachlorobiphenyl	*7.87*		mg/Kg	8.24		95.6	30-150			
Surrogate: Decachlorobiphenyl [2C]	*7.83*		mg/Kg	8.24		95.0	30-150			
Surrogate: Tetrachloro-m-xylene	*7.45*		mg/Kg	8.24		90.4	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*7.56*		mg/Kg	8.24		91.8	30-150			
LCS Dup (B351288-BSD1)				Prepared: 09/07/23 Analyzed: 09/12/23						
Aroclor-1016	1.6	0.39	mg/Kg	1.94		81.0	40-140	10.7	30	
Aroclor-1016 [2C]	1.7	0.39	mg/Kg	1.94		85.2	40-140	16.1	30	
Aroclor-1260	1.4	0.39	mg/Kg	1.94		70.2	40-140	23.2	30	
Aroclor-1260 [2C]	1.4	0.39	mg/Kg	1.94		73.9	40-140	19.7	30	
Surrogate: Decachlorobiphenyl	*6.74*		mg/Kg	7.75		87.0	30-150			
Surrogate: Decachlorobiphenyl [2C]	*6.75*		mg/Kg	7.75		87.0	30-150			
Surrogate: Tetrachloro-m-xylene	*6.03*		mg/Kg	7.75		77.8	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*6.15*		mg/Kg	7.75		79.3	30-150			

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B351289 - SW-846 3540C										
Blank (B351289-BLK1)				Prepared: 09/07/23 Analyzed: 09/12/23						
Aroclor-1016	ND	0.50	mg/Kg							
Aroclor-1016 [2C]	ND	0.50	mg/Kg							
Aroclor-1221	ND	0.50	mg/Kg							
Aroclor-1221 [2C]	ND	0.50	mg/Kg							
Aroclor-1232	ND	0.50	mg/Kg							
Aroclor-1232 [2C]	ND	0.50	mg/Kg							
Aroclor-1242	ND	0.50	mg/Kg							
Aroclor-1242 [2C]	ND	0.50	mg/Kg							
Aroclor-1248	ND	0.50	mg/Kg							
Aroclor-1248 [2C]	ND	0.50	mg/Kg							
Aroclor-1254	ND	0.50	mg/Kg							
Aroclor-1254 [2C]	ND	0.50	mg/Kg							
Aroclor-1260	ND	0.50	mg/Kg							
Aroclor-1260 [2C]	ND	0.50	mg/Kg							
Aroclor-1262	ND	0.50	mg/Kg							
Aroclor-1262 [2C]	ND	0.50	mg/Kg							
Aroclor-1268	ND	0.50	mg/Kg							
Aroclor-1268 [2C]	ND	0.50	mg/Kg							
Surrogate: Decachlorobiphenyl	*6.63*		mg/Kg	9.94		66.7	30-150			
Surrogate: Decachlorobiphenyl [2C]	*6.57*		mg/Kg	9.94		66.1	30-150			
Surrogate: Tetrachloro-m-xylene	*5.88*		mg/Kg	9.94		59.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*6.55*		mg/Kg	9.94		65.9	30-150			
LCS (B351289-BS1)				Prepared: 09/07/23 Analyzed: 09/12/23						
Aroclor-1016	1.4	0.48	mg/Kg	2.41		56.9	40-140			
Aroclor-1016 [2C]	1.7	0.48	mg/Kg	2.41		70.0	40-140			
Aroclor-1260	1.5	0.48	mg/Kg	2.41		64.0	40-140			
Aroclor-1260 [2C]	1.6	0.48	mg/Kg	2.41		66.7	40-140			
Surrogate: Decachlorobiphenyl	*7.23*		mg/Kg	9.62		75.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	*7.14*		mg/Kg	9.62		74.2	30-150			
Surrogate: Tetrachloro-m-xylene	*6.71*		mg/Kg	9.62		69.7	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*7.22*		mg/Kg	9.62		75.0	30-150			
LCS Dup (B351289-BSD1)				Prepared: 09/07/23 Analyzed: 09/12/23						
Aroclor-1016	1.3	0.47	mg/Kg	2.37		55.9	40-140	3.49	30	
Aroclor-1016 [2C]	1.5	0.47	mg/Kg	2.37		62.3	40-140	13.3	30	
Aroclor-1260	1.4	0.47	mg/Kg	2.37		57.4	40-140	12.5	30	
Aroclor-1260 [2C]	1.5	0.47	mg/Kg	2.37		62.0	40-140	8.95	30	
Surrogate: Decachlorobiphenyl	*6.66*		mg/Kg	9.47		70.4	30-150			
Surrogate: Decachlorobiphenyl [2C]	*6.52*		mg/Kg	9.47		68.9	30-150			
Surrogate: Tetrachloro-m-xylene	*6.30*		mg/Kg	9.47		66.5	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*6.83*		mg/Kg	9.47		72.2	30-150			

con-test® A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B351347 - SW-846 3540C										
Blank (B351347-BLK1)				Prepared: 09/07/23 Analyzed: 09/12/23						
Aroclor-1016	ND	0.090	mg/Kg							
Aroclor-1016 [2C]	ND	0.090	mg/Kg							
Aroclor-1221	ND	0.090	mg/Kg							
Aroclor-1221 [2C]	ND	0.090	mg/Kg							
Aroclor-1232	ND	0.090	mg/Kg							
Aroclor-1232 [2C]	ND	0.090	mg/Kg							
Aroclor-1242	ND	0.090	mg/Kg							
Aroclor-1242 [2C]	ND	0.090	mg/Kg							
Aroclor-1248	ND	0.090	mg/Kg							
Aroclor-1248 [2C]	ND	0.090	mg/Kg							
Aroclor-1254	ND	0.090	mg/Kg							
Aroclor-1254 [2C]	ND	0.090	mg/Kg							
Aroclor-1260	ND	0.090	mg/Kg							
Aroclor-1260 [2C]	ND	0.090	mg/Kg							
Aroclor-1262	ND	0.090	mg/Kg							
Aroclor-1262 [2C]	ND	0.090	mg/Kg							
Aroclor-1268	ND	0.090	mg/Kg							
Aroclor-1268 [2C]	ND	0.090	mg/Kg							
Surrogate: Decachlorobiphenyl	*0.947*		mg/Kg	0.905		105	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.921*		mg/Kg	0.905		102	30-150			
Surrogate: Tetrachloro-m-xylene	*0.801*		mg/Kg	0.905		88.5	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.795*		mg/Kg	0.905		87.9	30-150			
LCS (B351347-BS1)				Prepared: 09/07/23 Analyzed: 09/12/23						
Aroclor-1016	0.62	0.086	mg/Kg	0.862		71.8	40-140			
Aroclor-1016 [2C]	0.65	0.086	mg/Kg	0.862		75.2	40-140			
Aroclor-1260	0.66	0.086	mg/Kg	0.862		77.1	40-140			
Aroclor-1260 [2C]	0.70	0.086	mg/Kg	0.862		81.0	40-140			
Surrogate: Decachlorobiphenyl	*0.779*		mg/Kg	0.862		90.3	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.756*		mg/Kg	0.862		87.7	30-150			
Surrogate: Tetrachloro-m-xylene	*0.611*		mg/Kg	0.862		70.9	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.615*		mg/Kg	0.862		71.3	30-150			
LCS Dup (B351347-BSD1)				Prepared: 09/07/23 Analyzed: 09/12/23						
Aroclor-1016	0.69	0.091	mg/Kg	0.913		75.6	40-140	11.0	30	
Aroclor-1016 [2C]	0.73	0.091	mg/Kg	0.913		79.6	40-140	11.4	30	
Aroclor-1260	0.72	0.091	mg/Kg	0.913		78.7	40-140	7.80	30	
Aroclor-1260 [2C]	0.74	0.091	mg/Kg	0.913		80.8	40-140	5.45	30	
Surrogate: Decachlorobiphenyl	*0.879*		mg/Kg	0.913		96.3	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.863*		mg/Kg	0.913		94.5	30-150			
Surrogate: Tetrachloro-m-xylene	*0.692*		mg/Kg	0.913		75.8	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.734*		mg/Kg	0.913		80.4	30-150			

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B351347 - SW-846 3540C											
Matrix Spike (B351347-MS1)	**Source: 23H3265-05**			Prepared: 09/07/23 Analyzed: 09/13/23							
Aroclor-1016	1.3	4.4	mg/Kg	0.881	ND	**152**	*	40-140			MS-21
Aroclor-1016 [2C]	1.5	4.4	mg/Kg	0.881	ND	**172**	*	40-140			MS-21
Aroclor-1260	1.7	4.4	mg/Kg	0.881	ND	**190**	*	40-140			MS-21
Aroclor-1260 [2C]	1.7	4.4	mg/Kg	0.881	ND	**195**	*	40-140			MS-21
Surrogate: Decachlorobiphenyl	*0.00*		mg/Kg	0.881			*	30-150			S-01
Surrogate: Decachlorobiphenyl [2C]	*0.00*		mg/Kg	0.881			*	30-150			S-01
Surrogate: Tetrachloro-m-xylene	*0.00*		mg/Kg	0.881			*	30-150			S-01
Surrogate: Tetrachloro-m-xylene [2C]	*0.00*		mg/Kg	0.881			*	30-150			S-01
Matrix Spike Dup (B351347-MSD1)	**Source: 23H3265-05**			Prepared: 09/07/23 Analyzed: 09/13/23							
Aroclor-1016	1.1	4.1	mg/Kg	0.813	ND	140		40-140	16.1	50	MS-21
Aroclor-1016 [2C]	1.3	4.1	mg/Kg	0.813	ND	**162**	*	40-140		50	MS-21
Aroclor-1260	1.5	4.1	mg/Kg	0.813	ND	**189**	*	40-140	8.53	50	MS-21
Aroclor-1260 [2C]	1.5	4.1	mg/Kg	0.813	ND	**184**	*	40-140	14.0	50	MS-21
Surrogate: Decachlorobiphenyl	*0.00*		mg/Kg	0.813			*	30-150			S-01
Surrogate: Decachlorobiphenyl [2C]	*0.00*		mg/Kg	0.813			*	30-150			S-01
Surrogate: Tetrachloro-m-xylene	*0.00*		mg/Kg	0.813			*	30-150			S-01
Surrogate: Tetrachloro-m-xylene [2C]	*0.00*		mg/Kg	0.813			*	30-150			S-01
Batch B351490 - SW-846 3540C											
Blank (B351490-BLK1)				Prepared: 09/08/23 Analyzed: 09/12/23							
Aroclor-1016	ND	0.49	mg/Kg								
Aroclor-1016 [2C]	ND	0.49	mg/Kg								
Aroclor-1221	ND	0.49	mg/Kg								
Aroclor-1221 [2C]	ND	0.49	mg/Kg								
Aroclor-1232	ND	0.49	mg/Kg								
Aroclor-1232 [2C]	ND	0.49	mg/Kg								
Aroclor-1242	ND	0.49	mg/Kg								
Aroclor-1242 [2C]	ND	0.49	mg/Kg								
Aroclor-1248	ND	0.49	mg/Kg								
Aroclor-1248 [2C]	ND	0.49	mg/Kg								
Aroclor-1254	ND	0.49	mg/Kg								
Aroclor-1254 [2C]	ND	0.49	mg/Kg								
Aroclor-1260	ND	0.49	mg/Kg								
Aroclor-1260 [2C]	ND	0.49	mg/Kg								
Aroclor-1262	ND	0.49	mg/Kg								
Aroclor-1262 [2C]	ND	0.49	mg/Kg								
Aroclor-1268	ND	0.49	mg/Kg								
Aroclor-1268 [2C]	ND	0.49	mg/Kg								
Surrogate: Decachlorobiphenyl	*8.60*		mg/Kg	9.78		87.9		30-150			
Surrogate: Decachlorobiphenyl [2C]	*8.25*		mg/Kg	9.78		84.4		30-150			
Surrogate: Tetrachloro-m-xylene	*8.01*		mg/Kg	9.78		82.0		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*8.26*		mg/Kg	9.78		84.5		30-150			

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B351490 - SW-846 3540C											
LCS (B351490-BS1)				Prepared: 09/08/23 Analyzed: 09/12/23							
Aroclor-1016	1.6	0.44	mg/Kg	2.21		73.7		40-140			
Aroclor-1016 [2C]	1.8	0.44	mg/Kg	2.21		79.3		40-140			
Aroclor-1260	1.7	0.44	mg/Kg	2.21		75.9		40-140			
Aroclor-1260 [2C]	1.6	0.44	mg/Kg	2.21		70.9		40-140			
Surrogate: Decachlorobiphenyl	*7.45*		mg/Kg	8.82		84.4		30-150			
Surrogate: Decachlorobiphenyl [2C]	*7.24*		mg/Kg	8.82		82.1		30-150			
Surrogate: Tetrachloro-m-xylene	*7.38*		mg/Kg	8.82		83.7		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*7.53*		mg/Kg	8.82		85.4		30-150			
LCS Dup (B351490-BSD1)				Prepared: 09/08/23 Analyzed: 09/12/23							
Aroclor-1016	1.4	0.38	mg/Kg	1.91		75.4		40-140	12.3	30	
Aroclor-1016 [2C]	1.5	0.38	mg/Kg	1.91		80.3		40-140	13.4	30	
Aroclor-1260	1.6	0.38	mg/Kg	1.91		81.7		40-140	7.33	30	
Aroclor-1260 [2C]	1.5	0.38	mg/Kg	1.91		80.4		40-140	2.13	30	
Surrogate: Decachlorobiphenyl	*6.22*		mg/Kg	7.62		81.6		30-150			
Surrogate: Decachlorobiphenyl [2C]	*6.01*		mg/Kg	7.62		78.9		30-150			
Surrogate: Tetrachloro-m-xylene	*5.97*		mg/Kg	7.62		78.3		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*6.09*		mg/Kg	7.62		79.9		30-150			
Matrix Spike (B351490-MS1)		**Source: 23H3265-17**		Prepared: 09/08/23 Analyzed: 09/12/23							
Aroclor-1016	ND	24	mg/Kg	2.45	ND		*	40-140			Z-01
Aroclor-1016 [2C]	ND	24	mg/Kg	2.45	ND		*	40-140			Z-01
Aroclor-1260	10	24	mg/Kg	2.45	ND	**409**	*	40-140			MS-21
Aroclor-1260 [2C]	15	24	mg/Kg	2.45	ND	**623**	*	40-140			MS-21
Surrogate: Decachlorobiphenyl	*0.00*		mg/Kg	9.79			*	30-150			S-01
Surrogate: Decachlorobiphenyl [2C]	*0.00*		mg/Kg	9.79			*	30-150			S-01
Surrogate: Tetrachloro-m-xylene	*0.00*		mg/Kg	9.79			*	30-150			S-01
Surrogate: Tetrachloro-m-xylene [2C]	*0.00*		mg/Kg	9.79			*	30-150			S-01
Matrix Spike Dup (B351490-MSD1)		**Source: 23H3265-17**		Prepared: 09/08/23 Analyzed: 09/12/23							
Aroclor-1016	ND	20	mg/Kg	1.98	ND		*	40-140	NC	50	Z-01
Aroclor-1016 [2C]	ND	20	mg/Kg	1.98	ND		*	40-140	NC	50	Z-01
Aroclor-1260	13	20	mg/Kg	1.98	ND	**669**	*	40-140	27.6	50	MS-21
Aroclor-1260 [2C]	19	20	mg/Kg	1.98	ND	**983**	*	40-140	24.1	50	MS-21
Surrogate: Decachlorobiphenyl	*0.00*		mg/Kg	7.91			*	30-150			S-01
Surrogate: Decachlorobiphenyl [2C]	*0.00*		mg/Kg	7.91			*	30-150			S-01
Surrogate: Tetrachloro-m-xylene	*0.00*		mg/Kg	7.91			*	30-150			S-01
Surrogate: Tetrachloro-m-xylene [2C]	*0.00*		mg/Kg	7.91			*	30-150			S-01

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-221-R15WT

Lab Sample ID: 23H3265-01 Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	56	
	2	0.000	0.000	0.000	63	11.8

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-222-R16NP

Lab Sample ID: 23H3265-02 Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD5 Instrument ID (2): ECD5

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	15	
	2	0.000	0.000	0.000	16	6.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-223-S12N

Lab Sample ID: 23H3265-03 Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD5 Instrument ID (2): ECD5

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	64	
	2	0.000	0.000	0.000	63	1.6

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-224-R23C

Lab Sample ID: 23H3265-04

Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD5

Instrument ID (2): ECD5

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	900	
	2	0.000	0.000	0.000	950	5.4

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-225-R13S

Lab Sample ID: 23H3265-05 Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	4.5	
	2	0.000	0.000	0.000	4.2	6.9

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-226-R14SDW

Lab Sample ID: 23H3265-06 Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD5 Instrument ID (2): ECD5

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	12	
	2	0.000	0.000	0.000	12	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-227-R14-EP

Lab Sample ID: 23H3265-07

Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	3.0	
	2	0.000	0.000	0.000	2.9	3.4

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-228-R12WT

Lab Sample ID: 23H3265-08 Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD5 Instrument ID (2): ECD5

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	26	
	2	0.000	0.000	0.000	24	8.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-229-R14CDW

Lab Sample ID: 23H3265-09

Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD5

Instrument ID (2): ECD5

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	8.0	
	2	0.000	0.000	0.000	8.9	10.7

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-230-R13CWP

Lab Sample ID: 23H3265-10 Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD5 Instrument ID (2): ECD5

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	4.5	
	2	0.000	0.000	0.000	3.9	14.3

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-231-R11CP

Lab Sample ID: 23H3265-11

Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	1.7	
	2	0.000	0.000	0.000	1.7	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-232-R13F

Lab Sample ID: 23H3265-12 Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	26	
	2	0.000	0.000	0.000	27	3.8

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-233-R13E

Lab Sample ID: 23H3265-13

Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD5

Instrument ID (2): ECD5

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	8.3	
	2	0.000	0.000	0.000	7.3	12.8

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-234-R12F

Lab Sample ID: 23H3265-14

Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1248	1	0.000	0.000	0.000	6.6	
	2	0.000	0.000	0.000	5.5	18.2
Aroclor-1254	1	0.000	0.000	0.000	5.5	
	2	0.000	0.000	0.000	6.4	15.1

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-235-R25D

Lab Sample ID: 23H3265-15 Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD5 Instrument ID (2): ECD5

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	19	
	2	0.000	0.000	0.000	17	11.1

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-236-R15S

Lab Sample ID: 23H3265-16 Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD5 Instrument ID (2): ECD5

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	59	
	2	0.000	0.000	0.000	58	1.7

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-237-R33NB

Lab Sample ID: 23H3265-17 Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	320	
	2	0.000	0.000	0.000	320	3.1

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-238-R35C

Lab Sample ID: 23H3265-18

Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD5

Instrument ID (2): ECD5

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	130	
	2	0.000	0.000	0.000	120	8.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-239-S01F

Lab Sample ID: 23H3265-19

Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD5

Instrument ID (2): ECD5

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	110	
	2	0.000	0.000	0.000	110	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-240-R13D

Lab Sample ID: 23H3265-20

Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD5

Instrument ID (2): ECD5

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	23	
	2	0.000	0.000	0.000	25	8.3

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B351288-BS1

Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD5

Instrument ID (2): ECD5

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	1.7	
	2	0.000	0.000	0.000	1.9	5.4
Aroclor-1260	1	0.000	0.000	0.000	1.7	
	2	0.000	0.000	0.000	1.7	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B351288-BSD1 Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD5 Instrument ID (2): ECD5

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	1.6	
	2	0.000	0.000	0.000	1.7	6.1
Aroclor-1260	1	0.000	0.000	0.000	1.4	
	2	0.000	0.000	0.000	1.4	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B351289-BS1 Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	1.4	
	2	0.000	0.000	0.000	1.7	19.4
Aroclor-1260	1	0.000	0.000	0.000	1.5	
	2	0.000	0.000	0.000	1.6	6.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B351289-BSD1 Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	1.3	
	2	0.000	0.000	0.000	1.5	14.3
Aroclor-1260	1	0.000	0.000	0.000	1.4	
	2	0.000	0.000	0.000	1.5	6.9

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B351347-BS1 Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.62	
	2	0.000	0.000	0.000	0.65	4.7
Aroclor-1260	1	0.000	0.000	0.000	0.66	
	2	0.000	0.000	0.000	0.70	4.4

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B351347-BSD1 Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.69	
	2	0.000	0.000	0.000	0.73	5.6
Aroclor-1260	1	0.000	0.000	0.000	0.72	
	2	0.000	0.000	0.000	0.74	2.7

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike

Lab Sample ID: B351347-MS1 Date(s) Analyzed: 09/13/2023 09/13/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	1.3	
	2	0.000	0.000	0.000	1.5	14.3
Aroclor-1260	1	0.000	0.000	0.000	1.7	
	2	0.000	0.000	0.000	1.7	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike Dup

Lab Sample ID: B351347-MSD1 Date(s) Analyzed: 09/13/2023 09/13/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	1.1	
	2	0.000	0.000	0.000	1.3	16.7
Aroclor-1260	1	0.000	0.000	0.000	1.5	
	2	0.000	0.000	0.000	1.5	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B351490-BS1 Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	1.6	
	2	0.000	0.000	0.000	1.8	11.8
Aroclor-1260	1	0.000	0.000	0.000	1.7	
	2	0.000	0.000	0.000	1.6	6.1

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B351490-BSD1 Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	1.4	
	2	0.000	0.000	0.000	1.5	6.9
Aroclor-1260	1	0.000	0.000	0.000	1.6	
	2	0.000	0.000	0.000	1.5	6.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike

Lab Sample ID: B351490-MS1 Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1260	1	0.000	0.000	0.000	10	
	2	0.000	0.000	0.000	15	40.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike Dup

Lab Sample ID: B351490-MSD1 Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1260	1	0.000	0.000	0.000	13	
	2	0.000	0.000	0.000	19	37.5

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
MS-21	Matrix spike and/or spike duplicate recovery bias high due to contribution of other Aroclors present in the source sample.
S-01	The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.
Z-01	The spike recovery for this MS/MSD is not available due to dilution below the spike reporting limit required from high analyte concentration and/or matrix interferences.

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8082A in Product/Solid	
Aroclor-1016	CT,NH,NY,ME,NC,VA,PA
Aroclor-1016 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1262	NY,NC,VA,PA
Aroclor-1262 [2C]	NY,NC,VA,PA
Aroclor-1268	NY,NC,VA,PA
Aroclor-1268 [2C]	NY,NC,VA,PA

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2024
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2024
NC	North Carolina Div. of Water Quality	652	12/31/2023
ME	State of Maine	MA00100	06/9/2025
VA	Commonwealth of Virginia	460217	12/14/2023
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2024

23H3265

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time

7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
1	P-221-R15WT	8/16/2023	9:07	GRAB	O	U		1				x
2	P-222-R16NP	8/16/2023	9:08	GRAB	O	U		1				x
3	P-223-S12N	8/16/2023	9:09	GRAB	O	U		1				x
4	P-224-R23C	8/16/2023	9:10	GRAB	O	U		1				x
5	P-225-R13S	8/16/2023	9:11	GRAB	O	U		1				x
6	P-226-R14SDW	8/16/2023	9:12	GRAB	O	U		1				x
7	P-227-R14-EP	8/16/2023	9:13	GRAB	O	U		1				x
8	P-228-R12WT	8/16/2023	9:14	GRAB	O	U		1				x
9	P-229-R14CDW	8/16/2023	9:51	GRAB	O	U		1				x
10	P-230-R13CWP	8/16/2023	9:16	GRAB	O	U		1				x

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time: RX 8.22.23	
Received by: (signature)	Date/Time: 2530 8.22.23	
Relinquished by: (signature)	Date/Time: 1746 8.22.23	
Received by: (signature) 3.8, 2.2, 3.9	Date/Time: 8/22/23	
Relinquished by: (signature) 26, 5.6	Date/Time: 1746	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

23H3265

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time

7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

ANALYSIS REQUESTED

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
11	P-231-R11CP	8/16/2023	9:17	GRAB	O	U		1				x
12	P-232-R13F	8/16/2023	9:18	GRAB	O	U		1				x
13	P-233-R13E	8/16/2023	9:19	GRAB	O	U		1				x
14	P-234-R12F	8/16/2023	9:20	GRAB	O	U		1				x
15	P-235-R25D	8/16/2023	9:21	GRAB	O	U		1				x
16	P-236-R15S	8/16/2023	9:22	GRAB	O	U		1				x
17	P-237-R33NB	8/16/2023	8:23	GRAB	O	U		3				x
18	P-238-R35C	8/16/2023	9:24	GRAB	O	U		1				x
19	P-239-S01F	8/16/2023	9:25	GRAB	O	U		1				x
20	P-240-R13D	8/16/2023	9:26	GRAB	O	U		1				x

[2] Preservation Code
Courier Use Only
Total Number Of:
VIALS
GLASS
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time: 1255 8.22.23	Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS
Received by: (signature)	Date/Time: 1258 8.22.23	
Relinquished by: (signature)	Date/Time: 8.22.23 1746	
Received by: (signature)	Date/Time: 8.23.23	
Relinquished by: (signature)	Date/Time: 1746	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist
	Effective Date: 07/13/2023

Log In Back-Sheet

Client Nobis Group

Project St. Johnsbury Armory

MCP/RCP Required no

Deliverable Package Requirement none

Location St. Johnsbury, VT

PWSID# (When Applicable) n/a

Arrival Method:

Courier ☑ Fed Ex ☐ Walk In ☐ Other ☐

Received By / Date / Time ER 8/22/23 1746

Back-Sheet By / Date / Time Mem 8/22/23 2217

Temperature Method Gun # 5

Temp < 6° C Actual Temperature 22.26, 38.39.56

Rush Samples: Yes / No Notify No

Short Hold: Yes / No Notify No

Notes regarding Samples/COC outside of SOP:

* Sample split into fifteen separate work orders

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy) Any False statement will be brought to the attention of the Client – True or False

	True	False
Received on Ice	☑	☐
Received in Cooler	☑	☐
Custody Seal: DATE TIME	☐	☑
COC Relinquished	☑	☐
COC/Samples Labels Agree	☑	☐
All Samples in Good Condition	☑	☐
Samples Received within Holding Time	☑	☐
Is there enough Volume	☑	☐
Proper Media/Container Used	☑	☐
Splitting Samples Required	☑ see notes	☐
MS/MSD	☑	☐
Trip Blanks	☐	☑
Lab to Filters	☐	☑
COC Legible	☑	☐

COC Included: (Check all included)

Client ☑ Analysis ☑ Sampler Name ☑

Project ☑ IDs ☑ Collection Date/Time ☑

All Samples Proper pH: N/A ☐ ☐

Additional Container Notes

Note: West Virginia requires all samples to have their temperature taken. Note any outliers.

Qualtrax ID: 120836

Pace ANALYTICAL SERVICES

DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist

Effective Date: 07/13/2023

Sample	Soils Jars (Circle Amb/Clear)				Ambers						Plastics														VOA Vials						Other / Fill in					
	16oz Amb/Clear	8oz Amb/Clear	4oz Amb/Clear	2oz Amb/Clear	1 Liter			250mL			100mL	1 Liter		500mL		250mL																					
					Unpreserved	HCL	Sulfuric	Sulfuric	Phosphoric	HCl	Unpreserved	Unpreserved	Sulfuric	Unpreserved	Sulfuric	Unpreserved	Trizma	Sulfuric	Nitric	NaOH	Ammonium Acetate	NaOH/Zinc	Unpreserved	HCl	MeOH	D.I. Water	Bisulfate	Col/Bact								
1			—																																	
2			—																																	
3																																				
4																																				
5																																				
6																																				
7																																				
8																																				
9																																				
10																																				
11																																				
12																																				
13																																				
14																																				
15																																				
16				1																																
17				3																																
18				—																																
19				—																																
20				—																																

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

September 12, 2023

Tim Andrews
Nobis Engineering
585 Middlesex Street
Lowell, MA 01851

Project Location: St. Johnsbury, VT
Client Job Number:
Project Number: S00001.017
Laboratory Work Order Number: 23H3267

Enclosed are results of analyses for samples as received by the laboratory on August 22, 2023. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Rebecca Faust
Project Manager

Table of Contents

Sample Summary 4

Case Narrative 5

Sample Results 6

23H3267-01 6

23H3267-02 7

23H3267-03 8

23H3267-04 9

23H3267-05 10

23H3267-06 11

23H3267-07 12

23H3267-08 13

23H3267-09 14

23H3267-10 15

23H3267-11 16

23H3267-12 17

23H3267-13 18

23H3267-14 19

23H3267-15 20

23H3267-16 21

23H3267-17 22

23H3267-18 23

23H3267-19 24

23H3267-20 25

Sample Preparation Information 26

QC Data 27

Table of Contents (continued)

Polychlorinated Biphenyls with 3540 Soxhlet Extraction 27

B351287 27

B351288 28

B351289 29

Dual Column RPD Report 31

Flag/Qualifier Summary 63

Certifications 64

Chain of Custody/Sample Receipt 65

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Nobis Engineering
585 Middlesex Street
Lowell, MA 01851
ATTN: Tim Andrews

REPORT DATE: 9/12/2023

PURCHASE ORDER NUMBER:

PROJECT NUMBER: S00001.017

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23H3267

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: St. Johnsbury, VT

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
P-241-R37C	23H3267-01	Paint		SW-846 8082A	
P-242-R12-CP	23H3267-02	Paint		SW-846 8082A	
P-243-R12NDW	23H3267-03	Paint		SW-846 8082A	
P-244-R12EDW	23H3267-04	Paint		SW-846 8082A	
P-245-R35S	23H3267-05	Paint		SW-846 8082A	
P-246-R36C	23H3267-06	Paint		SW-846 8082A	
P-247-R12NP	23H3267-07	Paint		SW-846 8082A	
P-248-R11WT	23H3267-08	Paint		SW-846 8082A	
P-249-R14WP	23H3267-09	Paint		SW-846 8082A	
P-250-R11D	23H3267-10	Paint		SW-846 8082A	
P-251-R12EW	23H3267-11	Paint		SW-846 8082A	
P-252-R17S	23H3267-12	Paint		SW-846 8082A	
P-253-R15D	23H3267-13	Paint		SW-846 8082A	
P-254-R11CDW	23H3267-14	Paint		SW-846 8082A	
P-255-R14SP	23H3267-15	Paint		SW-846 8082A	
P-256-R24D	23H3267-16	Paint		SW-846 8082A	
P-257-S12S	23H3267-17	Paint		SW-846 8082A	
P-258-R11WDW	23H3267-18	Paint		SW-846 8082A	
P-259-R15E	23H3267-19	Paint		SW-846 8082A	
P-260-R34E	23H3267-20	Paint		SW-846 8082A	

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

SW-846 8082A

Qualifications:

MS-21

Matrix spike and/or spike duplicate recovery bias high due to contribution of other Aroclors present in the source sample.

Analyte & Samples(s) Qualified:

Aroclor-1016
B351287-MS1, B351287-MSD1, B351288-MS1, B351288-MSD1, B351289-MS1, B351289-MSD1

Aroclor-1016 [2C]
B351287-MS1, B351287-MSD1, B351288-MS1, B351288-MSD1, B351289-MS1, B351289-MSD1

Aroclor-1260
B351287-MS1, B351287-MSD1, B351288-MS1, B351288-MSD1, B351289-MS1, B351289-MSD1

Aroclor-1260 [2C]
B351287-MS1, B351287-MSD1, B351288-MS1, B351288-MSD1, B351289-MS1, B351289-MSD1

S-01

The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

Analyte & Samples(s) Qualified:

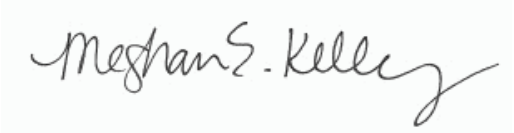
Decachlorobiphenyl
23H3267-05[P-245-R35S], 23H3267-06[P-246-R36C], 23H3267-20[P-260-R34E]

Decachlorobiphenyl [2C]
23H3267-05[P-245-R35S], 23H3267-06[P-246-R36C], 23H3267-20[P-260-R34E]

Tetrachloro-m-xylene
23H3267-05[P-245-R35S], 23H3267-06[P-246-R36C], 23H3267-20[P-260-R34E]

Tetrachloro-m-xylene [2C]
23H3267-05[P-245-R35S], 23H3267-06[P-246-R36C], 23H3267-20[P-260-R34E]

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Meghan E. Kelley
Reporting Specialist

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3267

Date Received: 8/22/2023

Field Sample #: P-241-R37C | Sampled: 8/16/2023 09:27

Sample ID: 23H3267-01

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	3.5	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 10:38	TG
Aroclor-1221 [1]	ND	3.5	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 10:38	TG
Aroclor-1232 [1]	ND	3.5	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 10:38	TG
Aroclor-1242 [1]	ND	3.5	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 10:38	TG
Aroclor-1248 [1]	ND	3.5	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 10:38	TG
Aroclor-1254 [1]	65	3.5	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 10:38	TG
Aroclor-1260 [1]	ND	3.5	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 10:38	TG
Aroclor-1262 [1]	ND	3.5	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 10:38	TG
Aroclor-1268 [1]	ND	3.5	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 10:38	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	85.4	30-150		9/10/23 10:38
Decachlorobiphenyl [2]	81.1	30-150		9/10/23 10:38
Tetrachloro-m-xylene [1]	73.6	30-150		9/10/23 10:38
Tetrachloro-m-xylene [2]	74.7	30-150		9/10/23 10:38

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3267

Date Received: 8/22/2023

Field Sample #: P-242-R12-CP | Sampled: 8/16/2023 09:28

Sample ID: 23H3267-02

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.37	mg/Kg	1		SW-846 8082A	9/7/23	9/10/23 10:56	TG
Aroclor-1221 [1]	ND	0.37	mg/Kg	1		SW-846 8082A	9/7/23	9/10/23 10:56	TG
Aroclor-1232 [1]	ND	0.37	mg/Kg	1		SW-846 8082A	9/7/23	9/10/23 10:56	TG
Aroclor-1242 [1]	ND	0.37	mg/Kg	1		SW-846 8082A	9/7/23	9/10/23 10:56	TG
Aroclor-1248 [1]	ND	0.37	mg/Kg	1		SW-846 8082A	9/7/23	9/10/23 10:56	TG
Aroclor-1254 [1]	0.66	0.37	mg/Kg	1		SW-846 8082A	9/7/23	9/10/23 10:56	TG
Aroclor-1260 [1]	ND	0.37	mg/Kg	1		SW-846 8082A	9/7/23	9/10/23 10:56	TG
Aroclor-1262 [1]	ND	0.37	mg/Kg	1		SW-846 8082A	9/7/23	9/10/23 10:56	TG
Aroclor-1268 [1]	ND	0.37	mg/Kg	1		SW-846 8082A	9/7/23	9/10/23 10:56	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	89.7	30-150		9/10/23 10:56
Decachlorobiphenyl [2]	86.8	30-150		9/10/23 10:56
Tetrachloro-m-xylene [1]	84.8	30-150		9/10/23 10:56
Tetrachloro-m-xylene [2]	85.9	30-150		9/10/23 10:56

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3267

Date Received: 8/22/2023

Field Sample #: P-243-R12NDW | Sampled: 8/16/2023 09:29

Sample ID: 23H3267-03

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	2.3	mg/Kg	5		SW-846 8082A	9/7/23	9/10/23 11:13	TG
Aroclor-1221 [1]	ND	2.3	mg/Kg	5		SW-846 8082A	9/7/23	9/10/23 11:13	TG
Aroclor-1232 [1]	ND	2.3	mg/Kg	5		SW-846 8082A	9/7/23	9/10/23 11:13	TG
Aroclor-1242 [1]	ND	2.3	mg/Kg	5		SW-846 8082A	9/7/23	9/10/23 11:13	TG
Aroclor-1248 [1]	ND	2.3	mg/Kg	5		SW-846 8082A	9/7/23	9/10/23 11:13	TG
Aroclor-1254 [2]	6.6	2.3	mg/Kg	5		SW-846 8082A	9/7/23	9/10/23 11:13	TG
Aroclor-1260 [1]	ND	2.3	mg/Kg	5		SW-846 8082A	9/7/23	9/10/23 11:13	TG
Aroclor-1262 [1]	ND	2.3	mg/Kg	5		SW-846 8082A	9/7/23	9/10/23 11:13	TG
Aroclor-1268 [1]	ND	2.3	mg/Kg	5		SW-846 8082A	9/7/23	9/10/23 11:13	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	89.4	30-150		9/10/23 11:13
Decachlorobiphenyl [2]	85.5	30-150		9/10/23 11:13
Tetrachloro-m-xylene [1]	85.9	30-150		9/10/23 11:13
Tetrachloro-m-xylene [2]	84.8	30-150		9/10/23 11:13

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3267

Date Received: 8/22/2023

Field Sample #: P-244-R12EDW | Sampled: 8/16/2023 09:30

Sample ID: 23H3267-04

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.45	mg/Kg	1		SW-846 8082A	9/7/23	9/10/23 11:31	TG
Aroclor-1221 [1]	ND	0.45	mg/Kg	1		SW-846 8082A	9/7/23	9/10/23 11:31	TG
Aroclor-1232 [1]	ND	0.45	mg/Kg	1		SW-846 8082A	9/7/23	9/10/23 11:31	TG
Aroclor-1242 [1]	ND	0.45	mg/Kg	1		SW-846 8082A	9/7/23	9/10/23 11:31	TG
Aroclor-1248 [1]	2.5	0.45	mg/Kg	1		SW-846 8082A	9/7/23	9/10/23 11:31	TG
Aroclor-1254 [2]	3.0	0.45	mg/Kg	1		SW-846 8082A	9/7/23	9/10/23 11:31	TG
Aroclor-1260 [1]	ND	0.45	mg/Kg	1		SW-846 8082A	9/7/23	9/10/23 11:31	TG
Aroclor-1262 [1]	ND	0.45	mg/Kg	1		SW-846 8082A	9/7/23	9/10/23 11:31	TG
Aroclor-1268 [1]	ND	0.45	mg/Kg	1		SW-846 8082A	9/7/23	9/10/23 11:31	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	86.5	30-150		9/10/23 11:31
Decachlorobiphenyl [2]	84.9	30-150		9/10/23 11:31
Tetrachloro-m-xylene [1]	84.6	30-150		9/10/23 11:31
Tetrachloro-m-xylene [2]	85.8	30-150		9/10/23 11:31

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3267

Date Received: 8/22/2023

Field Sample #: P-245-R35S | Sampled: 8/16/2023 09:31

Sample ID: 23H3267-05

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	25	mg/Kg	50		SW-846 8082A	9/7/23	9/10/23 11:48	TG
Aroclor-1221 [1]	ND	25	mg/Kg	50		SW-846 8082A	9/7/23	9/10/23 11:48	TG
Aroclor-1232 [1]	ND	25	mg/Kg	50		SW-846 8082A	9/7/23	9/10/23 11:48	TG
Aroclor-1242 [1]	ND	25	mg/Kg	50		SW-846 8082A	9/7/23	9/10/23 11:48	TG
Aroclor-1248 [1]	ND	25	mg/Kg	50		SW-846 8082A	9/7/23	9/10/23 11:48	TG
Aroclor-1254 [1]	220	25	mg/Kg	50		SW-846 8082A	9/7/23	9/10/23 11:48	TG
Aroclor-1260 [1]	ND	25	mg/Kg	50		SW-846 8082A	9/7/23	9/10/23 11:48	TG
Aroclor-1262 [1]	ND	25	mg/Kg	50		SW-846 8082A	9/7/23	9/10/23 11:48	TG
Aroclor-1268 [1]	ND	25	mg/Kg	50		SW-846 8082A	9/7/23	9/10/23 11:48	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/10/23 11:48
Decachlorobiphenyl [2]	*	30-150	S-01	9/10/23 11:48
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/10/23 11:48
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/10/23 11:48

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3267

Date Received: 8/22/2023

Field Sample #: P-246-R36C | Sampled: 8/16/2023 09:32

Sample ID: 23H3267-06

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	21	mg/Kg	50		SW-846 8082A	9/7/23	9/10/23 12:06	TG
Aroclor-1221 [1]	ND	21	mg/Kg	50		SW-846 8082A	9/7/23	9/10/23 12:06	TG
Aroclor-1232 [1]	ND	21	mg/Kg	50		SW-846 8082A	9/7/23	9/10/23 12:06	TG
Aroclor-1242 [1]	ND	21	mg/Kg	50		SW-846 8082A	9/7/23	9/10/23 12:06	TG
Aroclor-1248 [1]	ND	21	mg/Kg	50		SW-846 8082A	9/7/23	9/10/23 12:06	TG
Aroclor-1254 [1]	130	21	mg/Kg	50		SW-846 8082A	9/7/23	9/10/23 12:06	TG
Aroclor-1260 [1]	ND	21	mg/Kg	50		SW-846 8082A	9/7/23	9/10/23 12:06	TG
Aroclor-1262 [1]	ND	21	mg/Kg	50		SW-846 8082A	9/7/23	9/10/23 12:06	TG
Aroclor-1268 [1]	ND	21	mg/Kg	50		SW-846 8082A	9/7/23	9/10/23 12:06	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/10/23 12:06
Decachlorobiphenyl [2]	*	30-150	S-01	9/10/23 12:06
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/10/23 12:06
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/10/23 12:06

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3267

Date Received: 8/22/2023

Field Sample #: P-247-R12NP | Sampled: 8/16/2023 09:33

Sample ID: 23H3267-07

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.42	mg/Kg	1		SW-846 8082A	9/7/23	9/10/23 12:23	TG
Aroclor-1221 [1]	ND	0.42	mg/Kg	1		SW-846 8082A	9/7/23	9/10/23 12:23	TG
Aroclor-1232 [1]	ND	0.42	mg/Kg	1		SW-846 8082A	9/7/23	9/10/23 12:23	TG
Aroclor-1242 [1]	ND	0.42	mg/Kg	1		SW-846 8082A	9/7/23	9/10/23 12:23	TG
Aroclor-1248 [1]	ND	0.42	mg/Kg	1		SW-846 8082A	9/7/23	9/10/23 12:23	TG
Aroclor-1254 [2]	2.4	0.42	mg/Kg	1		SW-846 8082A	9/7/23	9/10/23 12:23	TG
Aroclor-1260 [1]	ND	0.42	mg/Kg	1		SW-846 8082A	9/7/23	9/10/23 12:23	TG
Aroclor-1262 [1]	ND	0.42	mg/Kg	1		SW-846 8082A	9/7/23	9/10/23 12:23	TG
Aroclor-1268 [1]	ND	0.42	mg/Kg	1		SW-846 8082A	9/7/23	9/10/23 12:23	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	85.9	30-150		9/10/23 12:23
Decachlorobiphenyl [2]	82.6	30-150		9/10/23 12:23
Tetrachloro-m-xylene [1]	82.2	30-150		9/10/23 12:23
Tetrachloro-m-xylene [2]	84.3	30-150		9/10/23 12:23

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3267

Date Received: 8/22/2023

Field Sample #: P-248-R11WT | Sampled: 8/16/2023 09:34

Sample ID: 23H3267-08

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.2	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 12:41	TG
Aroclor-1221 [1]	ND	4.2	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 12:41	TG
Aroclor-1232 [1]	ND	4.2	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 12:41	TG
Aroclor-1242 [1]	ND	4.2	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 12:41	TG
Aroclor-1248 [1]	ND	4.2	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 12:41	TG
Aroclor-1254 [2]	33	4.2	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 12:41	TG
Aroclor-1260 [1]	ND	4.2	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 12:41	TG
Aroclor-1262 [1]	ND	4.2	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 12:41	TG
Aroclor-1268 [1]	ND	4.2	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 12:41	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	92.2	30-150		9/10/23 12:41
Decachlorobiphenyl [2]	89.2	30-150		9/10/23 12:41
Tetrachloro-m-xylene [1]	84.7	30-150		9/10/23 12:41
Tetrachloro-m-xylene [2]	86.6	30-150		9/10/23 12:41

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3267

Date Received: 8/22/2023

Field Sample #: P-249-R14WP | Sampled: 8/16/2023 09:35

Sample ID: 23H3267-09

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.43	mg/Kg	1		SW-846 8082A	9/7/23	9/10/23 12:58	TG
Aroclor-1221 [1]	ND	0.43	mg/Kg	1		SW-846 8082A	9/7/23	9/10/23 12:58	TG
Aroclor-1232 [1]	ND	0.43	mg/Kg	1		SW-846 8082A	9/7/23	9/10/23 12:58	TG
Aroclor-1242 [1]	ND	0.43	mg/Kg	1		SW-846 8082A	9/7/23	9/10/23 12:58	TG
Aroclor-1248 [1]	ND	0.43	mg/Kg	1		SW-846 8082A	9/7/23	9/10/23 12:58	TG
Aroclor-1254 [2]	1.5	0.43	mg/Kg	1		SW-846 8082A	9/7/23	9/10/23 12:58	TG
Aroclor-1260 [1]	ND	0.43	mg/Kg	1		SW-846 8082A	9/7/23	9/10/23 12:58	TG
Aroclor-1262 [1]	ND	0.43	mg/Kg	1		SW-846 8082A	9/7/23	9/10/23 12:58	TG
Aroclor-1268 [1]	ND	0.43	mg/Kg	1		SW-846 8082A	9/7/23	9/10/23 12:58	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	85.5	30-150		9/10/23 12:58
Decachlorobiphenyl [2]	83.0	30-150		9/10/23 12:58
Tetrachloro-m-xylene [1]	82.8	30-150		9/10/23 12:58
Tetrachloro-m-xylene [2]	85.7	30-150		9/10/23 12:58

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3267

Date Received: 8/22/2023

Field Sample #: P-250-R11D | Sampled: 8/16/2023 09:36

Sample ID: 23H3267-10

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 13:15	TG
Aroclor-1221 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 13:15	TG
Aroclor-1232 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 13:15	TG
Aroclor-1242 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 13:15	TG
Aroclor-1248 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 13:15	TG
Aroclor-1254 [2]	50	4.7	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 13:15	TG
Aroclor-1260 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 13:15	TG
Aroclor-1262 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 13:15	TG
Aroclor-1268 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 13:15	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	97.4	30-150		9/10/23 13:15
Decachlorobiphenyl [2]	93.2	30-150		9/10/23 13:15
Tetrachloro-m-xylene [1]	90.6	30-150		9/10/23 13:15
Tetrachloro-m-xylene [2]	91.9	30-150		9/10/23 13:15

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3267

Date Received: 8/22/2023

Field Sample #: P-251-R12EW | Sampled: 8/16/2023 09:37

Sample ID: 23H3267-11

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	2.3	mg/Kg	5		SW-846 8082A	9/7/23	9/10/23 14:37	TG
Aroclor-1221 [1]	ND	2.3	mg/Kg	5		SW-846 8082A	9/7/23	9/10/23 14:37	TG
Aroclor-1232 [1]	ND	2.3	mg/Kg	5		SW-846 8082A	9/7/23	9/10/23 14:37	TG
Aroclor-1242 [1]	ND	2.3	mg/Kg	5		SW-846 8082A	9/7/23	9/10/23 14:37	TG
Aroclor-1248 [1]	ND	2.3	mg/Kg	5		SW-846 8082A	9/7/23	9/10/23 14:37	TG
Aroclor-1254 [2]	10	2.3	mg/Kg	5		SW-846 8082A	9/7/23	9/10/23 14:37	TG
Aroclor-1260 [1]	ND	2.3	mg/Kg	5		SW-846 8082A	9/7/23	9/10/23 14:37	TG
Aroclor-1262 [1]	ND	2.3	mg/Kg	5		SW-846 8082A	9/7/23	9/10/23 14:37	TG
Aroclor-1268 [1]	ND	2.3	mg/Kg	5		SW-846 8082A	9/7/23	9/10/23 14:37	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	92.8	30-150		9/10/23 14:37
Decachlorobiphenyl [2]	88.7	30-150		9/10/23 14:37
Tetrachloro-m-xylene [1]	85.7	30-150		9/10/23 14:37
Tetrachloro-m-xylene [2]	84.1	30-150		9/10/23 14:37

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3267

Date Received: 8/22/2023

Field Sample #: P-252-R17S | Sampled: 8/16/2023 09:38

Sample ID: 23H3267-12

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	1.9	mg/Kg	5		SW-846 8082A	9/7/23	9/10/23 14:55	TG
Aroclor-1221 [1]	ND	1.9	mg/Kg	5		SW-846 8082A	9/7/23	9/10/23 14:55	TG
Aroclor-1232 [1]	ND	1.9	mg/Kg	5		SW-846 8082A	9/7/23	9/10/23 14:55	TG
Aroclor-1242 [1]	ND	1.9	mg/Kg	5		SW-846 8082A	9/7/23	9/10/23 14:55	TG
Aroclor-1248 [1]	ND	1.9	mg/Kg	5		SW-846 8082A	9/7/23	9/10/23 14:55	TG
Aroclor-1254 [1]	12	1.9	mg/Kg	5		SW-846 8082A	9/7/23	9/10/23 14:55	TG
Aroclor-1260 [1]	ND	1.9	mg/Kg	5		SW-846 8082A	9/7/23	9/10/23 14:55	TG
Aroclor-1262 [1]	ND	1.9	mg/Kg	5		SW-846 8082A	9/7/23	9/10/23 14:55	TG
Aroclor-1268 [1]	ND	1.9	mg/Kg	5		SW-846 8082A	9/7/23	9/10/23 14:55	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	104	30-150		9/10/23 14:55
Decachlorobiphenyl [2]	97.9	30-150		9/10/23 14:55
Tetrachloro-m-xylene [1]	88.1	30-150		9/10/23 14:55
Tetrachloro-m-xylene [2]	87.3	30-150		9/10/23 14:55

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3267

Date Received: 8/22/2023

Field Sample #: P-253-R15D | Sampled: 8/16/2023 09:39

Sample ID: 23H3267-13

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 15:12	TG
Aroclor-1221 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 15:12	TG
Aroclor-1232 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 15:12	TG
Aroclor-1242 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 15:12	TG
Aroclor-1248 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 15:12	TG
Aroclor-1254 [2]	32	4.4	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 15:12	TG
Aroclor-1260 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 15:12	TG
Aroclor-1262 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 15:12	TG
Aroclor-1268 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 15:12	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	91.2	30-150		9/10/23 15:12
Decachlorobiphenyl [2]	87.5	30-150		9/10/23 15:12
Tetrachloro-m-xylene [1]	80.7	30-150		9/10/23 15:12
Tetrachloro-m-xylene [2]	80.6	30-150		9/10/23 15:12

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3267

Date Received: 8/22/2023

Field Sample #: P-254-R11CDW | Sampled: 8/16/2023 09:40

Sample ID: 23H3267-14

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.50	mg/Kg	1		SW-846 8082A	9/7/23	9/10/23 15:30	TG
Aroclor-1221 [1]	ND	0.50	mg/Kg	1		SW-846 8082A	9/7/23	9/10/23 15:30	TG
Aroclor-1232 [1]	ND	0.50	mg/Kg	1		SW-846 8082A	9/7/23	9/10/23 15:30	TG
Aroclor-1242 [1]	ND	0.50	mg/Kg	1		SW-846 8082A	9/7/23	9/10/23 15:30	TG
Aroclor-1248 [1]	3.7	0.50	mg/Kg	1		SW-846 8082A	9/7/23	9/10/23 15:30	TG
Aroclor-1254 [2]	3.4	0.50	mg/Kg	1		SW-846 8082A	9/7/23	9/10/23 15:30	TG
Aroclor-1260 [1]	ND	0.50	mg/Kg	1		SW-846 8082A	9/7/23	9/10/23 15:30	TG
Aroclor-1262 [1]	ND	0.50	mg/Kg	1		SW-846 8082A	9/7/23	9/10/23 15:30	TG
Aroclor-1268 [1]	ND	0.50	mg/Kg	1		SW-846 8082A	9/7/23	9/10/23 15:30	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	89.0	30-150		9/10/23 15:30
Decachlorobiphenyl [2]	85.1	30-150		9/10/23 15:30
Tetrachloro-m-xylene [1]	83.9	30-150		9/10/23 15:30
Tetrachloro-m-xylene [2]	85.2	30-150		9/10/23 15:30

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3267

Date Received: 8/22/2023

Field Sample #: P-255-R14SP | Sampled: 8/16/2023 09:41

Sample ID: 23H3267-15

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.2	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 15:47	TG
Aroclor-1221 [1]	ND	4.2	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 15:47	TG
Aroclor-1232 [1]	ND	4.2	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 15:47	TG
Aroclor-1242 [1]	ND	4.2	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 15:47	TG
Aroclor-1248 [1]	ND	4.2	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 15:47	TG
Aroclor-1254 [2]	5.3	4.2	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 15:47	TG
Aroclor-1260 [1]	ND	4.2	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 15:47	TG
Aroclor-1262 [1]	ND	4.2	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 15:47	TG
Aroclor-1268 [1]	ND	4.2	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 15:47	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	96.5	30-150		9/10/23 15:47
Decachlorobiphenyl [2]	91.9	30-150		9/10/23 15:47
Tetrachloro-m-xylene [1]	84.0	30-150		9/10/23 15:47
Tetrachloro-m-xylene [2]	85.1	30-150		9/10/23 15:47

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3267

Date Received: 8/22/2023

Field Sample #: P-256-R24D | Sampled: 8/14/2023 09:42

Sample ID: 23H3267-16

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 16:04	TG
Aroclor-1221 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 16:04	TG
Aroclor-1232 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 16:04	TG
Aroclor-1242 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 16:04	TG
Aroclor-1248 [1]	33	4.4	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 16:04	TG
Aroclor-1254 [1]	27	4.4	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 16:04	TG
Aroclor-1260 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 16:04	TG
Aroclor-1262 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 16:04	TG
Aroclor-1268 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 16:04	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	88.6	30-150		9/10/23 16:04
Decachlorobiphenyl [2]	84.6	30-150		9/10/23 16:04
Tetrachloro-m-xylene [1]	79.4	30-150		9/10/23 16:04
Tetrachloro-m-xylene [2]	79.8	30-150		9/10/23 16:04

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3267

Date Received: 8/22/2023

Field Sample #: P-257-S12S | Sampled: 8/16/2023 09:43

Sample ID: 23H3267-17

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.6	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 16:22	TG
Aroclor-1221 [1]	ND	4.6	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 16:22	TG
Aroclor-1232 [1]	ND	4.6	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 16:22	TG
Aroclor-1242 [1]	ND	4.6	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 16:22	TG
Aroclor-1248 [1]	ND	4.6	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 16:22	TG
Aroclor-1254 [2]	55	4.6	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 16:22	TG
Aroclor-1260 [1]	ND	4.6	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 16:22	TG
Aroclor-1262 [1]	ND	4.6	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 16:22	TG
Aroclor-1268 [1]	ND	4.6	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 16:22	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	89.5	30-150		9/10/23 16:22
Decachlorobiphenyl [2]	86.3	30-150		9/10/23 16:22
Tetrachloro-m-xylene [1]	72.8	30-150		9/10/23 16:22
Tetrachloro-m-xylene [2]	75.1	30-150		9/10/23 16:22

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3267

Date Received: 8/22/2023

Field Sample #: P-258-R11WDW | Sampled: 8/16/2023 09:44

Sample ID: 23H3267-18

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 13:39	TG
Aroclor-1221 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 13:39	TG
Aroclor-1232 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 13:39	TG
Aroclor-1242 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 13:39	TG
Aroclor-1248 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 13:39	TG
Aroclor-1254 [2]	15	3.9	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 13:39	TG
Aroclor-1260 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 13:39	TG
Aroclor-1262 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 13:39	TG
Aroclor-1268 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 13:39	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	99.7	30-150		9/12/23 13:39
Decachlorobiphenyl [2]	98.2	30-150		9/12/23 13:39
Tetrachloro-m-xylene [1]	91.3	30-150		9/12/23 13:39
Tetrachloro-m-xylene [2]	97.2	30-150		9/12/23 13:39

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3267

Date Received: 8/22/2023

Field Sample #: P-259-R15E | Sampled: 8/16/2023 12:00

Sample ID: 23H3267-19

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.5	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 10:17	TG
Aroclor-1221 [1]	ND	4.5	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 10:17	TG
Aroclor-1232 [1]	ND	4.5	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 10:17	TG
Aroclor-1242 [1]	ND	4.5	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 10:17	TG
Aroclor-1248 [1]	ND	4.5	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 10:17	TG
Aroclor-1254 [2]	56	4.5	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 10:17	TG
Aroclor-1260 [1]	ND	4.5	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 10:17	TG
Aroclor-1262 [1]	ND	4.5	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 10:17	TG
Aroclor-1268 [1]	ND	4.5	mg/Kg	10		SW-846 8082A	9/7/23	9/12/23 10:17	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	89.6	30-150		9/12/23 10:17
Decachlorobiphenyl [2]	89.7	30-150		9/12/23 10:17
Tetrachloro-m-xylene [1]	84.0	30-150		9/12/23 10:17
Tetrachloro-m-xylene [2]	84.7	30-150		9/12/23 10:17

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3267

Date Received: 8/22/2023

Field Sample #: P-260-R34E | Sampled: 8/16/2023 09:46

Sample ID: 23H3267-20

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	20	mg/Kg	50		SW-846 8082A	9/7/23	9/12/23 10:34	TG
Aroclor-1221 [1]	ND	20	mg/Kg	50		SW-846 8082A	9/7/23	9/12/23 10:34	TG
Aroclor-1232 [1]	ND	20	mg/Kg	50		SW-846 8082A	9/7/23	9/12/23 10:34	TG
Aroclor-1242 [1]	ND	20	mg/Kg	50		SW-846 8082A	9/7/23	9/12/23 10:34	TG
Aroclor-1248 [1]	ND	20	mg/Kg	50		SW-846 8082A	9/7/23	9/12/23 10:34	TG
Aroclor-1254 [1]	200	20	mg/Kg	50		SW-846 8082A	9/7/23	9/12/23 10:34	TG
Aroclor-1260 [1]	ND	20	mg/Kg	50		SW-846 8082A	9/7/23	9/12/23 10:34	TG
Aroclor-1262 [1]	ND	20	mg/Kg	50		SW-846 8082A	9/7/23	9/12/23 10:34	TG
Aroclor-1268 [1]	ND	20	mg/Kg	50		SW-846 8082A	9/7/23	9/12/23 10:34	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/12/23 10:34
Decachlorobiphenyl [2]	*	30-150	S-01	9/12/23 10:34
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/12/23 10:34
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/12/23 10:34

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method:SW-846 3540C **Analytical Method:SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23H3267-01 [P-241-R37C]	B351287	0.288	10.0	09/07/23
23H3267-02 [P-242-R12-CP]	B351287	0.267	10.0	09/07/23
23H3267-03 [P-243-R12NDW]	B351287	0.217	10.0	09/07/23
23H3267-04 [P-244-R12EDW]	B351287	0.221	10.0	09/07/23
23H3267-05 [P-245-R35S]	B351287	0.202	10.0	09/07/23
23H3267-06 [P-246-R36C]	B351287	0.237	10.0	09/07/23
23H3267-07 [P-247-R12NP]	B351287	0.237	10.0	09/07/23
23H3267-08 [P-248-R11WT]	B351287	0.236	10.0	09/07/23
23H3267-09 [P-249-R14WP]	B351287	0.232	10.0	09/07/23
23H3267-10 [P-250-R11D]	B351287	0.212	10.0	09/07/23
23H3267-11 [P-251-R12EW]	B351287	0.219	10.0	09/07/23
23H3267-12 [P-252-R17S]	B351287	0.266	10.0	09/07/23
23H3267-13 [P-253-R15D]	B351287	0.228	10.0	09/07/23
23H3267-14 [P-254-R11CDW]	B351287	0.200	10.0	09/07/23
23H3267-15 [P-255-R14SP]	B351287	0.235	10.0	09/07/23
23H3267-16 [P-256-R24D]	B351287	0.226	10.0	09/07/23
23H3267-17 [P-257-S12S]	B351287	0.219	10.0	09/07/23

Prep Method:SW-846 3540C **Analytical Method:SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23H3267-19 [P-259-R15E]	B351288	0.225	10.0	09/07/23
23H3267-20 [P-260-R34E]	B351288	0.247	10.0	09/07/23

Prep Method:SW-846 3540C **Analytical Method:SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23H3267-18 [P-258-R11WDW]	B351289	0.254	10.0	09/07/23

con-test® A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B351287 - SW-846 3540C										
Blank (B351287-BLK1)				Prepared: 09/07/23 Analyzed: 09/10/23						
Aroclor-1016	ND	0.050	mg/Kg							
Aroclor-1016 [2C]	ND	0.050	mg/Kg							
Aroclor-1221	ND	0.050	mg/Kg							
Aroclor-1221 [2C]	ND	0.050	mg/Kg							
Aroclor-1232	ND	0.050	mg/Kg							
Aroclor-1232 [2C]	ND	0.050	mg/Kg							
Aroclor-1242	ND	0.050	mg/Kg							
Aroclor-1242 [2C]	ND	0.050	mg/Kg							
Aroclor-1248	ND	0.050	mg/Kg							
Aroclor-1248 [2C]	ND	0.050	mg/Kg							
Aroclor-1254	ND	0.050	mg/Kg							
Aroclor-1254 [2C]	ND	0.050	mg/Kg							
Aroclor-1260	ND	0.050	mg/Kg							
Aroclor-1260 [2C]	ND	0.050	mg/Kg							
Aroclor-1262	ND	0.050	mg/Kg							
Aroclor-1262 [2C]	ND	0.050	mg/Kg							
Aroclor-1268	ND	0.050	mg/Kg							
Aroclor-1268 [2C]	ND	0.050	mg/Kg							
Surrogate: Decachlorobiphenyl	*0.878*		mg/Kg	1.00		87.8	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.807*		mg/Kg	1.00		80.7	30-150			
Surrogate: Tetrachloro-m-xylene	*0.839*		mg/Kg	1.00		83.9	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.832*		mg/Kg	1.00		83.2	30-150			
LCS (B351287-BS1)				Prepared: 09/07/23 Analyzed: 09/10/23						
Aroclor-1016	0.18	0.050	mg/Kg	0.250		73.3	40-140			
Aroclor-1016 [2C]	0.19	0.050	mg/Kg	0.250		77.8	40-140			
Aroclor-1260	0.20	0.050	mg/Kg	0.250		79.3	40-140			
Aroclor-1260 [2C]	0.19	0.050	mg/Kg	0.250		74.5	40-140			
Surrogate: Decachlorobiphenyl	*0.908*		mg/Kg	1.00		90.8	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.875*		mg/Kg	1.00		87.5	30-150			
Surrogate: Tetrachloro-m-xylene	*0.858*		mg/Kg	1.00		85.8	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.858*		mg/Kg	1.00		85.8	30-150			
LCS Dup (B351287-BSD1)				Prepared: 09/07/23 Analyzed: 09/10/23						
Aroclor-1016	0.19	0.050	mg/Kg	0.250		77.3	40-140	5.37	30	
Aroclor-1016 [2C]	0.19	0.050	mg/Kg	0.250		77.4	40-140	0.461	30	
Aroclor-1260	0.20	0.050	mg/Kg	0.250		80.4	40-140	1.32	30	
Aroclor-1260 [2C]	0.19	0.050	mg/Kg	0.250		76.6	40-140	2.86	30	
Surrogate: Decachlorobiphenyl	*0.884*		mg/Kg	1.00		88.4	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.842*		mg/Kg	1.00		84.2	30-150			
Surrogate: Tetrachloro-m-xylene	*0.829*		mg/Kg	1.00		82.9	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.830*		mg/Kg	1.00		83.0	30-150			

con-test® A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B351287 - SW-846 3540C											
Matrix Spike (B351287-MS1)	**Source: 23H3267-17**			Prepared: 09/07/23 Analyzed: 09/10/23							
Aroclor-1016	13	3.7	mg/Kg	1.87	ND	**707**	*	40-140			MS-21
Aroclor-1016 [2C]	25	3.7	mg/Kg	1.87	ND	**1320**	*	40-140			MS-21
Aroclor-1260	12	3.7	mg/Kg	1.87	ND	**618**	*	40-140			MS-21
Aroclor-1260 [2C]	11	3.7	mg/Kg	1.87	ND	**594**	*	40-140			MS-21
Surrogate: Decachlorobiphenyl	*7.14*		mg/Kg	7.49		95.3		30-150			
Surrogate: Decachlorobiphenyl [2C]	*6.81*		mg/Kg	7.49		91.0		30-150			
Surrogate: Tetrachloro-m-xylene	*6.51*		mg/Kg	7.49		87.0		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*6.54*		mg/Kg	7.49		87.3		30-150			
Matrix Spike Dup (B351287-MSD1)	**Source: 23H3267-17**			Prepared: 09/07/23 Analyzed: 09/10/23							
Aroclor-1016	14	3.6	mg/Kg	1.79	ND	**782**	*	40-140	5.76	50	MS-21
Aroclor-1016 [2C]	26	3.6	mg/Kg	1.79	ND	**1460**	*	40-140	5.88	50	MS-21
Aroclor-1260	13	3.6	mg/Kg	1.79	ND	**713**	*	40-140	10.1	50	MS-21
Aroclor-1260 [2C]	12	3.6	mg/Kg	1.79	ND	**678**	*	40-140	8.99	50	MS-21
Surrogate: Decachlorobiphenyl	*6.96*		mg/Kg	7.18		97.1		30-150			
Surrogate: Decachlorobiphenyl [2C]	*6.61*		mg/Kg	7.18		92.2		30-150			
Surrogate: Tetrachloro-m-xylene	*6.52*		mg/Kg	7.18		90.9		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*6.48*		mg/Kg	7.18		90.2		30-150			
Batch B351288 - SW-846 3540C											
Blank (B351288-BLK1)				Prepared: 09/07/23 Analyzed: 09/12/23							
Aroclor-1016	ND	0.42	mg/Kg								
Aroclor-1016 [2C]	ND	0.42	mg/Kg								
Aroclor-1221	ND	0.42	mg/Kg								
Aroclor-1221 [2C]	ND	0.42	mg/Kg								
Aroclor-1232	ND	0.42	mg/Kg								
Aroclor-1232 [2C]	ND	0.42	mg/Kg								
Aroclor-1242	ND	0.42	mg/Kg								
Aroclor-1242 [2C]	ND	0.42	mg/Kg								
Aroclor-1248	ND	0.42	mg/Kg								
Aroclor-1248 [2C]	ND	0.42	mg/Kg								
Aroclor-1254	ND	0.42	mg/Kg								
Aroclor-1254 [2C]	ND	0.42	mg/Kg								
Aroclor-1260	ND	0.42	mg/Kg								
Aroclor-1260 [2C]	ND	0.42	mg/Kg								
Aroclor-1262	ND	0.42	mg/Kg								
Aroclor-1262 [2C]	ND	0.42	mg/Kg								
Aroclor-1268	ND	0.42	mg/Kg								
Aroclor-1268 [2C]	ND	0.42	mg/Kg								
Surrogate: Decachlorobiphenyl	*6.33*		mg/Kg	8.48		74.7		30-150			
Surrogate: Decachlorobiphenyl [2C]	*6.30*		mg/Kg	8.48		74.3		30-150			
Surrogate: Tetrachloro-m-xylene	*5.74*		mg/Kg	8.48		67.7		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*5.83*		mg/Kg	8.48		68.8		30-150			

con-test® A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B351288 - SW-846 3540C											
LCS (B351288-BS1)				Prepared: 09/07/23 Analyzed: 09/12/23							
Aroclor-1016	1.7	0.41	mg/Kg	2.06		84.9		40-140			
Aroclor-1016 [2C]	1.9	0.41	mg/Kg	2.06		94.2		40-140			
Aroclor-1260	1.7	0.41	mg/Kg	2.06		83.4		40-140			
Aroclor-1260 [2C]	1.7	0.41	mg/Kg	2.06		84.8		40-140			
Surrogate: Decachlorobiphenyl	*7.87*		mg/Kg	8.24		95.6		30-150			
Surrogate: Decachlorobiphenyl [2C]	*7.83*		mg/Kg	8.24		95.0		30-150			
Surrogate: Tetrachloro-m-xylene	*7.45*		mg/Kg	8.24		90.4		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*7.56*		mg/Kg	8.24		91.8		30-150			
LCS Dup (B351288-BSD1)				Prepared: 09/07/23 Analyzed: 09/12/23							
Aroclor-1016	1.6	0.39	mg/Kg	1.94		81.0		40-140	10.7	30	
Aroclor-1016 [2C]	1.7	0.39	mg/Kg	1.94		85.2		40-140	16.1	30	
Aroclor-1260	1.4	0.39	mg/Kg	1.94		70.2		40-140	23.2	30	
Aroclor-1260 [2C]	1.4	0.39	mg/Kg	1.94		73.9		40-140	19.7	30	
Surrogate: Decachlorobiphenyl	*6.74*		mg/Kg	7.75		87.0		30-150			
Surrogate: Decachlorobiphenyl [2C]	*6.75*		mg/Kg	7.75		87.0		30-150			
Surrogate: Tetrachloro-m-xylene	*6.03*		mg/Kg	7.75		77.8		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*6.15*		mg/Kg	7.75		79.3		30-150			
Matrix Spike (B351288-MS1)	**Source: 23H3267-19**			Prepared: 09/07/23 Analyzed: 09/12/23							
Aroclor-1016	21	4.9	mg/Kg	2.47	ND	**864**	*	40-140			MS-21
Aroclor-1016 [2C]	35	4.9	mg/Kg	2.47	ND	**1400**	*	40-140			MS-21
Aroclor-1260	16	4.9	mg/Kg	2.47	ND	**650**	*	40-140			MS-21
Aroclor-1260 [2C]	15	4.9	mg/Kg	2.47	ND	**595**	*	40-140			MS-21
Surrogate: Decachlorobiphenyl	*8.75*		mg/Kg	9.86		88.8		30-150			
Surrogate: Decachlorobiphenyl [2C]	*8.74*		mg/Kg	9.86		88.7		30-150			
Surrogate: Tetrachloro-m-xylene	*8.02*		mg/Kg	9.86		81.4		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*8.11*		mg/Kg	9.86		82.2		30-150			
Matrix Spike Dup (B351288-MSD1)	**Source: 23H3267-19**			Prepared: 09/07/23 Analyzed: 09/12/23							
Aroclor-1016	17	4.0	mg/Kg	1.98	ND	**842**	*	40-140	24.3	50	MS-21
Aroclor-1016 [2C]	27	4.0	mg/Kg	1.98	ND	**1370**	*	40-140	23.8	50	MS-21
Aroclor-1260	13	4.0	mg/Kg	1.98	ND	**680**	*	40-140	17.4	50	MS-21
Aroclor-1260 [2C]	12	4.0	mg/Kg	1.98	ND	**614**	*	40-140	18.8	50	MS-21
Surrogate: Decachlorobiphenyl	*7.32*		mg/Kg	7.92		92.3		30-150			
Surrogate: Decachlorobiphenyl [2C]	*7.28*		mg/Kg	7.92		91.9		30-150			
Surrogate: Tetrachloro-m-xylene	*6.92*		mg/Kg	7.92		87.3		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*7.06*		mg/Kg	7.92		89.0		30-150			
Batch B351289 - SW-846 3540C											
Blank (B351289-BLK1)				Prepared: 09/07/23 Analyzed: 09/12/23							
Aroclor-1016	ND	0.50	mg/Kg								
Aroclor-1016 [2C]	ND	0.50	mg/Kg								
Aroclor-1221	ND	0.50	mg/Kg								
Aroclor-1221 [2C]	ND	0.50	mg/Kg								
Aroclor-1232	ND	0.50	mg/Kg								
Aroclor-1232 [2C]	ND	0.50	mg/Kg								
Aroclor-1242	ND	0.50	mg/Kg								
Aroclor-1242 [2C]	ND	0.50	mg/Kg								
Aroclor-1248	ND	0.50	mg/Kg								
Aroclor-1248 [2C]	ND	0.50	mg/Kg								
Aroclor-1254	ND	0.50	mg/Kg								

con-test® A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD		RPD Limit	Notes
Batch B351289 - SW-846 3540C												
Blank (B351289-BLK1)				Prepared: 09/07/23 Analyzed: 09/12/23								
Aroclor-1254 [2C]	ND	0.50	mg/Kg									
Aroclor-1260	ND	0.50	mg/Kg									
Aroclor-1260 [2C]	ND	0.50	mg/Kg									
Aroclor-1262	ND	0.50	mg/Kg									
Aroclor-1262 [2C]	ND	0.50	mg/Kg									
Aroclor-1268	ND	0.50	mg/Kg									
Aroclor-1268 [2C]	ND	0.50	mg/Kg									
Surrogate: Decachlorobiphenyl	*6.63*		mg/Kg	9.94		66.7		30-150				
Surrogate: Decachlorobiphenyl [2C]	*6.57*		mg/Kg	9.94		66.1		30-150				
Surrogate: Tetrachloro-m-xylene	*5.88*		mg/Kg	9.94		59.1		30-150				
Surrogate: Tetrachloro-m-xylene [2C]	*6.55*		mg/Kg	9.94		65.9		30-150				
LCS (B351289-BS1)				Prepared: 09/07/23 Analyzed: 09/12/23								
Aroclor-1016	1.4	0.48	mg/Kg	2.41		56.9		40-140				
Aroclor-1016 [2C]	1.7	0.48	mg/Kg	2.41		70.0		40-140				
Aroclor-1260	1.5	0.48	mg/Kg	2.41		64.0		40-140				
Aroclor-1260 [2C]	1.6	0.48	mg/Kg	2.41		66.7		40-140				
Surrogate: Decachlorobiphenyl	*7.23*		mg/Kg	9.62		75.2		30-150				
Surrogate: Decachlorobiphenyl [2C]	*7.14*		mg/Kg	9.62		74.2		30-150				
Surrogate: Tetrachloro-m-xylene	*6.71*		mg/Kg	9.62		69.7		30-150				
Surrogate: Tetrachloro-m-xylene [2C]	*7.22*		mg/Kg	9.62		75.0		30-150				
LCS Dup (B351289-BSD1)				Prepared: 09/07/23 Analyzed: 09/12/23								
Aroclor-1016	1.3	0.47	mg/Kg	2.37		55.9		40-140	3.49		30	
Aroclor-1016 [2C]	1.5	0.47	mg/Kg	2.37		62.3		40-140	13.3		30	
Aroclor-1260	1.4	0.47	mg/Kg	2.37		57.4		40-140	12.5		30	
Aroclor-1260 [2C]	1.5	0.47	mg/Kg	2.37		62.0		40-140	8.95		30	
Surrogate: Decachlorobiphenyl	*6.66*		mg/Kg	9.47		70.4		30-150				
Surrogate: Decachlorobiphenyl [2C]	*6.52*		mg/Kg	9.47		68.9		30-150				
Surrogate: Tetrachloro-m-xylene	*6.30*		mg/Kg	9.47		66.5		30-150				
Surrogate: Tetrachloro-m-xylene [2C]	*6.83*		mg/Kg	9.47		72.2		30-150				
Matrix Spike (B351289-MS1)	**Source: 23H3267-18**			Prepared: 09/07/23 Analyzed: 09/12/23								
Aroclor-1016	8.7	4.5	mg/Kg	2.24	ND	**390**	*	40-140				MS-21
Aroclor-1016 [2C]	15	4.5	mg/Kg	2.24	ND	**686**	*	40-140				MS-21
Aroclor-1260	8.2	4.5	mg/Kg	2.24	ND	**364**	*	40-140				MS-21
Aroclor-1260 [2C]	8.0	4.5	mg/Kg	2.24	ND	**357**	*	40-140				MS-21
Surrogate: Decachlorobiphenyl	*7.46*		mg/Kg	8.96		83.2		30-150				
Surrogate: Decachlorobiphenyl [2C]	*7.38*		mg/Kg	8.96		82.3		30-150				
Surrogate: Tetrachloro-m-xylene	*6.00*		mg/Kg	8.96		67.0		30-150				
Surrogate: Tetrachloro-m-xylene [2C]	*6.65*		mg/Kg	8.96		74.2		30-150				
Matrix Spike Dup (B351289-MSD1)	**Source: 23H3267-18**			Prepared: 09/07/23 Analyzed: 09/12/23								
Aroclor-1016	5.1	3.7	mg/Kg	1.87	ND	**271**	*	40-140	**53.1**	*	50	MS-21
Aroclor-1016 [2C]	8.9	3.7	mg/Kg	1.87	ND	**472**	*	40-140	**53.9**	*	50	MS-21
Aroclor-1260	4.1	3.7	mg/Kg	1.87	ND	**216**	*	40-140	**67.1**	*	50	MS-21
Aroclor-1260 [2C]	4.4	3.7	mg/Kg	1.87	ND	**232**	*	40-140	**59.1**	*	50	MS-21
Surrogate: Decachlorobiphenyl	*7.12*		mg/Kg	7.50		95.0		30-150				
Surrogate: Decachlorobiphenyl [2C]	*6.92*		mg/Kg	7.50		92.3		30-150				
Surrogate: Tetrachloro-m-xylene	*6.07*		mg/Kg	7.50		81.0		30-150				
Surrogate: Tetrachloro-m-xylene [2C]	*6.52*		mg/Kg	7.50		86.9		30-150				

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-241-R37C

Lab Sample ID: 23H3267-01 Date(s) Analyzed: 09/10/2023 09/10/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	65	
	2	0.000	0.000	0.000	62	4.7

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-242-R12-CP

Lab Sample ID: 23H3267-02

Date(s) Analyzed: 09/10/2023 09/10/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	0.66	
	2	0.000	0.000	0.000	0.64	3.1

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-243-R12NDW

Lab Sample ID: 23H3267-03 Date(s) Analyzed: 09/10/2023 09/10/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	5.8	
	2	0.000	0.000	0.000	6.6	12.9

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-244-R12EDW

Lab Sample ID: 23H3267-04 Date(s) Analyzed: 09/10/2023 09/10/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1248	1	0.000	0.000	0.000	2.5	
	2	0.000	0.000	0.000	2.4	4.1
Aroclor-1254	1	0.000	0.000	0.000	2.8	
	2	0.000	0.000	0.000	3.0	6.9

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-245-R35S

Lab Sample ID: 23H3267-05 Date(s) Analyzed: 09/10/2023 09/10/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	220	
	2	0.000	0.000	0.000	220	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-246-R36C

Lab Sample ID: 23H3267-06

Date(s) Analyzed: 09/10/2023 09/10/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	130	
	2	0.000	0.000	0.000	120	8.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-247-R12NP

Lab Sample ID: 23H3267-07 Date(s) Analyzed: 09/10/2023 09/10/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	2.3	
	2	0.000	0.000	0.000	2.4	4.3

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-248-R11WT

Lab Sample ID: 23H3267-08 Date(s) Analyzed: 09/10/2023 09/10/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	30	
	2	0.000	0.000	0.000	33	9.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-249-R14WP

Lab Sample ID: 23H3267-09 Date(s) Analyzed: 09/10/2023 09/10/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	1.2	
	2	0.000	0.000	0.000	1.5	22.2

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-250-R11D

Lab Sample ID: 23H3267-10

Date(s) Analyzed: 09/10/2023 09/10/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	49	
	2	0.000	0.000	0.000	50	2.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-251-R12EW

Lab Sample ID: 23H3267-11

Date(s) Analyzed: 09/10/2023 09/10/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	9.4	
	2	0.000	0.000	0.000	10	6.2

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-252-R17S

Lab Sample ID: 23H3267-12 Date(s) Analyzed: 09/10/2023 09/10/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	12	
	2	0.000	0.000	0.000	10	18.2

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-253-R15D

Lab Sample ID: 23H3267-13

Date(s) Analyzed: 09/10/2023 09/10/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	28	
	2	0.000	0.000	0.000	32	13.3

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-254-R11CDW

Lab Sample ID: 23H3267-14

Date(s) Analyzed: 09/10/2023 09/10/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1248	1	0.000	0.000	0.000	3.7	
	2	0.000	0.000	0.000	2.6	34.9
Aroclor-1254	1	0.000	0.000	0.000	2.5	
	2	0.000	0.000	0.000	3.4	26.7

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-255-R14SP

Lab Sample ID: 23H3267-15 Date(s) Analyzed: 09/10/2023 09/10/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	4.6	
	2	0.000	0.000	0.000	5.3	14.1

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-256-R24D

Lab Sample ID: 23H3267-16

Date(s) Analyzed: 09/10/2023 09/10/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1248	1	0.000	0.000	0.000	33	
	2	0.000	0.000	0.000	25	27.6
Aroclor-1254	1	0.000	0.000	0.000	27	
	2	0.000	0.000	0.000	27	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-257-S12S

Lab Sample ID: 23H3267-17

Date(s) Analyzed: 09/10/2023 09/10/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	53	
	2	0.000	0.000	0.000	55	3.7

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-258-R11WDW

Lab Sample ID: 23H3267-18 Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	14	
	2	0.000	0.000	0.000	15	6.9

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-259-R15E

Lab Sample ID: 23H3267-19

Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD5

Instrument ID (2): ECD5

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	55	
	2	0.000	0.000	0.000	56	1.8

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-260-R34E

Lab Sample ID: 23H3267-20

Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD5

Instrument ID (2): ECD5

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	200	
	2	0.000	0.000	0.000	190	5.1

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B351287-BS1 Date(s) Analyzed: 09/10/2023 09/10/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.18	
	2	0.000	0.000	0.000	0.19	5.4
Aroclor-1260	1	0.000	0.000	0.000	0.20	
	2	0.000	0.000	0.000	0.19	5.1

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B351287-BSD1 Date(s) Analyzed: 09/10/2023 09/10/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.19	
	2	0.000	0.000	0.000	0.19	0.0
Aroclor-1260	1	0.000	0.000	0.000	0.20	
	2	0.000	0.000	0.000	0.19	5.1

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike

Lab Sample ID: B351287-MS1 Date(s) Analyzed: 09/10/2023 09/10/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	13	
	2	0.000	0.000	0.000	25	63.2
Aroclor-1260	1	0.000	0.000	0.000	12	
	2	0.000	0.000	0.000	11	8.7

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike Dup

Lab Sample ID: B351287-MSD1

Date(s) Analyzed: 09/10/2023 09/10/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	14	
	2	0.000	0.000	0.000	26	60.0
Aroclor-1260	1	0.000	0.000	0.000	13	
	2	0.000	0.000	0.000	12	8.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B351288-BS1

Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD5

Instrument ID (2): ECD5

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	1.7	
	2	0.000	0.000	0.000	1.9	5.4
Aroclor-1260	1	0.000	0.000	0.000	1.7	
	2	0.000	0.000	0.000	1.7	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B351288-BSD1 Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD5 Instrument ID (2): ECD5

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	1.6	
	2	0.000	0.000	0.000	1.7	6.1
Aroclor-1260	1	0.000	0.000	0.000	1.4	
	2	0.000	0.000	0.000	1.4	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike

Lab Sample ID: B351288-MS1 Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD5 Instrument ID (2): ECD5

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	21	
	2	0.000	0.000	0.000	35	50.0
Aroclor-1260	1	0.000	0.000	0.000	16	
	2	0.000	0.000	0.000	15	6.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike Dup

Lab Sample ID: B351288-MSD1 Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD5 Instrument ID (2): ECD5

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	17	
	2	0.000	0.000	0.000	27	45.5
Aroclor-1260	1	0.000	0.000	0.000	13	
	2	0.000	0.000	0.000	12	15.4

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B351289-BS1

Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	1.4	
	2	0.000	0.000	0.000	1.7	19.4
Aroclor-1260	1	0.000	0.000	0.000	1.5	
	2	0.000	0.000	0.000	1.6	6.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B351289-BSD1 Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	1.3	
	2	0.000	0.000	0.000	1.5	14.3
Aroclor-1260	1	0.000	0.000	0.000	1.4	
	2	0.000	0.000	0.000	1.5	6.9

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike

Lab Sample ID: B351289-MS1 Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	8.7	
	2	0.000	0.000	0.000	15	52.1
Aroclor-1260	1	0.000	0.000	0.000	8.2	
	2	0.000	0.000	0.000	8.0	2.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike Dup

Lab Sample ID: B351289-MSD1

Date(s) Analyzed: 09/12/2023 09/12/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	5.1	
	2	0.000	0.000	0.000	8.9	54.3
Aroclor-1260	1	0.000	0.000	0.000	4.1	
	2	0.000	0.000	0.000	4.4	7.1

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
MS-21	Matrix spike and/or spike duplicate recovery bias high due to contribution of other Aroclors present in the source sample.
S-01	The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications

No certified Analyses included in this Report

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires

23173267

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time
7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
1	P-241-R37C	8/16/2023	9:27	GRAB	O	U		1				
2	P-242-R12-CP	8/16/2023	9:28	GRAB	O	U		1				
3	P-243-R12NDW	8/16/2023	9:29	GRAB	O	U		1				
4	P-244-R12EDW	8/16/2023	9:30	GRAB	O	U		1				
5	P-245-R35S	8/16/2023	9:31	GRAB	O	U		1				
6	P-246-R36C	8/16/2023	9:32	GRAB	O	U		1				
7	P-247-R12NP	8/16/2023	9:33	GRAB	O	U		1				
8	P-248-R11WT	8/16/2023	9:34	GRAB	O	U		1				
9	P-249-R14WP	8/16/2023	9:35	GRAB	O	U		1				
10	P-250-R11D	8/16/2023	9:36	GRAB	O	U		1				

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time: 8.22.23 1258	
Received by: (signature)	Date/Time: 8.22.23 1258	
Relinquished by: (signature)	Date/Time: 8.22.23 1746	
Received by: (signature) 3.8, 2.2, 3.9	Date/Time: 8/22/23	
Relinquished by: (signature) 2.6, 5.6	Date/Time: 1746	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

RF

23H3267

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time
7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
11	P-251-R12EW	8/16/2023	9:37	GRAB	O	U		1				x
12	P-252-R17S	8/16/2023	9:38	GRAB	O	U		1				x
13	P-253-R15D	8/16/2023	9:39	GRAB	O	U		1				x
14	P-254-R11CDW	8/16/2023	9:40	GRAB	O	U		1				x
15	P-255-R14SP	8/16/2023	9:41	GRAB	O	U		1				x
16	P-256-R24D	8/14/2023	9:42	GRAB	O	U		1				x
17	P-257-S12S	8/16/2023	9:43	GRAB	O	U		3				x
18	P-258-R11WDW	8/16/2023	9:44	GRAB	O	U		3				x
19	P-259-R15E	8/16/2023	12:00	GRAB	O	U		3				x
20	P-260-R34E	8/16/2023	9:46	GRAB	O	U		1				x

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS
GLASS
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N

Glassware in freezer? Y / N

Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time: 1258 8.22.23
Received by: (signature) Tim Pace	Date/Time: 1258 8.22.23
Relinquished by: (signature) Jason Pace	Date/Time: 1746 8.22.23
Received by: (signature) 3.8, 2.2, 3.9	Date/Time: 8/22/23
Relinquished by: (signature) 2.6, 5.6	Date/Time: 1746
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist
	Effective Date: 07/13/2023

Log In Back-Sheet

Client Nobis Group

Project St Johnsbury Armory

MCP/RCP Required no

Deliverable Package Requirement none

Location St. Johnsbury, VT

PWSID# (When Applicable) n/a

Arrival Method:

Courier ☑ Fed Ex ☐ Walk In ☐ Other ☐

Received By / Date / Time ER 8/22/23 1746

Back-Sheet By / Date / Time Mem 8/22/23 2217

Temperature Method Gun # 5

Temp < 6° C Actual Temperature 22.26, 38, 39, 56

Rush Samples: Yes / No Notify No

Short Hold: Yes / No Notify No

Notes regarding Samples/COC outside of SOP:

* Sample split into fifteen separate work orders

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy) Any False statement will be brought to the attention of the Client – True or False

	True	False
Received on Ice	☑	☐
Received in Cooler	☑	☐
Custody Seal: DATE TIME	☐	☑
COC Relinquished	☑	☐
COC/Samples Labels Agree	☑	☐
All Samples in Good Condition	☑	☐
Samples Received within Holding Time	☑	☐
Is there enough Volume	☑	☐
Proper Media/Container Used	☑	☐
Splitting Samples Required	☑ see notes	☐
MS/MSD	☑	☐
Trip Blanks	☐	☑
Lab to Filters	☐	☑
COC Legible	☑	☐

COC Included: (Check all included)

Client ☑ Analysis ☑ Sampler Name ☑

Project ☑ IDs ☑ Collection Date/Time ☑

All Samples Proper pH: N/A ☐ ☐

Additional Container Notes

Note: West Virginia requires all samples to have their temperature taken. Note any outliers.

Qualtrax ID: 120836

Pace ANALYTICAL SERVICES

DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist

Effective Date: 07/13/2023

Quaitrax ID: 120836

Sample	Soils Jars (Circle Amb/Clear)			Ambers					Plastics											VOA Vials					Other / Fill in					
	16oz Amb/Clear	8oz Amb/Clear	4oz Amb/Clear	2oz Amb/Clear	1 Liter			250mL		100mL	1 Liter		500mL		250mL															
					Unpreserved	HCL	Sulfuric	Sulfuric	Phosphoric	HCl	Unpreserved	Unpreserved	Sulfuric	Unpreserved	Unpreserved	Trizma	Sulfuric	Nitric	NaOH	Ammonium Acetate	NaOH/Zinc	Unpreserved	HCl	MeOH	D.I. Water	Bisulfate	Col/Bact					
1			1																											
2																														
3																														
4																														
5																														
6																														
7																														
8																														
9																														
10																														
11																														
12																														
13																														
14																														
15																														
16			1																											
17			3																											
18			3																											
19			3																											
20			1																											

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

September 18, 2023

Tim Andrews
Nobis Engineering
585 Middlesex Street
Lowell, MA 01851

Project Location: St. Johnsbury, VT
Client Job Number:
Project Number: S00001.017
Laboratory Work Order Number: 23H3268

Enclosed are results of analyses for samples as received by the laboratory on August 22, 2023. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Rebecca Faust
Project Manager

Table of Contents

Sample Summary 4

Case Narrative 5

Sample Results 6

23H3268-01 6

23H3268-02 7

23H3268-03 8

23H3268-04 9

23H3268-05 10

23H3268-06 11

23H3268-07 12

23H3268-08 13

23H3268-09 14

23H3268-10 15

23H3268-11 16

23H3268-12 17

23H3268-13 18

23H3268-14 19

23H3268-15 20

23H3268-16 21

23H3268-17 22

23H3268-18 23

23H3268-19 24

23H3268-20 25

Sample Preparation Information 26

QC Data 27

Table of Contents (continued)

Polychlorinated Biphenyls with 3540 Soxhlet Extraction 27

B351285 27

B351287 28

B351344 29

B351930 30

Dual Column RPD Report 32

Flag/Qualifier Summary 59

Certifications 60

Chain of Custody/Sample Receipt 62

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Nobis Engineering
585 Middlesex Street
Lowell, MA 01851
ATTN: Tim Andrews

REPORT DATE: 9/18/2023

PURCHASE ORDER NUMBER:

PROJECT NUMBER: S00001.017

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23H3268

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: St. Johnsbury, VT

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
P-261-R34S	23H3268-01	Paint		SW-846 8082A	
P-262-EX	23H3268-02	Paint		SW-846 8082A	
P-263-EX	23H3268-03	Paint		SW-846 8082A	
P-264-EX	23H3268-04	Paint		SW-846 8082A	
P-265-R17EC1	23H3268-05	Paint		SW-846 8082A	
P-266-R17EC2	23H3268-06	Paint		SW-846 8082A	
P-267-R17EC3	23H3268-07	Paint		SW-846 8082A	
P-268-R17EC4	23H3268-08	Paint		SW-846 8082A	
P-269-R23SS	23H3268-09	Product/Solid		SW-846 8082A	
P-270-R27SS	23H3268-10	Product/Solid		SW-846 8082A	
P-271-R25ASS	23H3268-11	Product/Solid		SW-846 8082A	
P-272-R21SS	23H3268-12	Product/Solid		SW-846 8082A	
P-273-R31SS	23H3268-13	Product/Solid		SW-846 8082A	
P-274-S12R	23H3268-14	Paint		SW-846 8082A	
P-FD-01	23H3268-15	Paint		SW-846 8082A	
P-FD-02	23H3268-16	Paint		SW-846 8082A	
P-FD-03	23H3268-17	Paint		SW-846 8082A	
P-FD-04	23H3268-18	Paint		SW-846 8082A	
P-FD-05	23H3268-19	Paint		SW-846 8082A	
P-FD-06	23H3268-20	Paint		SW-846 8082A	

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

SW-846 8082A

Qualifications:

MS-21

Matrix spike and/or spike duplicate recovery bias high due to contribution of other Aroclors present in the source sample.

Analyte & Samples(s) Qualified:

Aroclor-1016
B351285-MS1, B351285-MSD1

Aroclor-1016 [2C]
B351285-MS1, B351285-MSD1

Aroclor-1260
B351285-MS1, B351285-MSD1

Aroclor-1260 [2C]
B351285-MS1, B351285-MSD1

S-01

The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

Analyte & Samples(s) Qualified:

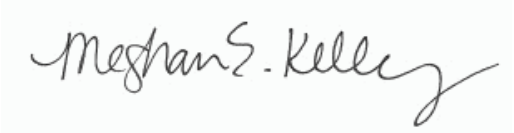
Decachlorobiphenyl
23H3268-19[P-FD-05]

Decachlorobiphenyl [2C]
23H3268-19[P-FD-05]

Tetrachloro-m-xylene
23H3268-19[P-FD-05]

Tetrachloro-m-xylene [2C]
23H3268-19[P-FD-05]

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Meghan E. Kelley
Reporting Specialist

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3268

Date Received: 8/22/2023

Field Sample #: P-261-R34S | Sampled: 8/16/2023 09:47

Sample ID: 23H3268-01

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 16:39	TG
Aroclor-1221 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 16:39	TG
Aroclor-1232 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 16:39	TG
Aroclor-1242 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 16:39	TG
Aroclor-1248 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 16:39	TG
Aroclor-1254 [2]	32	4.4	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 16:39	TG
Aroclor-1260 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 16:39	TG
Aroclor-1262 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 16:39	TG
Aroclor-1268 [1]	ND	4.4	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 16:39	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	91.6	30-150		9/10/23 16:39
Decachlorobiphenyl [2]	87.3	30-150		9/10/23 16:39
Tetrachloro-m-xylene [1]	79.5	30-150		9/10/23 16:39
Tetrachloro-m-xylene [2]	81.4	30-150		9/10/23 16:39

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3268

Date Received: 8/22/2023

Field Sample #: P-262-EX | Sampled: 8/16/2023 09:48

Sample ID: 23H3268-02

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	3.6	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 16:57	TG
Aroclor-1221 [1]	ND	3.6	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 16:57	TG
Aroclor-1232 [1]	ND	3.6	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 16:57	TG
Aroclor-1242 [1]	ND	3.6	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 16:57	TG
Aroclor-1248 [1]	ND	3.6	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 16:57	TG
Aroclor-1254 [1]	70	3.6	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 16:57	TG
Aroclor-1260 [1]	ND	3.6	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 16:57	TG
Aroclor-1262 [1]	ND	3.6	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 16:57	TG
Aroclor-1268 [1]	ND	3.6	mg/Kg	10		SW-846 8082A	9/7/23	9/10/23 16:57	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	98.0	30-150		9/10/23 16:57
Decachlorobiphenyl [2]	93.2	30-150		9/10/23 16:57
Tetrachloro-m-xylene [1]	90.1	30-150		9/10/23 16:57
Tetrachloro-m-xylene [2]	92.6	30-150		9/10/23 16:57

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3268

Date Received: 8/22/2023

Field Sample #: P-263-EX | Sampled: 8/16/2023 09:49

Sample ID: 23H3268-03

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	8.7	mg/Kg	20		SW-846 8082A	9/7/23	9/10/23 17:14	TG
Aroclor-1221 [1]	ND	8.7	mg/Kg	20		SW-846 8082A	9/7/23	9/10/23 17:14	TG
Aroclor-1232 [1]	ND	8.7	mg/Kg	20		SW-846 8082A	9/7/23	9/10/23 17:14	TG
Aroclor-1242 [1]	ND	8.7	mg/Kg	20		SW-846 8082A	9/7/23	9/10/23 17:14	TG
Aroclor-1248 [1]	ND	8.7	mg/Kg	20		SW-846 8082A	9/7/23	9/10/23 17:14	TG
Aroclor-1254 [1]	160	8.7	mg/Kg	20		SW-846 8082A	9/7/23	9/10/23 17:14	TG
Aroclor-1260 [1]	ND	8.7	mg/Kg	20		SW-846 8082A	9/7/23	9/10/23 17:14	TG
Aroclor-1262 [1]	ND	8.7	mg/Kg	20		SW-846 8082A	9/7/23	9/10/23 17:14	TG
Aroclor-1268 [1]	ND	8.7	mg/Kg	20		SW-846 8082A	9/7/23	9/10/23 17:14	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	98.5	30-150		9/10/23 17:14
Decachlorobiphenyl [2]	94.1	30-150		9/10/23 17:14
Tetrachloro-m-xylene [1]	89.9	30-150		9/10/23 17:14
Tetrachloro-m-xylene [2]	91.3	30-150		9/10/23 17:14

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3268

Date Received: 8/22/2023

Field Sample #: P-264-EX | Sampled: 8/16/2023 09:50

Sample ID: 23H3268-04

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.1	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 14:01	TG
Aroclor-1221 [1]	ND	4.1	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 14:01	TG
Aroclor-1232 [1]	ND	4.1	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 14:01	TG
Aroclor-1242 [1]	ND	4.1	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 14:01	TG
Aroclor-1248 [1]	ND	4.1	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 14:01	TG
Aroclor-1254 [1]	180	4.1	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 14:01	TG
Aroclor-1260 [1]	ND	4.1	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 14:01	TG
Aroclor-1262 [1]	ND	4.1	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 14:01	TG
Aroclor-1268 [1]	ND	4.1	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 14:01	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	96.3	30-150		9/9/23 14:01
Decachlorobiphenyl [2]	91.1	30-150		9/9/23 14:01
Tetrachloro-m-xylene [1]	96.9	30-150		9/9/23 14:01
Tetrachloro-m-xylene [2]	94.9	30-150		9/9/23 14:01

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3268

Date Received: 8/22/2023

Field Sample #: P-265-R17EC1 | Sampled: 8/16/2023 09:51

Sample ID: 23H3268-05

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.44	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 14:18	TG
Aroclor-1221 [1]	ND	0.44	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 14:18	TG
Aroclor-1232 [1]	ND	0.44	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 14:18	TG
Aroclor-1242 [1]	ND	0.44	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 14:18	TG
Aroclor-1248 [1]	ND	0.44	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 14:18	TG
Aroclor-1254 [2]	6.3	0.44	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 14:18	TG
Aroclor-1260 [1]	ND	0.44	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 14:18	TG
Aroclor-1262 [1]	ND	0.44	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 14:18	TG
Aroclor-1268 [1]	ND	0.44	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 14:18	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	86.8	30-150		9/9/23 14:18
Decachlorobiphenyl [2]	83.2	30-150		9/9/23 14:18
Tetrachloro-m-xylene [1]	86.9	30-150		9/9/23 14:18
Tetrachloro-m-xylene [2]	86.4	30-150		9/9/23 14:18

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3268

Date Received: 8/22/2023

Field Sample #: P-266-R17EC2 | Sampled: 8/16/2023 09:52

Sample ID: 23H3268-06

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.44	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 14:36	TG
Aroclor-1221 [1]	ND	0.44	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 14:36	TG
Aroclor-1232 [1]	ND	0.44	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 14:36	TG
Aroclor-1242 [1]	ND	0.44	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 14:36	TG
Aroclor-1248 [1]	ND	0.44	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 14:36	TG
Aroclor-1254 [2]	5.3	0.44	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 14:36	TG
Aroclor-1260 [1]	ND	0.44	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 14:36	TG
Aroclor-1262 [1]	ND	0.44	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 14:36	TG
Aroclor-1268 [1]	ND	0.44	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 14:36	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	81.0	30-150		9/9/23 14:36
Decachlorobiphenyl [2]	78.4	30-150		9/9/23 14:36
Tetrachloro-m-xylene [1]	84.9	30-150		9/9/23 14:36
Tetrachloro-m-xylene [2]	84.3	30-150		9/9/23 14:36

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3268

Date Received: 8/22/2023

Field Sample #: P-267-R17EC3 | Sampled: 8/16/2023 09:53

Sample ID: 23H3268-07

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.38	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 14:53	TG
Aroclor-1221 [1]	ND	0.38	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 14:53	TG
Aroclor-1232 [1]	ND	0.38	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 14:53	TG
Aroclor-1242 [1]	ND	0.38	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 14:53	TG
Aroclor-1248 [1]	ND	0.38	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 14:53	TG
Aroclor-1254 [2]	2.9	0.38	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 14:53	TG
Aroclor-1260 [1]	ND	0.38	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 14:53	TG
Aroclor-1262 [1]	ND	0.38	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 14:53	TG
Aroclor-1268 [1]	ND	0.38	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 14:53	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	46.6	30-150		9/9/23 14:53
Decachlorobiphenyl [2]	44.6	30-150		9/9/23 14:53
Tetrachloro-m-xylene [1]	46.3	30-150		9/9/23 14:53
Tetrachloro-m-xylene [2]	45.7	30-150		9/9/23 14:53

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3268

Date Received: 8/22/2023

Field Sample #: P-268-R17EC4 | Sampled: 8/16/2023 09:54

Sample ID: 23H3268-08

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.42	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 15:10	TG
Aroclor-1221 [1]	ND	0.42	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 15:10	TG
Aroclor-1232 [1]	ND	0.42	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 15:10	TG
Aroclor-1242 [1]	ND	0.42	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 15:10	TG
Aroclor-1248 [1]	ND	0.42	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 15:10	TG
Aroclor-1254 [2]	3.1	0.42	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 15:10	TG
Aroclor-1260 [1]	ND	0.42	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 15:10	TG
Aroclor-1262 [1]	ND	0.42	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 15:10	TG
Aroclor-1268 [1]	ND	0.42	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 15:10	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	78.3	30-150		9/9/23 15:10
Decachlorobiphenyl [2]	75.3	30-150		9/9/23 15:10
Tetrachloro-m-xylene [1]	76.5	30-150		9/9/23 15:10
Tetrachloro-m-xylene [2]	76.1	30-150		9/9/23 15:10

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3268

Date Received: 8/22/2023

Field Sample #: P-269-R23SS | Sampled: 8/17/2023 09:55

Sample ID: 23H3268-09

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/7/23	9/13/23 11:16	SFM
Aroclor-1221 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/7/23	9/13/23 11:16	SFM
Aroclor-1232 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/7/23	9/13/23 11:16	SFM
Aroclor-1242 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/7/23	9/13/23 11:16	SFM
Aroclor-1248 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/7/23	9/13/23 11:16	SFM
Aroclor-1254 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/7/23	9/13/23 11:16	SFM
Aroclor-1260 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/7/23	9/13/23 11:16	SFM
Aroclor-1262 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/7/23	9/13/23 11:16	SFM
Aroclor-1268 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/7/23	9/13/23 11:16	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	60.6	30-150		9/13/23 11:16
Decachlorobiphenyl [2]	59.7	30-150		9/13/23 11:16
Tetrachloro-m-xylene [1]	61.1	30-150		9/13/23 11:16
Tetrachloro-m-xylene [2]	61.7	30-150		9/13/23 11:16

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3268

Date Received: 8/22/2023

Field Sample #: P-270-R27SS | Sampled: 8/17/2023 10:20

Sample ID: 23H3268-10

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/7/23	9/13/23 11:33	SFM
Aroclor-1221 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/7/23	9/13/23 11:33	SFM
Aroclor-1232 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/7/23	9/13/23 11:33	SFM
Aroclor-1242 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/7/23	9/13/23 11:33	SFM
Aroclor-1248 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/7/23	9/13/23 11:33	SFM
Aroclor-1254 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/7/23	9/13/23 11:33	SFM
Aroclor-1260 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/7/23	9/13/23 11:33	SFM
Aroclor-1262 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/7/23	9/13/23 11:33	SFM
Aroclor-1268 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/7/23	9/13/23 11:33	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	54.7	30-150		9/13/23 11:33
Decachlorobiphenyl [2]	53.8	30-150		9/13/23 11:33
Tetrachloro-m-xylene [1]	52.0	30-150		9/13/23 11:33
Tetrachloro-m-xylene [2]	52.5	30-150		9/13/23 11:33

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3268

Date Received: 8/22/2023

Field Sample #: P-271-R25ASS | Sampled: 8/17/2023 10:45

Sample ID: 23H3268-11

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/14/23	9/18/23 13:18	JEA
Aroclor-1221 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/14/23	9/18/23 13:18	JEA
Aroclor-1232 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/14/23	9/18/23 13:18	JEA
Aroclor-1242 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/14/23	9/18/23 13:18	JEA
Aroclor-1248 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/14/23	9/18/23 13:18	JEA
Aroclor-1254 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/14/23	9/18/23 13:18	JEA
Aroclor-1260 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/14/23	9/18/23 13:18	JEA
Aroclor-1262 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/14/23	9/18/23 13:18	JEA
Aroclor-1268 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/14/23	9/18/23 13:18	JEA

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	84.0	30-150		9/18/23 13:18
Decachlorobiphenyl [2]	84.4	30-150		9/18/23 13:18
Tetrachloro-m-xylene [1]	82.2	30-150		9/18/23 13:18
Tetrachloro-m-xylene [2]	87.0	30-150		9/18/23 13:18

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3268

Date Received: 8/22/2023

Field Sample #: P-272-R21SS | Sampled: 8/17/2023 11:20

Sample ID: 23H3268-12

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/7/23	9/13/23 12:07	SFM
Aroclor-1221 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/7/23	9/13/23 12:07	SFM
Aroclor-1232 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/7/23	9/13/23 12:07	SFM
Aroclor-1242 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/7/23	9/13/23 12:07	SFM
Aroclor-1248 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/7/23	9/13/23 12:07	SFM
Aroclor-1254 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/7/23	9/13/23 12:07	SFM
Aroclor-1260 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/7/23	9/13/23 12:07	SFM
Aroclor-1262 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/7/23	9/13/23 12:07	SFM
Aroclor-1268 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/7/23	9/13/23 12:07	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	88.7	30-150		9/13/23 12:07
Decachlorobiphenyl [2]	87.4	30-150		9/13/23 12:07
Tetrachloro-m-xylene [1]	85.1	30-150		9/13/23 12:07
Tetrachloro-m-xylene [2]	87.0	30-150		9/13/23 12:07

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3268

Date Received: 8/22/2023

Field Sample #: P-273-R31SS | Sampled: 8/17/2023 11:45

Sample ID: 23H3268-13

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/7/23	9/13/23 12:24	SFM
Aroclor-1221 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/7/23	9/13/23 12:24	SFM
Aroclor-1232 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/7/23	9/13/23 12:24	SFM
Aroclor-1242 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/7/23	9/13/23 12:24	SFM
Aroclor-1248 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/7/23	9/13/23 12:24	SFM
Aroclor-1254 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/7/23	9/13/23 12:24	SFM
Aroclor-1260 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/7/23	9/13/23 12:24	SFM
Aroclor-1262 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/7/23	9/13/23 12:24	SFM
Aroclor-1268 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/7/23	9/13/23 12:24	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	92.6	30-150		9/13/23 12:24
Decachlorobiphenyl [2]	91.5	30-150		9/13/23 12:24
Tetrachloro-m-xylene [1]	85.6	30-150		9/13/23 12:24
Tetrachloro-m-xylene [2]	87.4	30-150		9/13/23 12:24

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3268

Date Received: 8/22/2023

Field Sample #: P-274-S12R | Sampled: 8/16/2023 09:55

Sample ID: 23H3268-14

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 15:28	TG
Aroclor-1221 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 15:28	TG
Aroclor-1232 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 15:28	TG
Aroclor-1242 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 15:28	TG
Aroclor-1248 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 15:28	TG
Aroclor-1254 [2]	50	3.9	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 15:28	TG
Aroclor-1260 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 15:28	TG
Aroclor-1262 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 15:28	TG
Aroclor-1268 [1]	ND	3.9	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 15:28	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	97.6	30-150		9/9/23 15:28
Decachlorobiphenyl [2]	93.4	30-150		9/9/23 15:28
Tetrachloro-m-xylene [1]	92.4	30-150		9/9/23 15:28
Tetrachloro-m-xylene [2]	92.6	30-150		9/9/23 15:28

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3268

Date Received: 8/22/2023

Field Sample #: P-FD-01 | Sampled: 8/14/2023 08:00

Sample ID: 23H3268-15

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	3.8	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 15:45	TG
Aroclor-1221 [1]	ND	3.8	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 15:45	TG
Aroclor-1232 [1]	ND	3.8	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 15:45	TG
Aroclor-1242 [1]	ND	3.8	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 15:45	TG
Aroclor-1248 [1]	ND	3.8	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 15:45	TG
Aroclor-1254 [2]	21	3.8	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 15:45	TG
Aroclor-1260 [1]	ND	3.8	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 15:45	TG
Aroclor-1262 [1]	ND	3.8	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 15:45	TG
Aroclor-1268 [1]	ND	3.8	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 15:45	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	102	30-150		9/9/23 15:45
Decachlorobiphenyl [2]	97.8	30-150		9/9/23 15:45
Tetrachloro-m-xylene [1]	96.8	30-150		9/9/23 15:45
Tetrachloro-m-xylene [2]	95.2	30-150		9/9/23 15:45

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3268

Date Received: 8/22/2023

Field Sample #: P-FD-02 | Sampled: 8/14/2023 08:01

Sample ID: 23H3268-16

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	3.7	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 16:03	TG
Aroclor-1221 [1]	ND	3.7	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 16:03	TG
Aroclor-1232 [1]	ND	3.7	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 16:03	TG
Aroclor-1242 [1]	ND	3.7	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 16:03	TG
Aroclor-1248 [1]	ND	3.7	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 16:03	TG
Aroclor-1254 [2]	19	3.7	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 16:03	TG
Aroclor-1260 [1]	ND	3.7	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 16:03	TG
Aroclor-1262 [1]	ND	3.7	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 16:03	TG
Aroclor-1268 [1]	ND	3.7	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 16:03	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	104	30-150		9/9/23 16:03
Decachlorobiphenyl [2]	97.9	30-150		9/9/23 16:03
Tetrachloro-m-xylene [1]	93.4	30-150		9/9/23 16:03
Tetrachloro-m-xylene [2]	92.2	30-150		9/9/23 16:03

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3268

Date Received: 8/22/2023

Field Sample #: P-FD-03 | Sampled: 8/14/2023 08:02

Sample ID: 23H3268-17

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 19:00	TG
Aroclor-1221 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 19:00	TG
Aroclor-1232 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 19:00	TG
Aroclor-1242 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 19:00	TG
Aroclor-1248 [1]	68	4.8	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 19:00	TG
Aroclor-1254 [2]	44	4.8	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 19:00	TG
Aroclor-1260 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 19:00	TG
Aroclor-1262 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 19:00	TG
Aroclor-1268 [1]	ND	4.8	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 19:00	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	102	30-150		9/9/23 19:00
Decachlorobiphenyl [2]	95.5	30-150		9/9/23 19:00
Tetrachloro-m-xylene [1]	95.9	30-150		9/9/23 19:00
Tetrachloro-m-xylene [2]	92.9	30-150		9/9/23 19:00

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3268

Date Received: 8/22/2023

Field Sample #: P-FD-04 | Sampled: 8/14/2023 08:03

Sample ID: 23H3268-18

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.38	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 19:18	TG
Aroclor-1221 [1]	ND	0.38	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 19:18	TG
Aroclor-1232 [1]	ND	0.38	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 19:18	TG
Aroclor-1242 [1]	ND	0.38	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 19:18	TG
Aroclor-1248 [1]	4.7	0.38	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 19:18	TG
Aroclor-1254 [2]	5.6	0.38	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 19:18	TG
Aroclor-1260 [1]	ND	0.38	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 19:18	TG
Aroclor-1262 [1]	ND	0.38	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 19:18	TG
Aroclor-1268 [1]	ND	0.38	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 19:18	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	71.7	30-150		9/9/23 19:18
Decachlorobiphenyl [2]	69.9	30-150		9/9/23 19:18
Tetrachloro-m-xylene [1]	66.8	30-150		9/9/23 19:18
Tetrachloro-m-xylene [2]	66.4	30-150		9/9/23 19:18

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3268

Date Received: 8/22/2023

Field Sample #: P-FD-05 | Sampled: 8/15/2023 08:00

Sample ID: 23H3268-19

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	21	mg/Kg	50		SW-846 8082A	9/7/23	9/9/23 19:35	TG
Aroclor-1221 [1]	ND	21	mg/Kg	50		SW-846 8082A	9/7/23	9/9/23 19:35	TG
Aroclor-1232 [1]	ND	21	mg/Kg	50		SW-846 8082A	9/7/23	9/9/23 19:35	TG
Aroclor-1242 [1]	ND	21	mg/Kg	50		SW-846 8082A	9/7/23	9/9/23 19:35	TG
Aroclor-1248 [1]	ND	21	mg/Kg	50		SW-846 8082A	9/7/23	9/9/23 19:35	TG
Aroclor-1254 [1]	340	21	mg/Kg	50		SW-846 8082A	9/7/23	9/9/23 19:35	TG
Aroclor-1260 [1]	ND	21	mg/Kg	50		SW-846 8082A	9/7/23	9/9/23 19:35	TG
Aroclor-1262 [1]	ND	21	mg/Kg	50		SW-846 8082A	9/7/23	9/9/23 19:35	TG
Aroclor-1268 [1]	ND	21	mg/Kg	50		SW-846 8082A	9/7/23	9/9/23 19:35	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/9/23 19:35
Decachlorobiphenyl [2]	*	30-150	S-01	9/9/23 19:35
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/9/23 19:35
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/9/23 19:35

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3268

Date Received: 8/22/2023

Field Sample #: P-FD-06 | Sampled: 8/15/2023 08:01

Sample ID: 23H3268-20

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.40	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 19:53	TG
Aroclor-1221 [1]	ND	0.40	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 19:53	TG
Aroclor-1232 [1]	ND	0.40	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 19:53	TG
Aroclor-1242 [1]	ND	0.40	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 19:53	TG
Aroclor-1248 [1]	ND	0.40	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 19:53	TG
Aroclor-1254 [2]	5.6	0.40	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 19:53	TG
Aroclor-1260 [1]	ND	0.40	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 19:53	TG
Aroclor-1262 [1]	ND	0.40	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 19:53	TG
Aroclor-1268 [1]	ND	0.40	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 19:53	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	84.4	30-150		9/9/23 19:53
Decachlorobiphenyl [2]	82.5	30-150		9/9/23 19:53
Tetrachloro-m-xylene [1]	89.8	30-150		9/9/23 19:53
Tetrachloro-m-xylene [2]	89.1	30-150		9/9/23 19:53

con-test® A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method:SW-846 3540C **Analytical Method:SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23H3268-04 [P-264-EX]	B351285	0.244	10.0	09/07/23
23H3268-05 [P-265-R17EC1]	B351285	0.226	10.0	09/07/23
23H3268-06 [P-266-R17EC2]	B351285	0.226	10.0	09/07/23
23H3268-07 [P-267-R17EC3]	B351285	0.260	10.0	09/07/23
23H3268-08 [P-268-R17EC4]	B351285	0.237	10.0	09/07/23
23H3268-14 [P-274-S12R]	B351285	0.260	10.0	09/07/23
23H3268-15 [P-FD-01]	B351285	0.266	10.0	09/07/23
23H3268-16 [P-FD-02]	B351285	0.273	10.0	09/07/23
23H3268-17 [P-FD-03]	B351285	0.210	10.0	09/07/23
23H3268-18 [P-FD-04]	B351285	0.262	10.0	09/07/23
23H3268-19 [P-FD-05]	B351285	0.233	10.0	09/07/23
23H3268-20 [P-FD-06]	B351285	0.253	10.0	09/07/23

Prep Method:SW-846 3540C **Analytical Method:SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23H3268-01 [P-261-R34S]	B351287	0.229	10.0	09/07/23
23H3268-02 [P-262-EX]	B351287	0.279	10.0	09/07/23
23H3268-03 [P-263-EX]	B351287	0.229	10.0	09/07/23

Prep Method:SW-846 3540C **Analytical Method:SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23H3268-09 [P-269-R23SS]	B351344	2.00	10.0	09/07/23
23H3268-10 [P-270-R27SS]	B351344	2.00	10.0	09/07/23
23H3268-12 [P-272-R21SS]	B351344	2.00	10.0	09/07/23
23H3268-13 [P-273-R31SS]	B351344	2.00	10.0	09/07/23

Prep Method:SW-846 3540C **Analytical Method:SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23H3268-11RE1 [P-271-R25ASS]	B351930	2.00	10.0	09/14/23

con-test® A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B351285 - SW-846 3540C										
Blank (B351285-BLK1)				Prepared: 09/07/23 Analyzed: 09/09/23						
Aroclor-1016	ND	0.50	mg/Kg							
Aroclor-1016 [2C]	ND	0.50	mg/Kg							
Aroclor-1221	ND	0.50	mg/Kg							
Aroclor-1221 [2C]	ND	0.50	mg/Kg							
Aroclor-1232	ND	0.50	mg/Kg							
Aroclor-1232 [2C]	ND	0.50	mg/Kg							
Aroclor-1242	ND	0.50	mg/Kg							
Aroclor-1242 [2C]	ND	0.50	mg/Kg							
Aroclor-1248	ND	0.50	mg/Kg							
Aroclor-1248 [2C]	ND	0.50	mg/Kg							
Aroclor-1254	ND	0.50	mg/Kg							
Aroclor-1254 [2C]	ND	0.50	mg/Kg							
Aroclor-1260	ND	0.50	mg/Kg							
Aroclor-1260 [2C]	ND	0.50	mg/Kg							
Aroclor-1262	ND	0.50	mg/Kg							
Aroclor-1262 [2C]	ND	0.50	mg/Kg							
Aroclor-1268	ND	0.50	mg/Kg							
Aroclor-1268 [2C]	ND	0.50	mg/Kg							
Surrogate: Decachlorobiphenyl	*9.47*		mg/Kg	10.0		94.7	30-150			
Surrogate: Decachlorobiphenyl [2C]	*8.72*		mg/Kg	10.0		87.2	30-150			
Surrogate: Tetrachloro-m-xylene	*9.18*		mg/Kg	10.0		91.8	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*8.99*		mg/Kg	10.0		89.9	30-150			
LCS (B351285-BS1)				Prepared: 09/07/23 Analyzed: 09/09/23						
Aroclor-1016	2.0	0.50	mg/Kg	2.50		80.0	40-140			
Aroclor-1016 [2C]	2.0	0.50	mg/Kg	2.50		80.5	40-140			
Aroclor-1260	1.9	0.50	mg/Kg	2.50		76.6	40-140			
Aroclor-1260 [2C]	1.8	0.50	mg/Kg	2.50		73.9	40-140			
Surrogate: Decachlorobiphenyl	*9.41*		mg/Kg	10.0		94.1	30-150			
Surrogate: Decachlorobiphenyl [2C]	*8.91*		mg/Kg	10.0		89.1	30-150			
Surrogate: Tetrachloro-m-xylene	*8.61*		mg/Kg	10.0		86.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*8.44*		mg/Kg	10.0		84.4	30-150			
LCS Dup (B351285-BSD1)				Prepared: 09/07/23 Analyzed: 09/09/23						
Aroclor-1016	2.0	0.50	mg/Kg	2.50		78.5	40-140	1.81	30	
Aroclor-1016 [2C]	1.9	0.50	mg/Kg	2.50		75.6	40-140	6.37	30	
Aroclor-1260	1.9	0.50	mg/Kg	2.50		75.4	40-140	1.67	30	
Aroclor-1260 [2C]	1.9	0.50	mg/Kg	2.50		76.4	40-140	3.32	30	
Surrogate: Decachlorobiphenyl	*9.11*		mg/Kg	10.0		91.1	30-150			
Surrogate: Decachlorobiphenyl [2C]	*8.65*		mg/Kg	10.0		86.5	30-150			
Surrogate: Tetrachloro-m-xylene	*8.56*		mg/Kg	10.0		85.6	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*8.36*		mg/Kg	10.0		83.6	30-150			

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B351285 - SW-846 3540C											
Matrix Spike (B351285-MS1)	**Source: 23H3268-04**			Prepared: 09/07/23 Analyzed: 09/09/23							
Aroclor-1016	19	4.6	mg/Kg	2.31	ND	**831**	*	40-140			MS-21
Aroclor-1016 [2C]	42	4.6	mg/Kg	2.31	ND	**1800**	*	40-140			MS-21
Aroclor-1260	43	4.6	mg/Kg	2.31	ND	**1860**	*	40-140			MS-21
Aroclor-1260 [2C]	40	4.6	mg/Kg	2.31	ND	**1730**	*	40-140			MS-21
Surrogate: Decachlorobiphenyl	*9.44*		mg/Kg	9.23		102		30-150			
Surrogate: Decachlorobiphenyl [2C]	*9.00*		mg/Kg	9.23		97.5		30-150			
Surrogate: Tetrachloro-m-xylene	*8.81*		mg/Kg	9.23		95.4		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*8.77*		mg/Kg	9.23		95.0		30-150			
Matrix Spike Dup (B351285-MSD1)	**Source: 23H3268-04**			Prepared: 09/07/23 Analyzed: 09/09/23							
Aroclor-1016	23	4.6	mg/Kg	2.29	ND	**1020**	*	40-140	19.3	50	MS-21
Aroclor-1016 [2C]	52	4.6	mg/Kg	2.29	ND	**2250**	*	40-140	21.7	50	MS-21
Aroclor-1260	59	4.6	mg/Kg	2.29	ND	**2570**	*	40-140	31.6	50	MS-21
Aroclor-1260 [2C]	55	4.6	mg/Kg	2.29	ND	**2380**	*	40-140	31.3	50	MS-21
Surrogate: Decachlorobiphenyl	*8.14*		mg/Kg	9.17		88.7		30-150			
Surrogate: Decachlorobiphenyl [2C]	*7.76*		mg/Kg	9.17		84.6		30-150			
Surrogate: Tetrachloro-m-xylene	*7.57*		mg/Kg	9.17		82.5		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*7.59*		mg/Kg	9.17		82.7		30-150			
Batch B351287 - SW-846 3540C											
Blank (B351287-BLK1)				Prepared: 09/07/23 Analyzed: 09/10/23							
Aroclor-1016	ND	0.050	mg/Kg								
Aroclor-1016 [2C]	ND	0.050	mg/Kg								
Aroclor-1221	ND	0.050	mg/Kg								
Aroclor-1221 [2C]	ND	0.050	mg/Kg								
Aroclor-1232	ND	0.050	mg/Kg								
Aroclor-1232 [2C]	ND	0.050	mg/Kg								
Aroclor-1242	ND	0.050	mg/Kg								
Aroclor-1242 [2C]	ND	0.050	mg/Kg								
Aroclor-1248	ND	0.050	mg/Kg								
Aroclor-1248 [2C]	ND	0.050	mg/Kg								
Aroclor-1254	ND	0.050	mg/Kg								
Aroclor-1254 [2C]	ND	0.050	mg/Kg								
Aroclor-1260	ND	0.050	mg/Kg								
Aroclor-1260 [2C]	ND	0.050	mg/Kg								
Aroclor-1262	ND	0.050	mg/Kg								
Aroclor-1262 [2C]	ND	0.050	mg/Kg								
Aroclor-1268	ND	0.050	mg/Kg								
Aroclor-1268 [2C]	ND	0.050	mg/Kg								
Surrogate: Decachlorobiphenyl	*0.878*		mg/Kg	1.00		87.8		30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.807*		mg/Kg	1.00		80.7		30-150			
Surrogate: Tetrachloro-m-xylene	*0.839*		mg/Kg	1.00		83.9		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.832*		mg/Kg	1.00		83.2		30-150			

con-test® A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B351287 - SW-846 3540C										
LCS (B351287-BS1)				Prepared: 09/07/23 Analyzed: 09/10/23						
Aroclor-1016	0.18	0.050	mg/Kg	0.250		73.3	40-140			
Aroclor-1016 [2C]	0.19	0.050	mg/Kg	0.250		77.8	40-140			
Aroclor-1260	0.20	0.050	mg/Kg	0.250		79.3	40-140			
Aroclor-1260 [2C]	0.19	0.050	mg/Kg	0.250		74.5	40-140			
Surrogate: Decachlorobiphenyl	*0.908*		mg/Kg	1.00		90.8	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.875*		mg/Kg	1.00		87.5	30-150			
Surrogate: Tetrachloro-m-xylene	*0.858*		mg/Kg	1.00		85.8	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.858*		mg/Kg	1.00		85.8	30-150			
LCS Dup (B351287-BSD1)				Prepared: 09/07/23 Analyzed: 09/10/23						
Aroclor-1016	0.19	0.050	mg/Kg	0.250		77.3	40-140	5.37	30	
Aroclor-1016 [2C]	0.19	0.050	mg/Kg	0.250		77.4	40-140	0.461	30	
Aroclor-1260	0.20	0.050	mg/Kg	0.250		80.4	40-140	1.32	30	
Aroclor-1260 [2C]	0.19	0.050	mg/Kg	0.250		76.6	40-140	2.86	30	
Surrogate: Decachlorobiphenyl	*0.884*		mg/Kg	1.00		88.4	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.842*		mg/Kg	1.00		84.2	30-150			
Surrogate: Tetrachloro-m-xylene	*0.829*		mg/Kg	1.00		82.9	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.830*		mg/Kg	1.00		83.0	30-150			
Batch B351344 - SW-846 3540C										
Blank (B351344-BLK1)				Prepared: 09/07/23 Analyzed: 09/13/23						
Aroclor-1016	ND	0.10	mg/Kg							
Aroclor-1016 [2C]	ND	0.10	mg/Kg							
Aroclor-1221	ND	0.10	mg/Kg							
Aroclor-1221 [2C]	ND	0.10	mg/Kg							
Aroclor-1232	ND	0.10	mg/Kg							
Aroclor-1232 [2C]	ND	0.10	mg/Kg							
Aroclor-1242	ND	0.10	mg/Kg							
Aroclor-1242 [2C]	ND	0.10	mg/Kg							
Aroclor-1248	ND	0.10	mg/Kg							
Aroclor-1248 [2C]	ND	0.10	mg/Kg							
Aroclor-1254	ND	0.10	mg/Kg							
Aroclor-1254 [2C]	ND	0.10	mg/Kg							
Aroclor-1260	ND	0.10	mg/Kg							
Aroclor-1260 [2C]	ND	0.10	mg/Kg							
Aroclor-1262	ND	0.10	mg/Kg							
Aroclor-1262 [2C]	ND	0.10	mg/Kg							
Aroclor-1268	ND	0.10	mg/Kg							
Aroclor-1268 [2C]	ND	0.10	mg/Kg							
Surrogate: Decachlorobiphenyl	*0.829*		mg/Kg	1.00		82.9	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.826*		mg/Kg	1.00		82.6	30-150			
Surrogate: Tetrachloro-m-xylene	*0.785*		mg/Kg	1.00		78.5	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.789*		mg/Kg	1.00		78.9	30-150			

con-test® A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B351344 - SW-846 3540C										
LCS (B351344-BS1)				Prepared: 09/07/23 Analyzed: 09/13/23						
Aroclor-1016	0.61	0.10	mg/Kg	1.00		60.8	40-140			
Aroclor-1016 [2C]	0.63	0.10	mg/Kg	1.00		63.3	40-140			
Aroclor-1260	0.61	0.10	mg/Kg	1.00		60.5	40-140			
Aroclor-1260 [2C]	0.61	0.10	mg/Kg	1.00		61.2	40-140			
Surrogate: Decachlorobiphenyl	*0.767*		mg/Kg	1.00		76.7	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.770*		mg/Kg	1.00		77.0	30-150			
Surrogate: Tetrachloro-m-xylene	*0.684*		mg/Kg	1.00		68.4	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.688*		mg/Kg	1.00		68.8	30-150			
LCS Dup (B351344-BSD1)				Prepared: 09/07/23 Analyzed: 09/13/23						
Aroclor-1016	0.61	0.10	mg/Kg	1.00		60.9	40-140	0.214	30	
Aroclor-1016 [2C]	0.63	0.10	mg/Kg	1.00		63.2	40-140	0.179	30	
Aroclor-1260	0.60	0.10	mg/Kg	1.00		60.0	40-140	0.905	30	
Aroclor-1260 [2C]	0.61	0.10	mg/Kg	1.00		60.8	40-140	0.605	30	
Surrogate: Decachlorobiphenyl	*0.792*		mg/Kg	1.00		79.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.790*		mg/Kg	1.00		79.0	30-150			
Surrogate: Tetrachloro-m-xylene	*0.708*		mg/Kg	1.00		70.8	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.714*		mg/Kg	1.00		71.4	30-150			
Matrix Spike (B351344-MS1)		**Source: 23H3268-10**		Prepared: 09/07/23 Analyzed: 09/13/23						
Aroclor-1016	0.74	0.10	mg/Kg	1.00	ND	73.8	40-140			
Aroclor-1016 [2C]	0.79	0.10	mg/Kg	1.00	ND	78.5	40-140			
Aroclor-1260	0.73	0.10	mg/Kg	1.00	ND	73.3	40-140			
Aroclor-1260 [2C]	0.78	0.10	mg/Kg	1.00	ND	78.1	40-140			
Surrogate: Decachlorobiphenyl	*0.940*		mg/Kg	1.00		94.0	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.926*		mg/Kg	1.00		92.6	30-150			
Surrogate: Tetrachloro-m-xylene	*0.890*		mg/Kg	1.00		89.0	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.894*		mg/Kg	1.00		89.4	30-150			
Matrix Spike Dup (B351344-MSD1)		**Source: 23H3268-10**		Prepared: 09/07/23 Analyzed: 09/13/23						
Aroclor-1016	0.79	0.10	mg/Kg	1.00	ND	78.9	40-140	6.79	50	
Aroclor-1016 [2C]	0.81	0.10	mg/Kg	1.00	ND	80.6	40-140	2.64	50	
Aroclor-1260	0.75	0.10	mg/Kg	1.00	ND	74.7	40-140	1.92	50	
Aroclor-1260 [2C]	0.83	0.10	mg/Kg	1.00	ND	82.9	40-140	5.92	50	
Surrogate: Decachlorobiphenyl	*0.958*		mg/Kg	1.00		95.8	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.949*		mg/Kg	1.00		94.9	30-150			
Surrogate: Tetrachloro-m-xylene	*0.910*		mg/Kg	1.00		91.0	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.910*		mg/Kg	1.00		91.0	30-150			
Batch B351930 - SW-846 3540C										
Blank (B351930-BLK1)				Prepared: 09/14/23 Analyzed: 09/15/23						
Aroclor-1016	ND	0.10	mg/Kg							
Aroclor-1016 [2C]	ND	0.10	mg/Kg							
Aroclor-1221	ND	0.10	mg/Kg							
Aroclor-1221 [2C]	ND	0.10	mg/Kg							
Aroclor-1232	ND	0.10	mg/Kg							
Aroclor-1232 [2C]	ND	0.10	mg/Kg							
Aroclor-1242	ND	0.10	mg/Kg							
Aroclor-1242 [2C]	ND	0.10	mg/Kg							
Aroclor-1248	ND	0.10	mg/Kg							
Aroclor-1248 [2C]	ND	0.10	mg/Kg							
Aroclor-1254	ND	0.10	mg/Kg							

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B351930 - SW-846 3540C										
Blank (B351930-BLK1)				Prepared: 09/14/23 Analyzed: 09/15/23						
Aroclor-1254 [2C]	ND	0.10	mg/Kg							
Aroclor-1260	ND	0.10	mg/Kg							
Aroclor-1260 [2C]	ND	0.10	mg/Kg							
Aroclor-1262	ND	0.10	mg/Kg							
Aroclor-1262 [2C]	ND	0.10	mg/Kg							
Aroclor-1268	ND	0.10	mg/Kg							
Aroclor-1268 [2C]	ND	0.10	mg/Kg							
Surrogate: Decachlorobiphenyl	*0.944*		mg/Kg	1.00		94.4	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.937*		mg/Kg	1.00		93.7	30-150			
Surrogate: Tetrachloro-m-xylene	*0.853*		mg/Kg	1.00		85.3	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.866*		mg/Kg	1.00		86.6	30-150			
LCS (B351930-BS1)				Prepared: 09/14/23 Analyzed: 09/15/23						
Aroclor-1016	0.71	0.097	mg/Kg	0.971		72.8	40-140			
Aroclor-1016 [2C]	0.78	0.097	mg/Kg	0.971		80.6	40-140			
Aroclor-1260	0.72	0.097	mg/Kg	0.971		73.7	40-140			
Aroclor-1260 [2C]	0.75	0.097	mg/Kg	0.971		77.4	40-140			
Surrogate: Decachlorobiphenyl	*0.961*		mg/Kg	0.971		99.0	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.963*		mg/Kg	0.971		99.1	30-150			
Surrogate: Tetrachloro-m-xylene	*0.860*		mg/Kg	0.971		88.6	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.880*		mg/Kg	0.971		90.6	30-150			
LCS Dup (B351930-BSD1)				Prepared: 09/14/23 Analyzed: 09/15/23						
Aroclor-1016	0.70	0.099	mg/Kg	0.990		70.3	40-140	1.51	30	
Aroclor-1016 [2C]	0.80	0.099	mg/Kg	0.990		81.3	40-140	2.81	30	
Aroclor-1260	0.73	0.099	mg/Kg	0.990		73.8	40-140	2.11	30	
Aroclor-1260 [2C]	0.76	0.099	mg/Kg	0.990		76.9	40-140	1.31	30	
Surrogate: Decachlorobiphenyl	*0.955*		mg/Kg	0.990		96.4	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.955*		mg/Kg	0.990		96.4	30-150			
Surrogate: Tetrachloro-m-xylene	*0.864*		mg/Kg	0.990		87.3	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.881*		mg/Kg	0.990		88.9	30-150			

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-261-R34S

Lab Sample ID: 23H3268-01 Date(s) Analyzed: 09/10/2023 09/10/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	31	
	2	0.000	0.000	0.000	32	3.2

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-262-EX

Lab Sample ID: 23H3268-02 Date(s) Analyzed: 09/10/2023 09/10/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	70	
	2	0.000	0.000	0.000	67	4.4

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-263-EX

Lab Sample ID: 23H3268-03

Date(s) Analyzed: 09/10/2023 09/10/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	160	
	2	0.000	0.000	0.000	160	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-264-EX

Lab Sample ID: 23H3268-04 Date(s) Analyzed: 09/09/2023 09/09/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	180	
	2	0.000	0.000	0.000	170	5.7

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-265-R17EC1

Lab Sample ID: 23H3268-05 Date(s) Analyzed: 09/09/2023 09/09/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	5.9	
	2	0.000	0.000	0.000	6.3	6.6

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-266-R17EC2

Lab Sample ID: 23H3268-06

Date(s) Analyzed: 09/09/2023 09/09/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	3.9	
	2	0.000	0.000	0.000	5.3	30.4

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-267-R17EC3

Lab Sample ID: 23H3268-07 Date(s) Analyzed: 09/09/2023 09/09/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	2.6	
	2	0.000	0.000	0.000	2.9	10.9

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-268-R17EC4

Lab Sample ID: 23H3268-08 Date(s) Analyzed: 09/09/2023 09/09/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	2.6	
	2	0.000	0.000	0.000	3.1	17.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-274-S12R

Lab Sample ID: 23H3268-14

Date(s) Analyzed: 09/09/2023 09/09/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	49	
	2	0.000	0.000	0.000	50	2.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-FD-01

Lab Sample ID: 23H3268-15

Date(s) Analyzed: 09/09/2023 09/09/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	16	
	2	0.000	0.000	0.000	21	27.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-FD-02

Lab Sample ID: 23H3268-16

Date(s) Analyzed: 09/09/2023 09/09/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	16	
	2	0.000	0.000	0.000	19	17.1

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-FD-03

Lab Sample ID: 23H3268-17

Date(s) Analyzed: 09/09/2023 09/09/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1248	1	0.000	0.000	0.000	68	
	2	0.000	0.000	0.000	51	28.6
Aroclor-1254	1	0.000	0.000	0.000	44	
	2	0.000	0.000	0.000	44	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-FD-04

Lab Sample ID: 23H3268-18

Date(s) Analyzed: 09/09/2023 09/09/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1248	1	0.000	0.000	0.000	4.7	
	2	0.000	0.000	0.000	3.7	23.8
Aroclor-1254	1	0.000	0.000	0.000	5.2	
	2	0.000	0.000	0.000	5.6	7.4

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-FD-05

Lab Sample ID: 23H3268-19

Date(s) Analyzed: 09/09/2023 09/09/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	340	
	2	0.000	0.000	0.000	320	6.1

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-FD-06

Lab Sample ID: 23H3268-20

Date(s) Analyzed: 09/09/2023 09/09/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	4.5	
	2	0.000	0.000	0.000	5.6	21.8

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B351285-BS1

Date(s) Analyzed: 09/09/2023 09/09/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	2.0	
	2	0.000	0.000	0.000	2.0	0.0
Aroclor-1260	1	0.000	0.000	0.000	1.9	
	2	0.000	0.000	0.000	1.8	5.4

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B351285-BSD1 Date(s) Analyzed: 09/09/2023 09/09/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	2.0	
	2	0.000	0.000	0.000	1.9	5.1
Aroclor-1260	1	0.000	0.000	0.000	1.9	
	2	0.000	0.000	0.000	1.9	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike

Lab Sample ID: B351285-MS1

Date(s) Analyzed: 09/09/2023 09/09/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	19	
	2	0.000	0.000	0.000	42	75.4
Aroclor-1260	1	0.000	0.000	0.000	43	
	2	0.000	0.000	0.000	40	7.2

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike Dup

Lab Sample ID: B351285-MSD1 Date(s) Analyzed: 09/09/2023 09/09/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	23	
	2	0.000	0.000	0.000	52	77.3
Aroclor-1260	1	0.000	0.000	0.000	59	
	2	0.000	0.000	0.000	55	7.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B351287-BS1 Date(s) Analyzed: 09/10/2023 09/10/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.18	
	2	0.000	0.000	0.000	0.19	5.4
Aroclor-1260	1	0.000	0.000	0.000	0.20	
	2	0.000	0.000	0.000	0.19	5.1

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B351287-BSD1 Date(s) Analyzed: 09/10/2023 09/10/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.19	
	2	0.000	0.000	0.000	0.19	0.0
Aroclor-1260	1	0.000	0.000	0.000	0.20	
	2	0.000	0.000	0.000	0.19	5.1

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B351344-BS1 Date(s) Analyzed: 09/13/2023 09/13/2023

Instrument ID (1): ECD5 Instrument ID (2): ECD5

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.61	
	2	0.000	0.000	0.000	0.63	3.2
Aroclor-1260	1	0.000	0.000	0.000	0.61	
	2	0.000	0.000	0.000	0.61	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B351344-BSD1 Date(s) Analyzed: 09/13/2023 09/13/2023

Instrument ID (1): ECD5 Instrument ID (2): ECD5

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.61	
	2	0.000	0.000	0.000	0.63	3.2
Aroclor-1260	1	0.000	0.000	0.000	0.60	
	2	0.000	0.000	0.000	0.61	1.7

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike

Lab Sample ID: B351344-MS1

Date(s) Analyzed: 09/13/2023 09/13/2023

Instrument ID (1): ECD5

Instrument ID (2): ECD5

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.74	
	2	0.000	0.000	0.000	0.79	6.5
Aroclor-1260	1	0.000	0.000	0.000	0.73	
	2	0.000	0.000	0.000	0.78	6.6

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike Dup

Lab Sample ID: B351344-MSD1 Date(s) Analyzed: 09/13/2023 09/13/2023

Instrument ID (1): ECD5 Instrument ID (2): ECD5

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.79	
	2	0.000	0.000	0.000	0.81	2.5
Aroclor-1260	1	0.000	0.000	0.000	0.75	
	2	0.000	0.000	0.000	0.83	10.1

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B351930-BS1 Date(s) Analyzed: 09/15/2023 09/15/2023

Instrument ID (1): ECD5 Instrument ID (2): ECD5

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.71	
	2	0.000	0.000	0.000	0.78	9.4
Aroclor-1260	1	0.000	0.000	0.000	0.72	
	2	0.000	0.000	0.000	0.75	4.1

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B351930-BSD1

Date(s) Analyzed: 09/15/2023 09/15/2023

Instrument ID (1): ECD5

Instrument ID (2): ECD5

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.70	
	2	0.000	0.000	0.000	0.80	13.3
Aroclor-1260	1	0.000	0.000	0.000	0.73	
	2	0.000	0.000	0.000	0.76	4.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
MS-21	Matrix spike and/or spike duplicate recovery bias high due to contribution of other Aroclors present in the source sample.
S-01	The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8082A in Product/Solid	
Aroclor-1016	CT,NH,NY,ME,NC,VA,PA
Aroclor-1016 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1262	NY,NC,VA,PA
Aroclor-1262 [2C]	NY,NC,VA,PA
Aroclor-1268	NY,NC,VA,PA
Aroclor-1268 [2C]	NY,NC,VA,PA
SW-846 8082A in Soil	
Aroclor-1016	CT,NH,NY,ME,NC,VA,PA
Aroclor-1016 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1262	NY,NC,VA,PA
Aroclor-1262 [2C]	NY,NC,VA,PA
Aroclor-1268	NY,NC,VA,PA
Aroclor-1268 [2C]	NY,NC,VA,PA

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2024
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2024
NC	North Carolina Div. of Water Quality	652	12/31/2023
ME	State of Maine	MA00100	06/9/2025
VA	Commonwealth of Virginia	460217	12/14/2023
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2024

23H3268

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time
7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
1	P-261-R34S	8/16/2023	9:47	GRAB	O	U		1				x
2	P-262-Ex	8/16/2023	9:48	GRAB	O	U		1				x
3	P-263-Ex	8/16/2023	9:49	GRAB	O	U		1				x
4	P-264-Ex	8/16/2023	9:50	GRAB	O	U		3				x
5	P-265-R17EC1	8/16/2023	9:51	GRAB	O	U		1				x
6	P-266-R17EC2	8/16/2023	9:52	GRAB	O	U		1				x
7	P-267-R17EC3	8/16/2023	9:53	GRAB	O	U		1				x
8	P-268-R17EC4	8/16/2023	9:54	GRAB	O	U		1				x
9	P-269-R23SS	8/17/2023	9:55	GRAB	O	U		1				x
10	P-270-R27SS	8/17/2023	10:20	GRAB	O	U		3				x

Relinquished by: (signature)	Date/Time: 8-22-23 1258
Received by: (signature)	Date/Time: 1258 8-22-23
Relinquished by: (signature)	Date/Time: 1746 8-22-23
Received by: (signature) 38,22,3.9	Date/Time: 8/22/23
Relinquished by: (signature) 2.6,5.6	Date/Time: 1746
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Table of Contents

23H3268

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time

7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
11	P-271-R25ASS	8/17/2023	10:45	GRAB	O	U		1				x
12	P-272-R21SS	8/17/2023	11:20	GRAB	O	U		1				x
13	P-273-R31SS	8/17/2023	11:45	GRAB	O	U		1				x
14	P-274-S12R	8/16/2023	9:55	GRAB	O	U		1				x
15	p-FD-01	8/14/2023	8:00	GRAB	O	U		1				x
16	p-FD-02	8/14/2023	8:01	GRAB	O	U		1				x
17	p-FD-03	8/14/2023	8:02	GRAB	O	U		1				x
18	p-FD-04	8/14/2023	8:03	GRAB	O	U		1				x
19	p-FD-05	8/15/2023	8:00	GRAB	O	U		1				x
20	p-FD-06	8/15/2023	8:01	GRAB	O	U		1				x

[2] Preservation Code
Courier use Only
Total Number Of:
VIALS
GLASS
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time: 1255 8-22-23	Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS
Received by: (signature)	Date/Time: 1255 8-22-23	
Relinquished by: (signature)	Date/Time: 1746 8-22-23	
Received by: (signature) 3.8, 22, 39	Date/Time: 8/22/23	
Relinquished by: (signature) 2.6, 5.6	Date/Time: 1746	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist
	Effective Date: 07/13/2023

Log In Back-Sheet

Client: Nobis Group

Project: St Johnsbury Armory

MCP/RCP Required: no

Deliverable Package Requirement: none

Location: St. Johnsbury, VT

PWSID# (When Applicable): n/a

Arrival Method:

Courier ☑ Fed Ex ☐ Walk In ☐ Other ☐

Received By / Date / Time: ER 8/22/23 1746

Back-Sheet By / Date / Time: MCM 8/22/23 2217

Temperature Method: Gun # 5

Temp < 6° C Actual Temperature: 22.26 38.39.56

Rush Samples: Yes / No Notify: No

Short Hold: Yes / No Notify: No

Notes regarding Samples/COC outside of SOP:

* Sample split into fifteen separate work orders

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy) Any False statement will be brought to the attention of the Client – True or False

	True	False
Received on Ice	☑	☐
Received in Cooler	☑	☐
Custody Seal: DATE TIME	☐	☑
COC Relinquished	☑	☐
COC/Samples Labels Agree	☑	☐
All Samples in Good Condition	☑	☐
Samples Received within Holding Time	☑	☐
Is there enough Volume	☑	☐
Proper Media/Container Used	☑	☐
Splitting Samples Required	☑ see notes	☐
MS/MSD	☑	☐
Trip Blanks	☐	☑
Lab to Filters	☐	☑
COC Legible	☑	☐

COC Included: (Check all included)

Client ☑ Analysis ☑ Sampler Name ☑

Project ☑ IDs ☑ Collection Date/Time ☑

All Samples Proper pH: N/A ☐ ☐

Additional Container Notes

Note: West Virginia requires all samples to have their temperature taken. Note any outliers.

Qualtrax ID: 120836

DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist

Effective Date: 07/13/2023

Sample			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
16oz Amb/Clear	Soils Jars (Circle Amb/Clear)																					
8oz Amb/Clear																						
4oz Amb/Clear			1	1	1	2	1		1													1
2oz Amb/Clear																						
Unpreserved	Ambers	1 Liter																				
HCL																						
Sulfuric																						
Sulfuric		250mL																				
Phosphoric																						
HCl																						
Unpreserved		100mL																				
Unpreserved	Plastics	1 Liter																				
Sulfuric																						
Unpreserved		500mL																				
Sulfuric																						
Unpreserved		250mL																				
Trizma																						
Sulfuric																						
Nitric																						
NaOH																						
Ammonium Acetate																						
NaOH/Zinc																						
Unpreserved	VOA Vials																					
HCl																						
MeOH																						
D.I. Water																						
BiSulfate																						
Col/Bact	Other / Fill in																					

Qualtrax ID: 120836

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

September 14, 2023

Tim Andrews
Nobis Engineering
585 Middlesex Street
Lowell, MA 01851

Project Location: St. Johnsbury, VT
Client Job Number:
Project Number: S00001.017
Laboratory Work Order Number: 23H3270

Enclosed are results of analyses for samples as received by the laboratory on August 22, 2023. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Rebecca Faust
Project Manager

Table of Contents

Sample Summary 3

Case Narrative 4

Sample Results 5

23H3270-01 5

23H3270-02 6

23H3270-03 7

23H3270-04 8

23H3270-05 9

23H3270-06 10

23H3270-07 11

23H3270-08 12

23H3270-09 13

Sample Preparation Information 14

QC Data 15

Polychlorinated Biphenyls with 3540 Soxhlet Extraction 15

B351285 15

B351344 16

Dual Column RPD Report 17

Flag/Qualifier Summary 29

Certifications 30

Chain of Custody/Sample Receipt 31

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Nobis Engineering
585 Middlesex Street
Lowell, MA 01851
ATTN: Tim Andrews

REPORT DATE: 9/14/2023

PURCHASE ORDER NUMBER:

PROJECT NUMBER: S00001.017

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23H3270

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: St. Johnsbury, VT

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
P-FD-07	23H3270-01	Paint		SW-846 8082A	
P-FD-08	23H3270-02	Paint		SW-846 8082A	
P-FD-09	23H3270-03	Paint		SW-846 8082A	
P-FD-010	23H3270-04	Paint		SW-846 8082A	
P-FD-011	23H3270-05	Paint		SW-846 8082A	
P-FD-012	23H3270-06	Paint		SW-846 8082A	
P-FD-013	23H3270-07	Paint		SW-846 8082A	
P-FD-014	23H3270-08	Paint		SW-846 8082A	
P-FD-015	23H3270-09	Paint		SW-846 8082A	

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

SW-846 8082A

Qualifications:

S-01

The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

Analyte & Samples(s) Qualified:

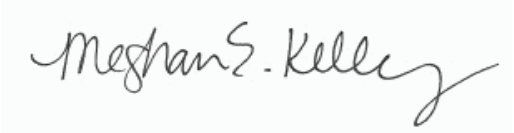
Decachlorobiphenyl
23H3270-05[P-FD-011]

Decachlorobiphenyl [2C]
23H3270-05[P-FD-011]

Tetrachloro-m-xylene
23H3270-05[P-FD-011]

Tetrachloro-m-xylene [2C]
23H3270-05[P-FD-011]

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Meghan E. Kelley
Reporting Specialist

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3270

Date Received: 8/22/2023

Field Sample #: P-FD-07 | Sampled: 8/15/2023 08:02

Sample ID: 23H3270-01

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.40	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 20:10	TG
Aroclor-1221 [1]	ND	0.40	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 20:10	TG
Aroclor-1232 [1]	ND	0.40	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 20:10	TG
Aroclor-1242 [1]	ND	0.40	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 20:10	TG
Aroclor-1248 [1]	ND	0.40	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 20:10	TG
Aroclor-1254 [2]	4.9	0.40	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 20:10	TG
Aroclor-1260 [1]	ND	0.40	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 20:10	TG
Aroclor-1262 [1]	ND	0.40	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 20:10	TG
Aroclor-1268 [1]	ND	0.40	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 20:10	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	79.3	30-150		9/9/23 20:10
Decachlorobiphenyl [2]	80.9	30-150		9/9/23 20:10
Tetrachloro-m-xylene [1]	86.0	30-150		9/9/23 20:10
Tetrachloro-m-xylene [2]	86.4	30-150		9/9/23 20:10

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3270

Date Received: 8/22/2023

Field Sample #: P-FD-08 | Sampled: 8/16/2023 16:00

Sample ID: 23H3270-02

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.44	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 20:27	TG
Aroclor-1221 [1]	ND	0.44	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 20:27	TG
Aroclor-1232 [1]	ND	0.44	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 20:27	TG
Aroclor-1242 [1]	ND	0.44	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 20:27	TG
Aroclor-1248 [2]	3.1	0.44	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 20:27	TG
Aroclor-1254 [2]	2.7	0.44	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 20:27	TG
Aroclor-1260 [1]	ND	0.44	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 20:27	TG
Aroclor-1262 [1]	ND	0.44	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 20:27	TG
Aroclor-1268 [1]	ND	0.44	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 20:27	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	79.5	30-150		9/9/23 20:27
Decachlorobiphenyl [2]	80.9	30-150		9/9/23 20:27
Tetrachloro-m-xylene [1]	86.2	30-150		9/9/23 20:27
Tetrachloro-m-xylene [2]	86.9	30-150		9/9/23 20:27

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3270

Date Received: 8/22/2023

Field Sample #: P-FD-09 | Sampled: 8/16/2023 16:01

Sample ID: 23H3270-03

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	7.7	mg/Kg	20		SW-846 8082A	9/7/23	9/9/23 20:45	TG
Aroclor-1221 [1]	ND	7.7	mg/Kg	20		SW-846 8082A	9/7/23	9/9/23 20:45	TG
Aroclor-1232 [1]	ND	7.7	mg/Kg	20		SW-846 8082A	9/7/23	9/9/23 20:45	TG
Aroclor-1242 [1]	ND	7.7	mg/Kg	20		SW-846 8082A	9/7/23	9/9/23 20:45	TG
Aroclor-1248 [1]	ND	7.7	mg/Kg	20		SW-846 8082A	9/7/23	9/9/23 20:45	TG
Aroclor-1254 [1]	140	7.7	mg/Kg	20		SW-846 8082A	9/7/23	9/9/23 20:45	TG
Aroclor-1260 [1]	ND	7.7	mg/Kg	20		SW-846 8082A	9/7/23	9/9/23 20:45	TG
Aroclor-1262 [1]	ND	7.7	mg/Kg	20		SW-846 8082A	9/7/23	9/9/23 20:45	TG
Aroclor-1268 [1]	ND	7.7	mg/Kg	20		SW-846 8082A	9/7/23	9/9/23 20:45	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	96.4	30-150		9/9/23 20:45
Decachlorobiphenyl [2]	93.4	30-150		9/9/23 20:45
Tetrachloro-m-xylene [1]	87.5	30-150		9/9/23 20:45
Tetrachloro-m-xylene [2]	88.1	30-150		9/9/23 20:45

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3270

Date Received: 8/22/2023

Field Sample #: P-FD-010 | Sampled: 8/16/2023 16:02

Sample ID: 23H3270-04

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.35	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 21:02	TG
Aroclor-1221 [1]	ND	0.35	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 21:02	TG
Aroclor-1232 [1]	ND	0.35	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 21:02	TG
Aroclor-1242 [1]	ND	0.35	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 21:02	TG
Aroclor-1248 [1]	ND	0.35	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 21:02	TG
Aroclor-1254 [1]	0.56	0.35	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 21:02	TG
Aroclor-1260 [1]	ND	0.35	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 21:02	TG
Aroclor-1262 [1]	ND	0.35	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 21:02	TG
Aroclor-1268 [1]	ND	0.35	mg/Kg	1		SW-846 8082A	9/7/23	9/9/23 21:02	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	84.2	30-150		9/9/23 21:02
Decachlorobiphenyl [2]	83.4	30-150		9/9/23 21:02
Tetrachloro-m-xylene [1]	87.5	30-150		9/9/23 21:02
Tetrachloro-m-xylene [2]	88.0	30-150		9/9/23 21:02

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3270

Date Received: 8/22/2023

Field Sample #: P-FD-011 | Sampled: 8/15/2023 16:03

Sample ID: 23H3270-05

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	22	mg/Kg	50		SW-846 8082A	9/7/23	9/9/23 21:20	TG
Aroclor-1221 [1]	ND	22	mg/Kg	50		SW-846 8082A	9/7/23	9/9/23 21:20	TG
Aroclor-1232 [1]	ND	22	mg/Kg	50		SW-846 8082A	9/7/23	9/9/23 21:20	TG
Aroclor-1242 [1]	ND	22	mg/Kg	50		SW-846 8082A	9/7/23	9/9/23 21:20	TG
Aroclor-1248 [1]	ND	22	mg/Kg	50		SW-846 8082A	9/7/23	9/9/23 21:20	TG
Aroclor-1254 [1]	210	22	mg/Kg	50		SW-846 8082A	9/7/23	9/9/23 21:20	TG
Aroclor-1260 [1]	ND	22	mg/Kg	50		SW-846 8082A	9/7/23	9/9/23 21:20	TG
Aroclor-1262 [1]	ND	22	mg/Kg	50		SW-846 8082A	9/7/23	9/9/23 21:20	TG
Aroclor-1268 [1]	ND	22	mg/Kg	50		SW-846 8082A	9/7/23	9/9/23 21:20	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/9/23 21:20
Decachlorobiphenyl [2]	*	30-150	S-01	9/9/23 21:20
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/9/23 21:20
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/9/23 21:20

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3270

Date Received: 8/22/2023

Field Sample #: P-FD-012 | Sampled: 8/14/2023 16:01

Sample ID: 23H3270-06

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.1	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 21:37	TG
Aroclor-1221 [1]	ND	4.1	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 21:37	TG
Aroclor-1232 [1]	ND	4.1	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 21:37	TG
Aroclor-1242 [1]	ND	4.1	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 21:37	TG
Aroclor-1248 [1]	ND	4.1	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 21:37	TG
Aroclor-1254 [2]	41	4.1	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 21:37	TG
Aroclor-1260 [1]	ND	4.1	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 21:37	TG
Aroclor-1262 [1]	ND	4.1	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 21:37	TG
Aroclor-1268 [1]	ND	4.1	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 21:37	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	96.6	30-150		9/9/23 21:37
Decachlorobiphenyl [2]	92.3	30-150		9/9/23 21:37
Tetrachloro-m-xylene [1]	87.7	30-150		9/9/23 21:37
Tetrachloro-m-xylene [2]	87.6	30-150		9/9/23 21:37

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3270

Date Received: 8/22/2023

Field Sample #: P-FD-013 | Sampled: 8/14/2023 16:00

Sample ID: 23H3270-07

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 21:55	TG
Aroclor-1221 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 21:55	TG
Aroclor-1232 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 21:55	TG
Aroclor-1242 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 21:55	TG
Aroclor-1248 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 21:55	TG
Aroclor-1254 [2]	23	4.7	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 21:55	TG
Aroclor-1260 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 21:55	TG
Aroclor-1262 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 21:55	TG
Aroclor-1268 [1]	ND	4.7	mg/Kg	10		SW-846 8082A	9/7/23	9/9/23 21:55	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	110	30-150		9/9/23 21:55
Decachlorobiphenyl [2]	106	30-150		9/9/23 21:55
Tetrachloro-m-xylene [1]	106	30-150		9/9/23 21:55
Tetrachloro-m-xylene [2]	105	30-150		9/9/23 21:55

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3270

Date Received: 8/22/2023

Field Sample #: P-FD-014 | Sampled: 8/16/2023 16:04

Sample ID: 23H3270-08

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	1.8	mg/Kg	4		SW-846 8082A	9/7/23	9/9/23 22:12	TG
Aroclor-1221 [1]	ND	1.8	mg/Kg	4		SW-846 8082A	9/7/23	9/9/23 22:12	TG
Aroclor-1232 [1]	ND	1.8	mg/Kg	4		SW-846 8082A	9/7/23	9/9/23 22:12	TG
Aroclor-1242 [1]	ND	1.8	mg/Kg	4		SW-846 8082A	9/7/23	9/9/23 22:12	TG
Aroclor-1248 [1]	ND	1.8	mg/Kg	4		SW-846 8082A	9/7/23	9/9/23 22:12	TG
Aroclor-1254 [2]	6.1	1.8	mg/Kg	4		SW-846 8082A	9/7/23	9/9/23 22:12	TG
Aroclor-1260 [1]	ND	1.8	mg/Kg	4		SW-846 8082A	9/7/23	9/9/23 22:12	TG
Aroclor-1262 [1]	ND	1.8	mg/Kg	4		SW-846 8082A	9/7/23	9/9/23 22:12	TG
Aroclor-1268 [1]	ND	1.8	mg/Kg	4		SW-846 8082A	9/7/23	9/9/23 22:12	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	81.0	30-150		9/9/23 22:12
Decachlorobiphenyl [2]	79.1	30-150		9/9/23 22:12
Tetrachloro-m-xylene [1]	79.4	30-150		9/9/23 22:12
Tetrachloro-m-xylene [2]	96.2	30-150		9/9/23 22:12

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23H3270

Date Received: 8/22/2023

Field Sample #: P-FD-015 | Sampled: 8/17/2023 08:00

Sample ID: 23H3270-09

Sample Matrix: Paint

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/7/23	9/13/23 14:18	SFM
Aroclor-1221 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/7/23	9/13/23 14:18	SFM
Aroclor-1232 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/7/23	9/13/23 14:18	SFM
Aroclor-1242 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/7/23	9/13/23 14:18	SFM
Aroclor-1248 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/7/23	9/13/23 14:18	SFM
Aroclor-1254 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/7/23	9/13/23 14:18	SFM
Aroclor-1260 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/7/23	9/13/23 14:18	SFM
Aroclor-1262 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/7/23	9/13/23 14:18	SFM
Aroclor-1268 [1]	ND	0.10	mg/Kg	1		SW-846 8082A	9/7/23	9/13/23 14:18	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	64.7	30-150		9/13/23 14:18
Decachlorobiphenyl [2]	63.5	30-150		9/13/23 14:18
Tetrachloro-m-xylene [1]	49.5	30-150		9/13/23 14:18
Tetrachloro-m-xylene [2]	49.9	30-150		9/13/23 14:18

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method:SW-846 3540C **Analytical Method:SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23H3270-01 [P-FD-07]	B351285	0.248	10.0	09/07/23
23H3270-02 [P-FD-08]	B351285	0.226	10.0	09/07/23
23H3270-03 [P-FD-09]	B351285	0.261	10.0	09/07/23
23H3270-04 [P-FD-010]	B351285	0.286	10.0	09/07/23
23H3270-05 [P-FD-011]	B351285	0.229	10.0	09/07/23
23H3270-06 [P-FD-012]	B351285	0.241	10.0	09/07/23
23H3270-07 [P-FD-013]	B351285	0.215	10.0	09/07/23
23H3270-08 [P-FD-014]	B351285	0.220	10.0	09/07/23

Prep Method:SW-846 3540C **Analytical Method:SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23H3270-09 [P-FD-015]	B351344	2.00	10.0	09/07/23

con-test® A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B351285 - SW-846 3540C										
Blank (B351285-BLK1)				Prepared: 09/07/23 Analyzed: 09/09/23						
Aroclor-1016	ND	0.50	mg/Kg							
Aroclor-1016 [2C]	ND	0.50	mg/Kg							
Aroclor-1221	ND	0.50	mg/Kg							
Aroclor-1221 [2C]	ND	0.50	mg/Kg							
Aroclor-1232	ND	0.50	mg/Kg							
Aroclor-1232 [2C]	ND	0.50	mg/Kg							
Aroclor-1242	ND	0.50	mg/Kg							
Aroclor-1242 [2C]	ND	0.50	mg/Kg							
Aroclor-1248	ND	0.50	mg/Kg							
Aroclor-1248 [2C]	ND	0.50	mg/Kg							
Aroclor-1254	ND	0.50	mg/Kg							
Aroclor-1254 [2C]	ND	0.50	mg/Kg							
Aroclor-1260	ND	0.50	mg/Kg							
Aroclor-1260 [2C]	ND	0.50	mg/Kg							
Aroclor-1262	ND	0.50	mg/Kg							
Aroclor-1262 [2C]	ND	0.50	mg/Kg							
Aroclor-1268	ND	0.50	mg/Kg							
Aroclor-1268 [2C]	ND	0.50	mg/Kg							
Surrogate: Decachlorobiphenyl	*9.47*		mg/Kg	10.0		94.7	30-150			
Surrogate: Decachlorobiphenyl [2C]	*8.72*		mg/Kg	10.0		87.2	30-150			
Surrogate: Tetrachloro-m-xylene	*9.18*		mg/Kg	10.0		91.8	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*8.99*		mg/Kg	10.0		89.9	30-150			
LCS (B351285-BS1)				Prepared: 09/07/23 Analyzed: 09/09/23						
Aroclor-1016	2.0	0.50	mg/Kg	2.50		80.0	40-140			
Aroclor-1016 [2C]	2.0	0.50	mg/Kg	2.50		80.5	40-140			
Aroclor-1260	1.9	0.50	mg/Kg	2.50		76.6	40-140			
Aroclor-1260 [2C]	1.8	0.50	mg/Kg	2.50		73.9	40-140			
Surrogate: Decachlorobiphenyl	*9.41*		mg/Kg	10.0		94.1	30-150			
Surrogate: Decachlorobiphenyl [2C]	*8.91*		mg/Kg	10.0		89.1	30-150			
Surrogate: Tetrachloro-m-xylene	*8.61*		mg/Kg	10.0		86.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*8.44*		mg/Kg	10.0		84.4	30-150			
LCS Dup (B351285-BSD1)				Prepared: 09/07/23 Analyzed: 09/09/23						
Aroclor-1016	2.0	0.50	mg/Kg	2.50		78.5	40-140	1.81	30	
Aroclor-1016 [2C]	1.9	0.50	mg/Kg	2.50		75.6	40-140	6.37	30	
Aroclor-1260	1.9	0.50	mg/Kg	2.50		75.4	40-140	1.67	30	
Aroclor-1260 [2C]	1.9	0.50	mg/Kg	2.50		76.4	40-140	3.32	30	
Surrogate: Decachlorobiphenyl	*9.11*		mg/Kg	10.0		91.1	30-150			
Surrogate: Decachlorobiphenyl [2C]	*8.65*		mg/Kg	10.0		86.5	30-150			
Surrogate: Tetrachloro-m-xylene	*8.56*		mg/Kg	10.0		85.6	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*8.36*		mg/Kg	10.0		83.6	30-150			

con-test® A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B351344 - SW-846 3540C										
Blank (B351344-BLK1)				Prepared: 09/07/23 Analyzed: 09/13/23						
Aroclor-1016	ND	0.10	mg/Kg							
Aroclor-1016 [2C]	ND	0.10	mg/Kg							
Aroclor-1221	ND	0.10	mg/Kg							
Aroclor-1221 [2C]	ND	0.10	mg/Kg							
Aroclor-1232	ND	0.10	mg/Kg							
Aroclor-1232 [2C]	ND	0.10	mg/Kg							
Aroclor-1242	ND	0.10	mg/Kg							
Aroclor-1242 [2C]	ND	0.10	mg/Kg							
Aroclor-1248	ND	0.10	mg/Kg							
Aroclor-1248 [2C]	ND	0.10	mg/Kg							
Aroclor-1254	ND	0.10	mg/Kg							
Aroclor-1254 [2C]	ND	0.10	mg/Kg							
Aroclor-1260	ND	0.10	mg/Kg							
Aroclor-1260 [2C]	ND	0.10	mg/Kg							
Aroclor-1262	ND	0.10	mg/Kg							
Aroclor-1262 [2C]	ND	0.10	mg/Kg							
Aroclor-1268	ND	0.10	mg/Kg							
Aroclor-1268 [2C]	ND	0.10	mg/Kg							
Surrogate: Decachlorobiphenyl	*0.829*		mg/Kg	1.00		82.9	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.826*		mg/Kg	1.00		82.6	30-150			
Surrogate: Tetrachloro-m-xylene	*0.785*		mg/Kg	1.00		78.5	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.789*		mg/Kg	1.00		78.9	30-150			
LCS (B351344-BS1)				Prepared: 09/07/23 Analyzed: 09/13/23						
Aroclor-1016	0.61	0.10	mg/Kg	1.00		60.8	40-140			
Aroclor-1016 [2C]	0.63	0.10	mg/Kg	1.00		63.3	40-140			
Aroclor-1260	0.61	0.10	mg/Kg	1.00		60.5	40-140			
Aroclor-1260 [2C]	0.61	0.10	mg/Kg	1.00		61.2	40-140			
Surrogate: Decachlorobiphenyl	*0.767*		mg/Kg	1.00		76.7	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.770*		mg/Kg	1.00		77.0	30-150			
Surrogate: Tetrachloro-m-xylene	*0.684*		mg/Kg	1.00		68.4	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.688*		mg/Kg	1.00		68.8	30-150			
LCS Dup (B351344-BSD1)				Prepared: 09/07/23 Analyzed: 09/13/23						
Aroclor-1016	0.61	0.10	mg/Kg	1.00		60.9	40-140	0.214	30	
Aroclor-1016 [2C]	0.63	0.10	mg/Kg	1.00		63.2	40-140	0.179	30	
Aroclor-1260	0.60	0.10	mg/Kg	1.00		60.0	40-140	0.905	30	
Aroclor-1260 [2C]	0.61	0.10	mg/Kg	1.00		60.8	40-140	0.605	30	
Surrogate: Decachlorobiphenyl	*0.792*		mg/Kg	1.00		79.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.790*		mg/Kg	1.00		79.0	30-150			
Surrogate: Tetrachloro-m-xylene	*0.708*		mg/Kg	1.00		70.8	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.714*		mg/Kg	1.00		71.4	30-150			

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-FD-07

Lab Sample ID: 23H3270-01

Date(s) Analyzed: 09/09/2023 09/09/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	4.2	
	2	0.000	0.000	0.000	4.9	15.4

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-FD-08

Lab Sample ID: 23H3270-02 Date(s) Analyzed: 09/09/2023 09/09/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1248	1	0.000	0.000	0.000	2.5	
	2	0.000	0.000	0.000	3.1	17.5
Aroclor-1254	1	0.000	0.000	0.000	2.6	
	2	0.000	0.000	0.000	2.7	3.8

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-FD-09

Lab Sample ID: 23H3270-03

Date(s) Analyzed: 09/09/2023 09/09/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	140	
	2	0.000	0.000	0.000	130	7.4

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-FD-010

Lab Sample ID: 23H3270-04

Date(s) Analyzed: 09/09/2023 09/09/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	0.56	
	2	0.000	0.000	0.000	0.44	24.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-FD-011

Lab Sample ID: 23H3270-05

Date(s) Analyzed: 09/09/2023 09/09/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	210	
	2	0.000	0.000	0.000	200	4.9

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-FD-012

Lab Sample ID: 23H3270-06

Date(s) Analyzed: 09/09/2023 09/09/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	40	
	2	0.000	0.000	0.000	41	2.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-FD-013

Lab Sample ID: 23H3270-07

Date(s) Analyzed: 09/09/2023 09/09/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	17	
	2	0.000	0.000	0.000	23	30.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-FD-014

Lab Sample ID: 23H3270-08

Date(s) Analyzed: 09/09/2023 09/09/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	4.9	
	2	0.000	0.000	0.000	6.1	21.8

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B351285-BS1 Date(s) Analyzed: 09/09/2023 09/09/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	2.0	
	2	0.000	0.000	0.000	2.0	0.0
Aroclor-1260	1	0.000	0.000	0.000	1.9	
	2	0.000	0.000	0.000	1.8	5.4

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B351285-BSD1 Date(s) Analyzed: 09/09/2023 09/09/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	2.0	
	2	0.000	0.000	0.000	1.9	5.1
Aroclor-1260	1	0.000	0.000	0.000	1.9	
	2	0.000	0.000	0.000	1.9	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B351344-BS1 Date(s) Analyzed: 09/13/2023 09/13/2023

Instrument ID (1): ECD5 Instrument ID (2): ECD5

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.61	
	2	0.000	0.000	0.000	0.63	3.2
Aroclor-1260	1	0.000	0.000	0.000	0.61	
	2	0.000	0.000	0.000	0.61	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B351344-BSD1 Date(s) Analyzed: 09/13/2023 09/13/2023

Instrument ID (1): ECD5 Instrument ID (2): ECD5

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.61	
	2	0.000	0.000	0.000	0.63	3.2
Aroclor-1260	1	0.000	0.000	0.000	0.60	
	2	0.000	0.000	0.000	0.61	1.7

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
S-01	The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8082A in Product/Solid	
Aroclor-1016	CT,NH,NY,ME,NC,VA,PA
Aroclor-1016 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1262	NY,NC,VA,PA
Aroclor-1262 [2C]	NY,NC,VA,PA
Aroclor-1268	NY,NC,VA,PA
Aroclor-1268 [2C]	NY,NC,VA,PA

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2024
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2024
NC	North Carolina Div. of Water Quality	652	12/31/2023
ME	State of Maine	MA00100	06/9/2025
VA	Commonwealth of Virginia	460217	12/14/2023
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2024

23H3270

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time

7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
1	p-FD-07	8/15/2023	8:02	GRAB	O	U		1				x
2	p-FD-08	8/16/2023	16:00	GRAB	O	U		1				x
3	p-FD-09	8/16/2023	16:01	GRAB	O	U		1				x
4	p-FD-010	8/16/2023	16:02	GRAB	O	U		1				x
5	p-FD-011	8/15/2023	16:03	GRAB	O	U		1				x
6	p-FD-012	8/14/2023	16:01	GRAB	O	U		1				x
7	p-FD-013	8/14/2023	16:00	GRAB	O	U		1				x
8	p-FD-014	8/16/2023	16:04	GRAB	O	U		1				x
9	p-FD-015	8/17/2023	8:00	GRAB	O	U		1				x

Relinquished by: (signature)	Date/Time: RST 8-22-23	
Received by: (signature)	Date/Time: 1255 8-22-23	
Relinquished by: (signature)	Date/Time: 1746 8-22-23	
Received by: (signature) 3.8, 2.2, 3.9	Date/Time: 8/22/23	
Relinquished by: (signature) 2.6, 5.6	Date/Time: 1746	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA LAP, LLC Accredited

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other

☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Table of Contents

RF

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist
	Effective Date: 07/13/2023

Log In Back-Sheet

Client Nobis Group

Project St. Johnsbury Armory

MCP/RCP Required no

Deliverable Package Requirement none

Location St. Johnsbury, VT

PWSID# (When Applicable) n/a

Arrival Method:

Courier ☑ Fed Ex ☐ Walk In ☐ Other ☐

Received By / Date / Time ER 8/22/23 1746

Back-Sheet By / Date / Time Mem 8/22/23 2217

Temperature Method Gun # 5

Temp < 6° C Actual Temperature 22.26, 38.39.56

Rush Samples: Yes / No Notify No

Short Hold: Yes / No Notify No

Notes regarding Samples/COC outside of SOP:

* Sample split into fifteen separate work orders

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy) Any False statement will be brought to the attention of the Client – True or False

	True	False
Received on Ice	☑	☐
Received in Cooler	☑	☐
Custody Seal: DATE TIME	☐	☑
COC Relinquished	☑	☐
COC/Samples Labels Agree	☑	☐
All Samples in Good Condition	☑	☐
Samples Received within Holding Time	☑	☐
Is there enough Volume	☑	☐
Proper Media/Container Used	☑	☐
Splitting Samples Required	☑ see notes	☐
MS/MSD	☑	☐
Trip Blanks	☐	☑
Lab to Filters	☐	☑
COC Legible	☑	☐

COC Included: (Check all included)

Client ☑ Analysis ☑ Sampler Name ☑

Project ☑ IDs ☑ Collection Date/Time ☑

All Samples Proper pH: N/A ☐ ☐

Additional Container Notes

Note: West Virginia requires all samples to have their temperature taken. Note any outliers.

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist
	Effective Date: 07/13/2023

Sample	Soils Jars (Circle Amb/Clear)				Ambers						Plastics												VOA Vials						Other / Fill in					
	16oz Amb/Clear	8oz Amb/Clear	4oz Amb/Clear	2oz Amb/Clear	1 Liter			250mL		100mL	1 Liter			500mL		250mL																		
					Unpreserved	HCL	Sulfuric	Sulfuric	Phosphoric	HCl	Unpreserved	Unpreserved	Sulfuric	Unpreserved	Sulfuric	Unpreserved	Trizma	Sulfuric	Nitric	NaOH	Ammonium Acetate	NaOH/Zinc	Unpreserved	HCl	MeOH	D.I. Water	Bisulfate	Col/Bact						
1																																		
2			~																															
3																																		
4																																		
5																																		
6																																		
7																																		
8																																		
9																																		
10																																		
11																																		
12																																		
13																																		
14																																		
15																																		
16																																		
17																																		
18																																		
19																																		
20																																		

Qualtrax ID: 120836

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

October 9, 2023

Tim Andrews
Nobis Engineering
585 Middlesex Street
Lowell, MA 01851

Project Location: St Johnsbury, VT
Client Job Number:
Project Number: S00001.017
Laboratory Work Order Number: 23J0273

Enclosed are results of analyses for samples as received by the laboratory on October 3, 2023. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Rebecca Faust
Project Manager

Table of Contents

Sample Summary 4

Case Narrative 5

Sample Results 6

23J0273-01 6

23J0273-02 7

23J0273-03 8

23J0273-04 9

23J0273-05 10

23J0273-06 11

23J0273-07 12

23J0273-08 13

23J0273-09 14

23J0273-10 15

23J0273-11 16

23J0273-12 17

23J0273-13 18

23J0273-14 19

23J0273-15 20

23J0273-16 21

23J0273-17 22

23J0273-18 23

23J0273-19 24

23J0273-20 25

Sample Preparation Information 26

QC Data 27

Table of Contents (continued)

Polychlorinated Biphenyls with 3540 Soxhlet Extraction 27

B353837 27

B353838 28

B354262 29

Dual Column RPD Report 30

Flag/Qualifier Summary 53

Certifications 54

Chain of Custody/Sample Receipt 56

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Nobis Engineering
585 Middlesex Street
Lowell, MA 01851
ATTN: Tim Andrews

REPORT DATE: 10/9/2023

PURCHASE ORDER NUMBER:

PROJECT NUMBER: S00001.017

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23J0273

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: St Johnsbury, VT

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
P-275-Ex	23J0273-01	Caulk		SW-846 8082A	
P-276-Ex	23J0273-02	Caulk		SW-846 8082A	
P-277-Ex	23J0273-03	Caulk		SW-846 8082A	
P-278-Ex	23J0273-04	Caulk		SW-846 8082A	
P-279-Ex	23J0273-05	Caulk		SW-846 8082A	
P-280-Ex	23J0273-06	Caulk		SW-846 8082A	
P-281-Ex	23J0273-07	Caulk		SW-846 8082A	
P-282-Ex	23J0273-08	Caulk		SW-846 8082A	
P-283-Ex	23J0273-09	Caulk		SW-846 8082A	
P-284-R6	23J0273-10	Product/Solid		SW-846 8082A	
P-285-R6	23J0273-11	Product/Solid		SW-846 8082A	
P-286-R10	23J0273-12	Product/Solid		SW-846 8082A	
P-287-R13	23J0273-13	Product/Solid		SW-846 8082A	
P-288-R13	23J0273-14	Product/Solid		SW-846 8082A	
P-289-R14	23J0273-15	Product/Solid		SW-846 8082A	
P-290-R12	23J0273-16	Product/Solid		SW-846 8082A	
P-291-R12	23J0273-17	Product/Solid		SW-846 8082A	
P-292-R12	23J0273-18	Product/Solid		SW-846 8082A	
P-293-R18	23J0273-19	Product/Solid		SW-846 8082A	
P-294-R18	23J0273-20	Product/Solid		SW-846 8082A	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

SW-846 8082A

Qualifications:

S-01

The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

Analyte & Samples(s) Qualified:

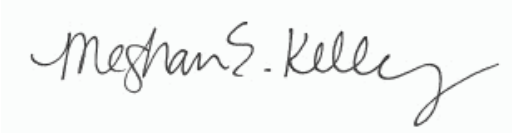
Decachlorobiphenyl
23J0273-19[P-293-R18], 23J0273-20[P-294-R18]

Decachlorobiphenyl [2C]
23J0273-19[P-293-R18], 23J0273-20[P-294-R18]

Tetrachloro-m-xylene
23J0273-19[P-293-R18], 23J0273-20[P-294-R18]

Tetrachloro-m-xylene [2C]
23J0273-19[P-293-R18], 23J0273-20[P-294-R18]

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Meghan E. Kelley
Reporting Specialist

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St Johnsbury, VT | Sample Description: | Work Order: 23J0273

Date Received: 10/3/2023

Field Sample #: P-275-Ex | Sampled: 10/2/2023 13:25

Sample ID: 23J0273-01

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.70	mg/Kg	4		SW-846 8082A	10/3/23	10/5/23 14:33	SFM
Aroclor-1221 [1]	ND	0.70	mg/Kg	4		SW-846 8082A	10/3/23	10/5/23 14:33	SFM
Aroclor-1232 [1]	ND	0.70	mg/Kg	4		SW-846 8082A	10/3/23	10/5/23 14:33	SFM
Aroclor-1242 [1]	ND	0.70	mg/Kg	4		SW-846 8082A	10/3/23	10/5/23 14:33	SFM
Aroclor-1248 [1]	ND	0.70	mg/Kg	4		SW-846 8082A	10/3/23	10/5/23 14:33	SFM
Aroclor-1254 [1]	5.9	0.70	mg/Kg	4		SW-846 8082A	10/3/23	10/5/23 14:33	SFM
Aroclor-1260 [1]	ND	0.70	mg/Kg	4		SW-846 8082A	10/3/23	10/5/23 14:33	SFM
Aroclor-1262 [1]	ND	0.70	mg/Kg	4		SW-846 8082A	10/3/23	10/5/23 14:33	SFM
Aroclor-1268 [1]	ND	0.70	mg/Kg	4		SW-846 8082A	10/3/23	10/5/23 14:33	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	93.2	30-150		10/5/23 14:33
Decachlorobiphenyl [2]	99.4	30-150		10/5/23 14:33
Tetrachloro-m-xylene [1]	85.2	30-150		10/5/23 14:33
Tetrachloro-m-xylene [2]	77.1	30-150		10/5/23 14:33

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St Johnsbury, VT | Sample Description: | Work Order: 23J0273

Date Received: 10/3/2023

Field Sample #: P-276-Ex | Sampled: 10/2/2023 13:19

Sample ID: 23J0273-02

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	3.6	mg/Kg	20		SW-846 8082A	10/3/23	10/5/23 14:50	SFM
Aroclor-1221 [1]	ND	3.6	mg/Kg	20		SW-846 8082A	10/3/23	10/5/23 14:50	SFM
Aroclor-1232 [1]	ND	3.6	mg/Kg	20		SW-846 8082A	10/3/23	10/5/23 14:50	SFM
Aroclor-1242 [1]	ND	3.6	mg/Kg	20		SW-846 8082A	10/3/23	10/5/23 14:50	SFM
Aroclor-1248 [1]	ND	3.6	mg/Kg	20		SW-846 8082A	10/3/23	10/5/23 14:50	SFM
Aroclor-1254 [1]	17	3.6	mg/Kg	20		SW-846 8082A	10/3/23	10/5/23 14:50	SFM
Aroclor-1260 [1]	ND	3.6	mg/Kg	20		SW-846 8082A	10/3/23	10/5/23 14:50	SFM
Aroclor-1262 [1]	ND	3.6	mg/Kg	20		SW-846 8082A	10/3/23	10/5/23 14:50	SFM
Aroclor-1268 [1]	ND	3.6	mg/Kg	20		SW-846 8082A	10/3/23	10/5/23 14:50	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	104	30-150		10/5/23 14:50
Decachlorobiphenyl [2]	111	30-150		10/5/23 14:50
Tetrachloro-m-xylene [1]	101	30-150		10/5/23 14:50
Tetrachloro-m-xylene [2]	89.9	30-150		10/5/23 14:50

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St Johnsbury, VT | Sample Description: | Work Order: 23J0273

Date Received: 10/3/2023

Field Sample #: P-277-Ex | Sampled: 10/2/2023 13:15

Sample ID: 23J0273-03

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	3.7	mg/Kg	20		SW-846 8082A	10/3/23	10/5/23 15:07	SFM
Aroclor-1221 [1]	ND	3.7	mg/Kg	20		SW-846 8082A	10/3/23	10/5/23 15:07	SFM
Aroclor-1232 [1]	ND	3.7	mg/Kg	20		SW-846 8082A	10/3/23	10/5/23 15:07	SFM
Aroclor-1242 [1]	ND	3.7	mg/Kg	20		SW-846 8082A	10/3/23	10/5/23 15:07	SFM
Aroclor-1248 [1]	ND	3.7	mg/Kg	20		SW-846 8082A	10/3/23	10/5/23 15:07	SFM
Aroclor-1254 [1]	10	3.7	mg/Kg	20		SW-846 8082A	10/3/23	10/5/23 15:07	SFM
Aroclor-1260 [1]	ND	3.7	mg/Kg	20		SW-846 8082A	10/3/23	10/5/23 15:07	SFM
Aroclor-1262 [1]	ND	3.7	mg/Kg	20		SW-846 8082A	10/3/23	10/5/23 15:07	SFM
Aroclor-1268 [1]	ND	3.7	mg/Kg	20		SW-846 8082A	10/3/23	10/5/23 15:07	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	118	30-150		10/5/23 15:07
Decachlorobiphenyl [2]	124	30-150		10/5/23 15:07
Tetrachloro-m-xylene [1]	109	30-150		10/5/23 15:07
Tetrachloro-m-xylene [2]	96.0	30-150		10/5/23 15:07

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St Johnsbury, VT | Sample Description: | Work Order: 23J0273

Date Received: 10/3/2023

Field Sample #: P-278-Ex | Sampled: 10/2/2023 12:34

Sample ID: 23J0273-04

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.77	mg/Kg	4		SW-846 8082A	10/3/23	10/5/23 15:24	SFM
Aroclor-1221 [1]	ND	0.77	mg/Kg	4		SW-846 8082A	10/3/23	10/5/23 15:24	SFM
Aroclor-1232 [1]	ND	0.77	mg/Kg	4		SW-846 8082A	10/3/23	10/5/23 15:24	SFM
Aroclor-1242 [1]	ND	0.77	mg/Kg	4		SW-846 8082A	10/3/23	10/5/23 15:24	SFM
Aroclor-1248 [1]	ND	0.77	mg/Kg	4		SW-846 8082A	10/3/23	10/5/23 15:24	SFM
Aroclor-1254 [1]	1.4	0.77	mg/Kg	4		SW-846 8082A	10/3/23	10/5/23 15:24	SFM
Aroclor-1260 [1]	ND	0.77	mg/Kg	4		SW-846 8082A	10/3/23	10/5/23 15:24	SFM
Aroclor-1262 [1]	ND	0.77	mg/Kg	4		SW-846 8082A	10/3/23	10/5/23 15:24	SFM
Aroclor-1268 [1]	ND	0.77	mg/Kg	4		SW-846 8082A	10/3/23	10/5/23 15:24	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	95.8	30-150		10/5/23 15:24
Decachlorobiphenyl [2]	103	30-150		10/5/23 15:24
Tetrachloro-m-xylene [1]	90.9	30-150		10/5/23 15:24
Tetrachloro-m-xylene [2]	82.0	30-150		10/5/23 15:24

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St Johnsbury, VT | Sample Description: | Work Order: 23J0273

Date Received: 10/3/2023

Field Sample #: P-279-Ex | Sampled: 10/2/2023 12:29

Sample ID: 23J0273-05

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.76	mg/Kg	4		SW-846 8082A	10/3/23	10/5/23 15:41	SFM
Aroclor-1221 [1]	ND	0.76	mg/Kg	4		SW-846 8082A	10/3/23	10/5/23 15:41	SFM
Aroclor-1232 [1]	ND	0.76	mg/Kg	4		SW-846 8082A	10/3/23	10/5/23 15:41	SFM
Aroclor-1242 [1]	ND	0.76	mg/Kg	4		SW-846 8082A	10/3/23	10/5/23 15:41	SFM
Aroclor-1248 [1]	ND	0.76	mg/Kg	4		SW-846 8082A	10/3/23	10/5/23 15:41	SFM
Aroclor-1254 [1]	1.6	0.76	mg/Kg	4		SW-846 8082A	10/3/23	10/5/23 15:41	SFM
Aroclor-1260 [1]	ND	0.76	mg/Kg	4		SW-846 8082A	10/3/23	10/5/23 15:41	SFM
Aroclor-1262 [1]	ND	0.76	mg/Kg	4		SW-846 8082A	10/3/23	10/5/23 15:41	SFM
Aroclor-1268 [1]	ND	0.76	mg/Kg	4		SW-846 8082A	10/3/23	10/5/23 15:41	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	93.2	30-150		10/5/23 15:41
Decachlorobiphenyl [2]	99.9	30-150		10/5/23 15:41
Tetrachloro-m-xylene [1]	89.2	30-150		10/5/23 15:41
Tetrachloro-m-xylene [2]	80.1	30-150		10/5/23 15:41

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St Johnsbury, VT | Sample Description: | Work Order: 23J0273

Date Received: 10/3/2023

Field Sample #: P-280-Ex | Sampled: 10/2/2023 12:23

Sample ID: 23J0273-06

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.78	mg/Kg	4		SW-846 8082A	10/6/23	10/9/23 12:51	TG
Aroclor-1221 [1]	ND	0.78	mg/Kg	4		SW-846 8082A	10/6/23	10/9/23 12:51	TG
Aroclor-1232 [1]	ND	0.78	mg/Kg	4		SW-846 8082A	10/6/23	10/9/23 12:51	TG
Aroclor-1242 [1]	ND	0.78	mg/Kg	4		SW-846 8082A	10/6/23	10/9/23 12:51	TG
Aroclor-1248 [1]	ND	0.78	mg/Kg	4		SW-846 8082A	10/6/23	10/9/23 12:51	TG
Aroclor-1254 [2]	ND	0.78	mg/Kg	4		SW-846 8082A	10/6/23	10/9/23 12:51	TG
Aroclor-1260 [1]	ND	0.78	mg/Kg	4		SW-846 8082A	10/6/23	10/9/23 12:51	TG
Aroclor-1262 [1]	ND	0.78	mg/Kg	4		SW-846 8082A	10/6/23	10/9/23 12:51	TG
Aroclor-1268 [1]	ND	0.78	mg/Kg	4		SW-846 8082A	10/6/23	10/9/23 12:51	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	63.6	30-150		10/9/23 12:51
Decachlorobiphenyl [2]	63.7	30-150		10/9/23 12:51
Tetrachloro-m-xylene [1]	62.6	30-150		10/9/23 12:51
Tetrachloro-m-xylene [2]	61.3	30-150		10/9/23 12:51

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St Johnsbury, VT | Sample Description: | Work Order: 23J0273

Date Received: 10/3/2023

Field Sample #: P-281-Ex | Sampled: 10/2/2023 12:06

Sample ID: 23J0273-07

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.75	mg/Kg	4		SW-846 8082A	10/3/23	10/5/23 16:16	SFM
Aroclor-1221 [1]	ND	0.75	mg/Kg	4		SW-846 8082A	10/3/23	10/5/23 16:16	SFM
Aroclor-1232 [1]	ND	0.75	mg/Kg	4		SW-846 8082A	10/3/23	10/5/23 16:16	SFM
Aroclor-1242 [1]	ND	0.75	mg/Kg	4		SW-846 8082A	10/3/23	10/5/23 16:16	SFM
Aroclor-1248 [1]	ND	0.75	mg/Kg	4		SW-846 8082A	10/3/23	10/5/23 16:16	SFM
Aroclor-1254 [1]	ND	0.75	mg/Kg	4		SW-846 8082A	10/3/23	10/5/23 16:16	SFM
Aroclor-1260 [1]	ND	0.75	mg/Kg	4		SW-846 8082A	10/3/23	10/5/23 16:16	SFM
Aroclor-1262 [1]	ND	0.75	mg/Kg	4		SW-846 8082A	10/3/23	10/5/23 16:16	SFM
Aroclor-1268 [1]	ND	0.75	mg/Kg	4		SW-846 8082A	10/3/23	10/5/23 16:16	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	85.3	30-150		10/5/23 16:16
Decachlorobiphenyl [2]	89.7	30-150		10/5/23 16:16
Tetrachloro-m-xylene [1]	79.2	30-150		10/5/23 16:16
Tetrachloro-m-xylene [2]	71.7	30-150		10/5/23 16:16

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St Johnsbury, VT | Sample Description: | Work Order: 23J0273

Date Received: 10/3/2023

Field Sample #: P-282-Ex | Sampled: 10/2/2023 12:04

Sample ID: 23J0273-08

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.73	mg/Kg	4		SW-846 8082A	10/3/23	10/5/23 16:33	SFM
Aroclor-1221 [1]	ND	0.73	mg/Kg	4		SW-846 8082A	10/3/23	10/5/23 16:33	SFM
Aroclor-1232 [1]	ND	0.73	mg/Kg	4		SW-846 8082A	10/3/23	10/5/23 16:33	SFM
Aroclor-1242 [1]	ND	0.73	mg/Kg	4		SW-846 8082A	10/3/23	10/5/23 16:33	SFM
Aroclor-1248 [1]	ND	0.73	mg/Kg	4		SW-846 8082A	10/3/23	10/5/23 16:33	SFM
Aroclor-1254 [1]	0.80	0.73	mg/Kg	4		SW-846 8082A	10/3/23	10/5/23 16:33	SFM
Aroclor-1260 [1]	ND	0.73	mg/Kg	4		SW-846 8082A	10/3/23	10/5/23 16:33	SFM
Aroclor-1262 [1]	ND	0.73	mg/Kg	4		SW-846 8082A	10/3/23	10/5/23 16:33	SFM
Aroclor-1268 [1]	ND	0.73	mg/Kg	4		SW-846 8082A	10/3/23	10/5/23 16:33	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	86.8	30-150		10/5/23 16:33
Decachlorobiphenyl [2]	94.2	30-150		10/5/23 16:33
Tetrachloro-m-xylene [1]	86.2	30-150		10/5/23 16:33
Tetrachloro-m-xylene [2]	77.0	30-150		10/5/23 16:33

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St Johnsbury, VT | Sample Description: | Work Order: 23J0273

Date Received: 10/3/2023

Field Sample #: P-283-Ex | Sampled: 10/2/2023 12:03

Sample ID: 23J0273-09

Sample Matrix: Caulk

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.71	mg/Kg	4		SW-846 8082A	10/3/23	10/5/23 16:50	SFM
Aroclor-1221 [1]	ND	0.71	mg/Kg	4		SW-846 8082A	10/3/23	10/5/23 16:50	SFM
Aroclor-1232 [1]	ND	0.71	mg/Kg	4		SW-846 8082A	10/3/23	10/5/23 16:50	SFM
Aroclor-1242 [1]	ND	0.71	mg/Kg	4		SW-846 8082A	10/3/23	10/5/23 16:50	SFM
Aroclor-1248 [1]	ND	0.71	mg/Kg	4		SW-846 8082A	10/3/23	10/5/23 16:50	SFM
Aroclor-1254 [1]	ND	0.71	mg/Kg	4		SW-846 8082A	10/3/23	10/5/23 16:50	SFM
Aroclor-1260 [1]	ND	0.71	mg/Kg	4		SW-846 8082A	10/3/23	10/5/23 16:50	SFM
Aroclor-1262 [1]	ND	0.71	mg/Kg	4		SW-846 8082A	10/3/23	10/5/23 16:50	SFM
Aroclor-1268 [1]	ND	0.71	mg/Kg	4		SW-846 8082A	10/3/23	10/5/23 16:50	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	78.0	30-150		10/5/23 16:50
Decachlorobiphenyl [2]	78.8	30-150		10/5/23 16:50
Tetrachloro-m-xylene [1]	73.2	30-150		10/5/23 16:50
Tetrachloro-m-xylene [2]	65.3	30-150		10/5/23 16:50

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St Johnsbury, VT | Sample Description: | Work Order: 23J0273

Date Received: 10/3/2023

Field Sample #: P-284-R6 | Sampled: 10/2/2023 11:32

Sample ID: 23J0273-10

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.89	mg/Kg	10		SW-846 8082A	10/3/23	10/5/23 23:41	SFM
Aroclor-1221 [1]	ND	0.89	mg/Kg	10		SW-846 8082A	10/3/23	10/5/23 23:41	SFM
Aroclor-1232 [1]	ND	0.89	mg/Kg	10		SW-846 8082A	10/3/23	10/5/23 23:41	SFM
Aroclor-1242 [1]	ND	0.89	mg/Kg	10		SW-846 8082A	10/3/23	10/5/23 23:41	SFM
Aroclor-1248 [1]	ND	0.89	mg/Kg	10		SW-846 8082A	10/3/23	10/5/23 23:41	SFM
Aroclor-1254 [2]	2.6	0.89	mg/Kg	10		SW-846 8082A	10/3/23	10/5/23 23:41	SFM
Aroclor-1260 [1]	ND	0.89	mg/Kg	10		SW-846 8082A	10/3/23	10/5/23 23:41	SFM
Aroclor-1262 [1]	ND	0.89	mg/Kg	10		SW-846 8082A	10/3/23	10/5/23 23:41	SFM
Aroclor-1268 [1]	ND	0.89	mg/Kg	10		SW-846 8082A	10/3/23	10/5/23 23:41	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	97.0	30-150		10/5/23 23:41
Decachlorobiphenyl [2]	91.0	30-150		10/5/23 23:41
Tetrachloro-m-xylene [1]	89.0	30-150		10/5/23 23:41
Tetrachloro-m-xylene [2]	85.1	30-150		10/5/23 23:41

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St Johnsbury, VT | Sample Description: | Work Order: 23J0273

Date Received: 10/3/2023

Field Sample #: P-285-R6 | Sampled: 10/2/2023 11:28

Sample ID: 23J0273-11

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.98	mg/Kg	10		SW-846 8082A	10/3/23	10/5/23 23:58	SFM
Aroclor-1221 [1]	ND	0.98	mg/Kg	10		SW-846 8082A	10/3/23	10/5/23 23:58	SFM
Aroclor-1232 [1]	ND	0.98	mg/Kg	10		SW-846 8082A	10/3/23	10/5/23 23:58	SFM
Aroclor-1242 [1]	ND	0.98	mg/Kg	10		SW-846 8082A	10/3/23	10/5/23 23:58	SFM
Aroclor-1248 [1]	ND	0.98	mg/Kg	10		SW-846 8082A	10/3/23	10/5/23 23:58	SFM
Aroclor-1254 [2]	2.2	0.98	mg/Kg	10		SW-846 8082A	10/3/23	10/5/23 23:58	SFM
Aroclor-1260 [1]	ND	0.98	mg/Kg	10		SW-846 8082A	10/3/23	10/5/23 23:58	SFM
Aroclor-1262 [1]	ND	0.98	mg/Kg	10		SW-846 8082A	10/3/23	10/5/23 23:58	SFM
Aroclor-1268 [1]	ND	0.98	mg/Kg	10		SW-846 8082A	10/3/23	10/5/23 23:58	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	80.5	30-150		10/5/23 23:58
Decachlorobiphenyl [2]	76.3	30-150		10/5/23 23:58
Tetrachloro-m-xylene [1]	71.6	30-150		10/5/23 23:58
Tetrachloro-m-xylene [2]	69.2	30-150		10/5/23 23:58

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St Johnsbury, VT | Sample Description: | Work Order: 23J0273

Date Received: 10/3/2023

Field Sample #: P-286-R10 | Sampled: 10/2/2023 11:25

Sample ID: 23J0273-12

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.90	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 0:16	SFM
Aroclor-1221 [1]	ND	0.90	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 0:16	SFM
Aroclor-1232 [1]	ND	0.90	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 0:16	SFM
Aroclor-1242 [1]	ND	0.90	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 0:16	SFM
Aroclor-1248 [1]	ND	0.90	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 0:16	SFM
Aroclor-1254 [2]	1.6	0.90	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 0:16	SFM
Aroclor-1260 [1]	ND	0.90	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 0:16	SFM
Aroclor-1262 [1]	ND	0.90	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 0:16	SFM
Aroclor-1268 [1]	ND	0.90	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 0:16	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	99.2	30-150		10/6/23 0:16
Decachlorobiphenyl [2]	93.8	30-150		10/6/23 0:16
Tetrachloro-m-xylene [1]	82.9	30-150		10/6/23 0:16
Tetrachloro-m-xylene [2]	82.5	30-150		10/6/23 0:16

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St Johnsbury, VT | Sample Description: | Work Order: 23J0273

Date Received: 10/3/2023

Field Sample #: P-287-R13 | Sampled: 10/2/2023 11:14

Sample ID: 23J0273-13

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.96	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 0:33	SFM
Aroclor-1221 [1]	ND	0.96	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 0:33	SFM
Aroclor-1232 [1]	ND	0.96	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 0:33	SFM
Aroclor-1242 [1]	ND	0.96	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 0:33	SFM
Aroclor-1248 [1]	ND	0.96	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 0:33	SFM
Aroclor-1254 [2]	4.3	0.96	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 0:33	SFM
Aroclor-1260 [1]	ND	0.96	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 0:33	SFM
Aroclor-1262 [1]	ND	0.96	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 0:33	SFM
Aroclor-1268 [1]	ND	0.96	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 0:33	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	58.9	30-150		10/6/23 0:33
Decachlorobiphenyl [2]	66.2	30-150		10/6/23 0:33
Tetrachloro-m-xylene [1]	84.3	30-150		10/6/23 0:33
Tetrachloro-m-xylene [2]	82.4	30-150		10/6/23 0:33

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St Johnsbury, VT | Sample Description: | Work Order: 23J0273

Date Received: 10/3/2023

Field Sample #: P-288-R13 | Sampled: 10/2/2023 11:12

Sample ID: 23J0273-14

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.88	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 0:51	SFM
Aroclor-1221 [1]	ND	0.88	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 0:51	SFM
Aroclor-1232 [1]	ND	0.88	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 0:51	SFM
Aroclor-1242 [1]	ND	0.88	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 0:51	SFM
Aroclor-1248 [1]	ND	0.88	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 0:51	SFM
Aroclor-1254 [2]	2.2	0.88	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 0:51	SFM
Aroclor-1260 [1]	ND	0.88	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 0:51	SFM
Aroclor-1262 [1]	ND	0.88	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 0:51	SFM
Aroclor-1268 [1]	ND	0.88	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 0:51	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	34.9	30-150		10/6/23 0:51
Decachlorobiphenyl [2]	38.3	30-150		10/6/23 0:51
Tetrachloro-m-xylene [1]	49.5	30-150		10/6/23 0:51
Tetrachloro-m-xylene [2]	47.0	30-150		10/6/23 0:51

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St Johnsbury, VT | Sample Description: | Work Order: 23J0273

Date Received: 10/3/2023

Field Sample #: P-289-R14 | Sampled: 10/2/2023 11:10

Sample ID: 23J0273-15

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	10/3/23	10/6/23 1:08	SFM
Aroclor-1221 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	10/3/23	10/6/23 1:08	SFM
Aroclor-1232 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	10/3/23	10/6/23 1:08	SFM
Aroclor-1242 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	10/3/23	10/6/23 1:08	SFM
Aroclor-1248 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	10/3/23	10/6/23 1:08	SFM
Aroclor-1254 [2]	11	2.0	mg/Kg	20		SW-846 8082A	10/3/23	10/6/23 1:08	SFM
Aroclor-1260 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	10/3/23	10/6/23 1:08	SFM
Aroclor-1262 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	10/3/23	10/6/23 1:08	SFM
Aroclor-1268 [1]	ND	2.0	mg/Kg	20		SW-846 8082A	10/3/23	10/6/23 1:08	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	62.0	30-150		10/6/23 1:08
Decachlorobiphenyl [2]	66.1	30-150		10/6/23 1:08
Tetrachloro-m-xylene [1]	87.2	30-150		10/6/23 1:08
Tetrachloro-m-xylene [2]	82.7	30-150		10/6/23 1:08

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St Johnsbury, VT | Sample Description: | Work Order: 23J0273

Date Received: 10/3/2023

Field Sample #: P-290-R12 | Sampled: 10/2/2023 11:03

Sample ID: 23J0273-16

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.93	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 1:25	SFM
Aroclor-1221 [1]	ND	0.93	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 1:25	SFM
Aroclor-1232 [1]	ND	0.93	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 1:25	SFM
Aroclor-1242 [1]	ND	0.93	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 1:25	SFM
Aroclor-1248 [1]	ND	0.93	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 1:25	SFM
Aroclor-1254 [2]	3.3	0.93	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 1:25	SFM
Aroclor-1260 [1]	ND	0.93	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 1:25	SFM
Aroclor-1262 [1]	ND	0.93	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 1:25	SFM
Aroclor-1268 [1]	ND	0.93	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 1:25	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual		
Decachlorobiphenyl [1]	47.6	30-150		10/6/23	1:25
Decachlorobiphenyl [2]	50.7	30-150		10/6/23	1:25
Tetrachloro-m-xylene [1]	67.5	30-150		10/6/23	1:25
Tetrachloro-m-xylene [2]	65.8	30-150		10/6/23	1:25

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St Johnsbury, VT | Sample Description: | Work Order: 23J0273

Date Received: 10/3/2023

Field Sample #: P-291-R12 | Sampled: 10/2/2023 11:01

Sample ID: 23J0273-17

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.74	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 1:43	SFM
Aroclor-1221 [1]	ND	0.74	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 1:43	SFM
Aroclor-1232 [1]	ND	0.74	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 1:43	SFM
Aroclor-1242 [1]	ND	0.74	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 1:43	SFM
Aroclor-1248 [1]	ND	0.74	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 1:43	SFM
Aroclor-1254 [2]	2.7	0.74	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 1:43	SFM
Aroclor-1260 [1]	ND	0.74	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 1:43	SFM
Aroclor-1262 [1]	ND	0.74	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 1:43	SFM
Aroclor-1268 [1]	ND	0.74	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 1:43	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	51.6	30-150		10/6/23 1:43
Decachlorobiphenyl [2]	55.0	30-150		10/6/23 1:43
Tetrachloro-m-xylene [1]	70.5	30-150		10/6/23 1:43
Tetrachloro-m-xylene [2]	69.6	30-150		10/6/23 1:43

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St Johnsbury, VT | Sample Description: | Work Order: 23J0273

Date Received: 10/3/2023

Field Sample #: P-292-R12 | Sampled: 10/2/2023 10:58

Sample ID: 23J0273-18

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.97	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 3:05	SFM
Aroclor-1221 [1]	ND	0.97	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 3:05	SFM
Aroclor-1232 [1]	ND	0.97	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 3:05	SFM
Aroclor-1242 [1]	ND	0.97	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 3:05	SFM
Aroclor-1248 [1]	ND	0.97	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 3:05	SFM
Aroclor-1254 [2]	3.4	0.97	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 3:05	SFM
Aroclor-1260 [1]	ND	0.97	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 3:05	SFM
Aroclor-1262 [1]	ND	0.97	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 3:05	SFM
Aroclor-1268 [1]	ND	0.97	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 3:05	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	62.2	30-150		10/6/23 3:05
Decachlorobiphenyl [2]	64.9	30-150		10/6/23 3:05
Tetrachloro-m-xylene [1]	75.6	30-150		10/6/23 3:05
Tetrachloro-m-xylene [2]	74.2	30-150		10/6/23 3:05

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St Johnsbury, VT | Sample Description: | Work Order: 23J0273

Date Received: 10/3/2023

Field Sample #: P-293-R18 | Sampled: 10/2/2023 10:53

Sample ID: 23J0273-19

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	970	mg/Kg	10000		SW-846 8082A	10/3/23	10/6/23 7:09	SFM
Aroclor-1221 [1]	ND	970	mg/Kg	10000		SW-846 8082A	10/3/23	10/6/23 7:09	SFM
Aroclor-1232 [1]	ND	970	mg/Kg	10000		SW-846 8082A	10/3/23	10/6/23 7:09	SFM
Aroclor-1242 [1]	ND	970	mg/Kg	10000		SW-846 8082A	10/3/23	10/6/23 7:09	SFM
Aroclor-1248 [1]	ND	970	mg/Kg	10000		SW-846 8082A	10/3/23	10/6/23 7:09	SFM
Aroclor-1254 [1]	5700	970	mg/Kg	10000		SW-846 8082A	10/3/23	10/6/23 7:09	SFM
Aroclor-1260 [1]	ND	970	mg/Kg	10000		SW-846 8082A	10/3/23	10/6/23 7:09	SFM
Aroclor-1262 [1]	ND	970	mg/Kg	10000		SW-846 8082A	10/3/23	10/6/23 7:09	SFM
Aroclor-1268 [1]	ND	970	mg/Kg	10000		SW-846 8082A	10/3/23	10/6/23 7:09	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	10/6/23 7:09
Decachlorobiphenyl [2]	*	30-150	S-01	10/6/23 7:09
Tetrachloro-m-xylene [1]	*	30-150	S-01	10/6/23 7:09
Tetrachloro-m-xylene [2]	*	30-150	S-01	10/6/23 7:09

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St Johnsbury, VT | Sample Description: | Work Order: 23J0273

Date Received: 10/3/2023

Field Sample #: P-294-R18 | Sampled: 10/2/2023 10:49

Sample ID: 23J0273-20

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	800	mg/Kg	10000		SW-846 8082A	10/3/23	10/6/23 7:27	SFM
Aroclor-1221 [1]	ND	800	mg/Kg	10000		SW-846 8082A	10/3/23	10/6/23 7:27	SFM
Aroclor-1232 [1]	ND	800	mg/Kg	10000		SW-846 8082A	10/3/23	10/6/23 7:27	SFM
Aroclor-1242 [1]	ND	800	mg/Kg	10000		SW-846 8082A	10/3/23	10/6/23 7:27	SFM
Aroclor-1248 [1]	ND	800	mg/Kg	10000		SW-846 8082A	10/3/23	10/6/23 7:27	SFM
Aroclor-1254 [1]	4600	800	mg/Kg	10000		SW-846 8082A	10/3/23	10/6/23 7:27	SFM
Aroclor-1260 [1]	ND	800	mg/Kg	10000		SW-846 8082A	10/3/23	10/6/23 7:27	SFM
Aroclor-1262 [1]	ND	800	mg/Kg	10000		SW-846 8082A	10/3/23	10/6/23 7:27	SFM
Aroclor-1268 [1]	ND	800	mg/Kg	10000		SW-846 8082A	10/3/23	10/6/23 7:27	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	10/6/23 7:27
Decachlorobiphenyl [2]	*	30-150	S-01	10/6/23 7:27
Tetrachloro-m-xylene [1]	*	30-150	S-01	10/6/23 7:27
Tetrachloro-m-xylene [2]	*	30-150	S-01	10/6/23 7:27

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method:SW-846 3540C **Analytical Method:SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23J0273-01 [P-275-Ex]	B353837	0.574	10.0	10/03/23
23J0273-02 [P-276-Ex]	B353837	0.562	10.0	10/03/23
23J0273-03 [P-277-Ex]	B353837	0.541	10.0	10/03/23
23J0273-04 [P-278-Ex]	B353837	0.522	10.0	10/03/23
23J0273-05 [P-279-Ex]	B353837	0.525	10.0	10/03/23
23J0273-07 [P-281-Ex]	B353837	0.535	10.0	10/03/23
23J0273-08 [P-282-Ex]	B353837	0.551	10.0	10/03/23
23J0273-09 [P-283-Ex]	B353837	0.567	10.0	10/03/23

Prep Method:SW-846 3540C **Analytical Method:SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23J0273-06RE1 [P-280-Ex]	B354262	0.510	10.0	10/06/23

Prep Method:SW-846 3540C **Analytical Method:SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23J0273-10 [P-284-R6]	B353838	2.25	10.0	10/03/23
23J0273-11 [P-285-R6]	B353838	2.05	10.0	10/03/23
23J0273-12 [P-286-R10]	B353838	2.22	10.0	10/03/23
23J0273-13 [P-287-R13]	B353838	2.08	10.0	10/03/23
23J0273-14 [P-288-R13]	B353838	2.28	10.0	10/03/23
23J0273-15 [P-289-R14]	B353838	2.05	10.0	10/03/23
23J0273-16 [P-290-R12]	B353838	2.14	10.0	10/03/23
23J0273-17 [P-291-R12]	B353838	2.69	10.0	10/03/23
23J0273-18 [P-292-R12]	B353838	2.06	10.0	10/03/23
23J0273-19 [P-293-R18]	B353838	2.07	10.0	10/03/23
23J0273-20 [P-294-R18]	B353838	2.51	10.0	10/03/23

con-test® A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B353837 - SW-846 3540C										
Blank (B353837-BLK1)				Prepared: 10/03/23 Analyzed: 10/05/23						
Aroclor-1016	ND	0.17	mg/Kg							
Aroclor-1016 [2C]	ND	0.17	mg/Kg							
Aroclor-1221	ND	0.17	mg/Kg							
Aroclor-1221 [2C]	ND	0.17	mg/Kg							
Aroclor-1232	ND	0.17	mg/Kg							
Aroclor-1232 [2C]	ND	0.17	mg/Kg							
Aroclor-1242	ND	0.17	mg/Kg							
Aroclor-1242 [2C]	ND	0.17	mg/Kg							
Aroclor-1248	ND	0.17	mg/Kg							
Aroclor-1248 [2C]	ND	0.17	mg/Kg							
Aroclor-1254	ND	0.17	mg/Kg							
Aroclor-1254 [2C]	ND	0.17	mg/Kg							
Aroclor-1260	ND	0.17	mg/Kg							
Aroclor-1260 [2C]	ND	0.17	mg/Kg							
Aroclor-1262	ND	0.17	mg/Kg							
Aroclor-1262 [2C]	ND	0.17	mg/Kg							
Aroclor-1268	ND	0.17	mg/Kg							
Aroclor-1268 [2C]	ND	0.17	mg/Kg							
Surrogate: Decachlorobiphenyl	*3.51*		mg/Kg	3.42		103	30-150			
Surrogate: Decachlorobiphenyl [2C]	*3.83*		mg/Kg	3.42		112	30-150			
Surrogate: Tetrachloro-m-xylene	*3.05*		mg/Kg	3.42		89.2	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*2.80*		mg/Kg	3.42		81.7	30-150			
LCS (B353837-BS1)				Prepared: 10/03/23 Analyzed: 10/05/23						
Aroclor-1016	3.1	0.19	mg/Kg	3.75		83.0	40-140			
Aroclor-1016 [2C]	3.0	0.19	mg/Kg	3.75		80.4	40-140			
Aroclor-1260	3.3	0.19	mg/Kg	3.75		88.2	40-140			
Aroclor-1260 [2C]	3.2	0.19	mg/Kg	3.75		85.5	40-140			
Surrogate: Decachlorobiphenyl	*3.76*		mg/Kg	3.75		101	30-150			
Surrogate: Decachlorobiphenyl [2C]	*4.15*		mg/Kg	3.75		111	30-150			
Surrogate: Tetrachloro-m-xylene	*3.46*		mg/Kg	3.75		92.3	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*3.17*		mg/Kg	3.75		84.7	30-150			
LCS Dup (B353837-BSD1)				Prepared: 10/03/23 Analyzed: 10/05/23						
Aroclor-1016	2.9	0.17	mg/Kg	3.42		85.1	40-140	6.57	30	
Aroclor-1016 [2C]	2.9	0.17	mg/Kg	3.42		85.4	40-140	3.02	30	
Aroclor-1260	3.4	0.17	mg/Kg	3.42		99.5	40-140	3.05	30	
Aroclor-1260 [2C]	3.2	0.17	mg/Kg	3.42		93.0	40-140	0.662	30	
Surrogate: Decachlorobiphenyl	*3.48*		mg/Kg	3.42		102	30-150			
Surrogate: Decachlorobiphenyl [2C]	*3.86*		mg/Kg	3.42		113	30-150			
Surrogate: Tetrachloro-m-xylene	*3.21*		mg/Kg	3.42		93.8	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*2.95*		mg/Kg	3.42		86.3	30-150			

con-test® A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B353838 - SW-846 3540C										
Blank (B353838-BLK1)				Prepared: 10/03/23 Analyzed: 10/05/23						
Aroclor-1016	ND	0.097	mg/Kg							
Aroclor-1016 [2C]	ND	0.097	mg/Kg							
Aroclor-1221	ND	0.097	mg/Kg							
Aroclor-1221 [2C]	ND	0.097	mg/Kg							
Aroclor-1232	ND	0.097	mg/Kg							
Aroclor-1232 [2C]	ND	0.097	mg/Kg							
Aroclor-1242	ND	0.097	mg/Kg							
Aroclor-1242 [2C]	ND	0.097	mg/Kg							
Aroclor-1248	ND	0.097	mg/Kg							
Aroclor-1248 [2C]	ND	0.097	mg/Kg							
Aroclor-1254	ND	0.097	mg/Kg							
Aroclor-1254 [2C]	ND	0.097	mg/Kg							
Aroclor-1260	ND	0.097	mg/Kg							
Aroclor-1260 [2C]	ND	0.097	mg/Kg							
Aroclor-1262	ND	0.097	mg/Kg							
Aroclor-1262 [2C]	ND	0.097	mg/Kg							
Aroclor-1268	ND	0.097	mg/Kg							
Aroclor-1268 [2C]	ND	0.097	mg/Kg							
Surrogate: Decachlorobiphenyl	*0.997*		mg/Kg	0.966		103	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.984*		mg/Kg	0.966		102	30-150			
Surrogate: Tetrachloro-m-xylene	*0.902*		mg/Kg	0.966		93.3	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.889*		mg/Kg	0.966		92.0	30-150			
LCS (B353838-BS1)				Prepared: 10/03/23 Analyzed: 10/05/23						
Aroclor-1016	0.70	0.073	mg/Kg	0.727		96.7	40-140			
Aroclor-1016 [2C]	0.63	0.073	mg/Kg	0.727		86.4	40-140			
Aroclor-1260	0.67	0.073	mg/Kg	0.727		92.2	40-140			
Aroclor-1260 [2C]	0.60	0.073	mg/Kg	0.727		83.0	40-140			
Surrogate: Decachlorobiphenyl	*0.745*		mg/Kg	0.727		102	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.746*		mg/Kg	0.727		103	30-150			
Surrogate: Tetrachloro-m-xylene	*0.645*		mg/Kg	0.727		88.8	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.639*		mg/Kg	0.727		87.9	30-150			
LCS Dup (B353838-BSD1)				Prepared: 10/03/23 Analyzed: 10/05/23						
Aroclor-1016	0.80	0.090	mg/Kg	0.901		89.0	40-140	13.1	30	
Aroclor-1016 [2C]	0.71	0.090	mg/Kg	0.901		78.6	40-140	11.9	30	
Aroclor-1260	0.77	0.090	mg/Kg	0.901		85.2	40-140	13.5	30	
Aroclor-1260 [2C]	0.70	0.090	mg/Kg	0.901		77.7	40-140	14.7	30	
Surrogate: Decachlorobiphenyl	*0.909*		mg/Kg	0.901		101	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.897*		mg/Kg	0.901		99.5	30-150			
Surrogate: Tetrachloro-m-xylene	*0.797*		mg/Kg	0.901		88.4	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.777*		mg/Kg	0.901		86.2	30-150			

con-test® A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B354262 - SW-846 3540C										
Blank (B354262-BLK1)				Prepared: 10/06/23 Analyzed: 10/09/23						
Aroclor-1016	ND	0.20	mg/Kg							
Aroclor-1016 [2C]	ND	0.20	mg/Kg							
Aroclor-1221	ND	0.20	mg/Kg							
Aroclor-1221 [2C]	ND	0.20	mg/Kg							
Aroclor-1232	ND	0.20	mg/Kg							
Aroclor-1232 [2C]	ND	0.20	mg/Kg							
Aroclor-1242	ND	0.20	mg/Kg							
Aroclor-1242 [2C]	ND	0.20	mg/Kg							
Aroclor-1248	ND	0.20	mg/Kg							
Aroclor-1248 [2C]	ND	0.20	mg/Kg							
Aroclor-1254	ND	0.20	mg/Kg							
Aroclor-1254 [2C]	ND	0.20	mg/Kg							
Aroclor-1260	ND	0.20	mg/Kg							
Aroclor-1260 [2C]	ND	0.20	mg/Kg							
Aroclor-1262	ND	0.20	mg/Kg							
Aroclor-1262 [2C]	ND	0.20	mg/Kg							
Aroclor-1268	ND	0.20	mg/Kg							
Aroclor-1268 [2C]	ND	0.20	mg/Kg							
Surrogate: Decachlorobiphenyl	*3.89*		mg/Kg	4.00		97.4	30-150			
Surrogate: Decachlorobiphenyl [2C]	*3.92*		mg/Kg	4.00		98.1	30-150			
Surrogate: Tetrachloro-m-xylene	*3.81*		mg/Kg	4.00		95.2	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*3.66*		mg/Kg	4.00		91.6	30-150			
LCS (B354262-BS1)				Prepared: 10/06/23 Analyzed: 10/09/23						
Aroclor-1016	3.3	0.20	mg/Kg	4.00		81.3	40-140			
Aroclor-1016 [2C]	3.1	0.20	mg/Kg	4.00		76.3	40-140			
Aroclor-1260	3.2	0.20	mg/Kg	4.00		81.2	40-140			
Aroclor-1260 [2C]	2.9	0.20	mg/Kg	4.00		71.5	40-140			
Surrogate: Decachlorobiphenyl	*3.36*		mg/Kg	4.00		84.1	30-150			
Surrogate: Decachlorobiphenyl [2C]	*3.37*		mg/Kg	4.00		84.2	30-150			
Surrogate: Tetrachloro-m-xylene	*3.41*		mg/Kg	4.00		85.3	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*3.29*		mg/Kg	4.00		82.3	30-150			
LCS Dup (B354262-BSD1)				Prepared: 10/06/23 Analyzed: 10/09/23						
Aroclor-1016	3.7	0.20	mg/Kg	4.00		92.6	40-140	13.1	30	
Aroclor-1016 [2C]	3.4	0.20	mg/Kg	4.00		85.1	40-140	11.0	30	
Aroclor-1260	3.7	0.20	mg/Kg	4.00		91.8	40-140	12.2	30	
Aroclor-1260 [2C]	3.4	0.20	mg/Kg	4.00		85.3	40-140	17.6	30	
Surrogate: Decachlorobiphenyl	*3.89*		mg/Kg	4.00		97.4	30-150			
Surrogate: Decachlorobiphenyl [2C]	*3.88*		mg/Kg	4.00		97.1	30-150			
Surrogate: Tetrachloro-m-xylene	*3.90*		mg/Kg	4.00		97.4	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*3.75*		mg/Kg	4.00		93.6	30-150			

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-275-Ex

Lab Sample ID: 23J0273-01 Date(s) Analyzed: 10/05/2023 10/05/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	5.9	
	2	0.000	0.000	0.000	5.4	8.9

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-276-Ex

Lab Sample ID: 23J0273-02 Date(s) Analyzed: 10/05/2023 10/05/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	17	
	2	0.000	0.000	0.000	16	6.1

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-277-Ex

Lab Sample ID: 23J0273-03 Date(s) Analyzed: 10/05/2023 10/05/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	10	
	2	0.000	0.000	0.000	9.6	4.1

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-278-Ex

Lab Sample ID: 23J0273-04 Date(s) Analyzed: 10/05/2023 10/05/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	1.4	
	2	0.000	0.000	0.000	1.3	7.4

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-279-Ex

Lab Sample ID: 23J0273-05 Date(s) Analyzed: 10/05/2023 10/05/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	1.6	
	2	0.000	0.000	0.000	1.5	6.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-282-Ex

Lab Sample ID: 23J0273-08 Date(s) Analyzed: 10/05/2023 10/05/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	0.80	
	2	0.000	0.000	0.000	0.77	3.8

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-284-R6

Lab Sample ID: 23J0273-10

Date(s) Analyzed: 10/05/2023 10/05/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	2.1	
	2	0.000	0.000	0.000	2.6	21.3

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-285-R6

Lab Sample ID: 23J0273-11

Date(s) Analyzed: 10/05/2023 10/05/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	1.7	
	2	0.000	0.000	0.000	2.2	25.6

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-286-R10

Lab Sample ID: 23J0273-12

Date(s) Analyzed: 10/06/2023 10/06/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	1.5	
	2	0.000	0.000	0.000	1.6	6.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-287-R13

Lab Sample ID: 23J0273-13

Date(s) Analyzed: 10/06/2023 10/06/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	3.8	
	2	0.000	0.000	0.000	4.3	12.3

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-288-R13

Lab Sample ID: 23J0273-14 Date(s) Analyzed: 10/06/2023 10/06/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	1.9	
	2	0.000	0.000	0.000	2.2	14.6

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-289-R14

Lab Sample ID: 23J0273-15

Date(s) Analyzed: 10/06/2023 10/06/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	11	
	2	0.000	0.000	0.000	11	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-290-R12

Lab Sample ID: 23J0273-16

Date(s) Analyzed: 10/06/2023 10/06/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	3.0	
	2	0.000	0.000	0.000	3.3	9.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-291-R12

Lab Sample ID: 23J0273-17

Date(s) Analyzed: 10/06/2023 10/06/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	2.5	
	2	0.000	0.000	0.000	2.7	7.7

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-292-R12

Lab Sample ID: 23J0273-18

Date(s) Analyzed: 10/06/2023 10/06/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	3.3	
	2	0.000	0.000	0.000	3.4	3.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-293-R18

Lab Sample ID: 23J0273-19 Date(s) Analyzed: 10/06/2023 10/06/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	5700	
	2	0.000	0.000	0.000	5300	7.3

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-294-R18

Lab Sample ID: 23J0273-20 Date(s) Analyzed: 10/06/2023 10/06/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	4600	
	2	0.000	0.000	0.000	4200	11.2

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B353837-BS1 Date(s) Analyzed: 10/05/2023 10/05/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	3.1	
	2	0.000	0.000	0.000	3.0	3.3
Aroclor-1260	1	0.000	0.000	0.000	3.3	
	2	0.000	0.000	0.000	3.2	3.1

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B353837-BSD1 Date(s) Analyzed: 10/05/2023 10/05/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	2.9	
	2	0.000	0.000	0.000	2.9	0.0
Aroclor-1260	1	0.000	0.000	0.000	3.4	
	2	0.000	0.000	0.000	3.2	6.1

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B353838-BS1 Date(s) Analyzed: 10/05/2023 10/05/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.70	
	2	0.000	0.000	0.000	0.63	10.5
Aroclor-1260	1	0.000	0.000	0.000	0.67	
	2	0.000	0.000	0.000	0.60	11.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B353838-BSD1 Date(s) Analyzed: 10/05/2023 10/05/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.80	
	2	0.000	0.000	0.000	0.71	11.9
Aroclor-1260	1	0.000	0.000	0.000	0.77	
	2	0.000	0.000	0.000	0.70	9.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B354262-BS1 Date(s) Analyzed: 10/09/2023 10/09/2023

Instrument ID (1): ECD10 Instrument ID (2): ECD10

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	3.3	
	2	0.000	0.000	0.000	3.1	6.3
Aroclor-1260	1	0.000	0.000	0.000	3.2	
	2	0.000	0.000	0.000	2.9	12.9

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B354262-BSD1 Date(s) Analyzed: 10/09/2023 10/09/2023

Instrument ID (1): ECD10 Instrument ID (2): ECD10

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	3.7	
	2	0.000	0.000	0.000	3.4	8.5
Aroclor-1260	1	0.000	0.000	0.000	3.7	
	2	0.000	0.000	0.000	3.4	8.5

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
S-01	The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

con-test® A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8082A in Product/Solid	
Aroclor-1016	CT,NH,NY,ME,NC,VA,PA
Aroclor-1016 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1262	NY,NC,VA,PA
Aroclor-1262 [2C]	NY,NC,VA,PA
Aroclor-1268	NY,NC,VA,PA
Aroclor-1268 [2C]	NY,NC,VA,PA
SW-846 8082A in Soil	
Aroclor-1016	CT,NH,NY,ME,NC,VA,PA
Aroclor-1016 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1262	NY,NC,VA,PA
Aroclor-1262 [2C]	NY,NC,VA,PA
Aroclor-1268	NY,NC,VA,PA
Aroclor-1268 [2C]	NY,NC,VA,PA

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2024
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2024
NC	North Carolina Div. of Water Quality	652	12/31/2023
ME	State of Maine	MA00100	06/9/2025
VA	Commonwealth of Virginia	460217	12/14/2023
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2024

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

23J0273
RF

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number:	
Invoice Recipient:	
Sampled By:	John Maddigan

Requested Turnaround Time
7-Day ☐ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush Approval Required
1-Day ☐ 3-Day ☑
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
1	P-275-Ex	10/2/2023	13:25	GRAB	O	U		1				x
2	P-276-Ex	10/2/2023	13:19	GRAB	O	U		1				x
3	P-277-Ex	10/2/2023	13:15	GRAB	O	U		1				x
4	P-278-Ex	10/2/2023	12:34	GRAB	O	U		1				x
5	P-279-Ex	10/2/2023	12:29	GRAB	O	U		1				x
6	P-280-Ex	10/2/2023	12:23	GRAB	O	U		1				x
7	P-281-Ex	10/2/2023	12:06	GRAB	O	U		1				x
8	P-282-Ex	10/2/2023	12:04	GRAB	O	U		1				x
9	P-283-Ex	10/2/2023	12:03	GRAB	O	U		1				x
10	P-284-R6	10/2/2023	11:32	GRAB	O	U		1				x

Relinquished by: (signature) John Maddigan	Date/Time: 10/2/23 14:18
Received by: (signature) 3.2°C	Date/Time: 10-3-23 0940
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments:

Detection Limit Requirements
MA
CT
Other

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. Th Chain of Custody is a legal document that must be complete and accurate and is used to determine wh analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pa Analytical values your partnership on each project and will try to assist with missing information, but w not be held accountable.

[2] Preservation Code
Courier Use Only
Total Number Of:
VIALS
GLASS
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Table of Contents

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	John Maddigan

Requested Turnaround Time
7-Day ☐ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush Approval Required
1-Day ☐ 3-Day ☑
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
11	P-285-R6	10/2/2023	11:28	GRAB	O	U		1				x
12	P-286-R10	10/2/2023	11:25	GRAB	O	U		1				x
13	P-287-R13	10/2/2023	11:14	GRAB	O	U		1				x
14	P-288-R13	10/2/2023	11:12	GRAB	O	U		1				x
15	P-289-R14	10/2/2023	11:10	GRAB	O	U		1				x
16	P-290-R12	10/2/2023	11:03	GRAB	O	U		1				x
17	P-291-R12	10/2/2023	11:01	GRAB	O	U		1				x
18	P-292-R12	10/2/2023	10:58	GRAB	O	U		1				x
19	P-293-R18	10/2/2023	10:53	GRAB	O	U		1				x
20	P-294-R18	10/2/2023	10:49	GRAB	O	U		1				x

Relinquished by: (signature) John Maddigan	Date/Time: 10/2/23 14:18
Received by: (signature) 3.2°C	Date/Time: 10.3.23 0940
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments:

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. Th Chain of Custody is a legal document that must be complete and accurate and is used to determine wh analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pa Analytical values your partnership on each project and will try to assist with missing information, but w not be held accountable.

[2] Preservation Code
Courier Use Only
Total Number Of:
VIALS
GLASS
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Table of Contents

Fed Sign

FedEx® Tracking Track Another Shipment Local Scan Time Help

DELIVERED

Tuesday

10/3/23 at 9:40 AM

Signed for by: C.HENRIQUEZ

Obtain proof of delivery

How was your delivery?

TRACKING ID

784507670139

DELIVERY STATUS

Delivered

FROM
Craftsbury Common, VT US
Label Created
10/2/23 1:23 PM

WE HAVE YOUR PACKAGE
SAINT JOHNSBURY, VT
10/2/23 2:23 PM

IN TRANSIT
WINDSOR LOCKS, CT
10/3/23 7:52 AM

OUT FOR DELIVERY
WINDSOR LOCKS, CT
10/3/23 8:00 AM

DELIVERED
EAST LONGMEADOW, MA US
Delivered
10/3/23 at 9:40 AM

View travel history

Want updates on this shipment? Enter your email and we will do the rest!

YOUR EMAIL
Contestlab39

SUBMIT

MORE OPTIONS

Manage Delivery

Shipment facts

Shipment overview

TRACKING NUMBER	784507670139
DELIVERED TO	Shipping/Receiving
SHIP DATE	10/2/23

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist
	Effective Date: 07/13/2023

Log In Back-Sheet

Client Nobis Group

Project St Johnsbury Armory

MCP/RCP Required N/A

Deliverable Package Requirement N/A

Location St Johnsbury, VT

PWSID# (When Applicable) N/A

Arrival Method:

Courier ☐ Fed Ex ☑ Walk In ☐ Other ☐

Received By / Date / Time AAM/10-3-23/0940

Back-Sheet By / Date / Time AAM/10-3-23/1402

Temperature Method Temp. Gun # 5

Temp ✓ < 6° C Actual Temperature 3.2°C

Rush Samples: (Yes) / No Notify Ext teams

Short Hold: Yes / (No) Notify

Notes regarding Samples/COC outside of SOP:

work order was split after the first 20 Samples

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy) Any False statement will be brought to the attention of the Client – True or False

	True	False
Received on Ice	☑	☐
Received in Cooler	☑	☐
Custody Seal: DATE TIME	☐	☑
COC Relinquished	☑	☐
COC/Samples Labels Agree	☑	☐
All Samples in Good Condition	☑	☐
Samples Received within Holding Time	☑	☐
Is there enough Volume	☑	☐
Proper Media/Container Used	☑	☐
Splitting Samples Required	☑	☐
MS/MSD	☐	☑
Trip Blanks	☐	☑
Lab to Filters	☐	☑
COC Legible	☑	☐

COC Included: (Check all included)

Client ☑ Analysis ☑ Sampler Name ☑

Project ☑ IDs ☑ Collection Date/Time ☑

All Samples Proper pH: (N/A) ☐ ☐

Additional Container Notes

Note: West Virginia requires all samples to have their temperature taken. Note any outliers.

Qualtrax ID: 120836

Page 2 of 2

Qualtrax ID: 120836

DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist	Effective Date: 07/13/2023

Sample	Soils Jars (Circle Amb/Clear)				Ambers					Plastics											VOA Vials					Other / Fill in					
	16oz Amb/Clear	8oz Amb/Clear	4oz Amb/Clear	2oz Amb/Clear	Unpreserved	1 Liter	HCL	Sulfuric	Sulfuric	Phosphoric	HCl	Unpreserved	100mL	Unpreserved	1 Liter	Sulfuric	Unpreserved	500mL	Sulfuric	Unpreserved	Trizma	Sulfuric	Nitric	NaOH	Ammonium Acetate	NaOH/Zinc	Unpreserved	HCl	MeOH	D.I. Water	Bisulfate	Col/Bact						
1				-																																	
2				-																																	
3				-																																	
4				-																																	
5				-																																	
6				-																																	
7				-																																	
8				-																																	
9				-																																	
10				-																																	
11				-																																	
12				-																																	
13				-																																	
14				-																																	
15				-																																	
16				-																																	
17				-																																	
18			-																																		
19			-																																		
20																																					

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

October 6, 2023

Tim Andrews
Nobis Engineering
585 Middlesex Street
Lowell, MA 01851

Project Location: St Johnsbury , VT
Client Job Number:
Project Number: S00001.017
Laboratory Work Order Number: 23J0277

Enclosed are results of analyses for samples as received by the laboratory on October 3, 2023. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Rebecca Faust
Project Manager

Table of Contents

Sample Summary 3

Case Narrative 4

Sample Results 5

23J0277-01 5

23J0277-02 6

23J0277-03 7

23J0277-04 8

23J0277-05 9

23J0277-06 10

Sample Preparation Information 11

QC Data 12

Polychlorinated Biphenyls with 3540 Soxhlet Extraction 12

B353838 12

Dual Column RPD Report 14

Flag/Qualifier Summary 24

Certifications 25

Chain of Custody/Sample Receipt 27

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Nobis Engineering
585 Middlesex Street
Lowell, MA 01851
ATTN: Tim Andrews

REPORT DATE: 10/6/2023

PURCHASE ORDER NUMBER:

PROJECT NUMBER: S00001.017

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23J0277

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: St Johnsbury , VT

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
P-295-R18	23J0277-01	Product/Solid		SW-846 8082A	
P-296-R15	23J0277-02	Product/Solid		SW-846 8082A	
P-297-R15	23J0277-03	Product/Solid		SW-846 8082A	
P-298-R15	23J0277-04	Product/Solid		SW-846 8082A	
P-FD-016	23J0277-05	Product/Solid		SW-846 8082A	
P-FD-017	23J0277-06	Product/Solid		SW-846 8082A	

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

SW-846 8082A

Qualifications:

MS-21

Matrix spike and/or spike duplicate recovery bias high due to contribution of other Aroclors present in the source sample.

Analyte & Samples(s) Qualified:

Aroclor-1016
B353838-MS1, B353838-MSD1

Aroclor-1016 [2C]
B353838-MS1, B353838-MSD1

Aroclor-1260
B353838-MS1, B353838-MSD1

Aroclor-1260 [2C]
B353838-MS1, B353838-MSD1

S-01

The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

Analyte & Samples(s) Qualified:

Decachlorobiphenyl
23J0277-01[P-295-R18]

Decachlorobiphenyl [2C]
23J0277-01[P-295-R18]

Tetrachloro-m-xylene
23J0277-01[P-295-R18]

Tetrachloro-m-xylene [2C]
23J0277-01[P-295-R18]

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Lisa A. Worthington
Technical Representative

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St Johnsbury , VT | Sample Description: | Work Order: 23J0277

Date Received: 10/3/2023

Field Sample #: P-295-R18 | Sampled: 10/2/2023 10:47

Sample ID: 23J0277-01

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	960	mg/Kg	10000		SW-846 8082A	10/3/23	10/6/23 7:44	SFM
Aroclor-1221 [1]	ND	960	mg/Kg	10000		SW-846 8082A	10/3/23	10/6/23 7:44	SFM
Aroclor-1232 [1]	ND	960	mg/Kg	10000		SW-846 8082A	10/3/23	10/6/23 7:44	SFM
Aroclor-1242 [1]	ND	960	mg/Kg	10000		SW-846 8082A	10/3/23	10/6/23 7:44	SFM
Aroclor-1248 [1]	ND	960	mg/Kg	10000		SW-846 8082A	10/3/23	10/6/23 7:44	SFM
Aroclor-1254 [1]	6800	960	mg/Kg	10000		SW-846 8082A	10/3/23	10/6/23 7:44	SFM
Aroclor-1260 [1]	ND	960	mg/Kg	10000		SW-846 8082A	10/3/23	10/6/23 7:44	SFM
Aroclor-1262 [1]	ND	960	mg/Kg	10000		SW-846 8082A	10/3/23	10/6/23 7:44	SFM
Aroclor-1268 [1]	ND	960	mg/Kg	10000		SW-846 8082A	10/3/23	10/6/23 7:44	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	10/6/23 7:44
Decachlorobiphenyl [2]	*	30-150	S-01	10/6/23 7:44
Tetrachloro-m-xylene [1]	*	30-150	S-01	10/6/23 7:44
Tetrachloro-m-xylene [2]	*	30-150	S-01	10/6/23 7:44

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St Johnsbury , VT | Sample Description: | Work Order: 23J0277

Date Received: 10/3/2023

Field Sample #: P-296-R15 | Sampled: 10/2/2023 10:37

Sample ID: 23J0277-02

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.93	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 4:15	SFM
Aroclor-1221 [1]	ND	0.93	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 4:15	SFM
Aroclor-1232 [1]	ND	0.93	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 4:15	SFM
Aroclor-1242 [1]	ND	0.93	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 4:15	SFM
Aroclor-1248 [1]	ND	0.93	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 4:15	SFM
Aroclor-1254 [2]	7.6	0.93	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 4:15	SFM
Aroclor-1260 [1]	ND	0.93	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 4:15	SFM
Aroclor-1262 [1]	ND	0.93	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 4:15	SFM
Aroclor-1268 [1]	ND	0.93	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 4:15	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	82.0	30-150		10/6/23 4:15
Decachlorobiphenyl [2]	83.6	30-150		10/6/23 4:15
Tetrachloro-m-xylene [1]	92.7	30-150		10/6/23 4:15
Tetrachloro-m-xylene [2]	89.4	30-150		10/6/23 4:15

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St Johnsbury , VT | Sample Description: | Work Order: 23J0277

Date Received: 10/3/2023

Field Sample #: P-297-R15 | Sampled: 10/2/2023 10:34

Sample ID: 23J0277-03

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.93	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 4:32	SFM
Aroclor-1221 [1]	ND	0.93	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 4:32	SFM
Aroclor-1232 [1]	ND	0.93	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 4:32	SFM
Aroclor-1242 [1]	ND	0.93	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 4:32	SFM
Aroclor-1248 [1]	ND	0.93	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 4:32	SFM
Aroclor-1254 [2]	13	0.93	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 4:32	SFM
Aroclor-1260 [1]	ND	0.93	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 4:32	SFM
Aroclor-1262 [1]	ND	0.93	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 4:32	SFM
Aroclor-1268 [1]	ND	0.93	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 4:32	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	78.9	30-150		10/6/23 4:32
Decachlorobiphenyl [2]	82.8	30-150		10/6/23 4:32
Tetrachloro-m-xylene [1]	86.6	30-150		10/6/23 4:32
Tetrachloro-m-xylene [2]	85.6	30-150		10/6/23 4:32

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St Johnsbury , VT | Sample Description: | Work Order: 23J0277

Date Received: 10/3/2023

Field Sample #: P-298-R15 | Sampled: 10/2/2023 10:32

Sample ID: 23J0277-04

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.90	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 4:50	SFM
Aroclor-1221 [1]	ND	0.90	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 4:50	SFM
Aroclor-1232 [1]	ND	0.90	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 4:50	SFM
Aroclor-1242 [1]	ND	0.90	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 4:50	SFM
Aroclor-1248 [1]	ND	0.90	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 4:50	SFM
Aroclor-1254 [2]	12	0.90	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 4:50	SFM
Aroclor-1260 [1]	ND	0.90	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 4:50	SFM
Aroclor-1262 [1]	ND	0.90	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 4:50	SFM
Aroclor-1268 [1]	ND	0.90	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 4:50	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	78.9	30-150		10/6/23 4:50
Decachlorobiphenyl [2]	82.4	30-150		10/6/23 4:50
Tetrachloro-m-xylene [1]	90.7	30-150		10/6/23 4:50
Tetrachloro-m-xylene [2]	89.1	30-150		10/6/23 4:50

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St Johnsbury , VT | Sample Description: | Work Order: 23J0277

Date Received: 10/3/2023

Field Sample #: P-FD-016 | Sampled: 10/2/2023 11:10

Sample ID: 23J0277-05

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.97	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 5:07	SFM
Aroclor-1221 [1]	ND	0.97	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 5:07	SFM
Aroclor-1232 [1]	ND	0.97	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 5:07	SFM
Aroclor-1242 [1]	ND	0.97	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 5:07	SFM
Aroclor-1248 [1]	ND	0.97	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 5:07	SFM
Aroclor-1254 [1]	1.9	0.97	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 5:07	SFM
Aroclor-1260 [1]	ND	0.97	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 5:07	SFM
Aroclor-1262 [1]	ND	0.97	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 5:07	SFM
Aroclor-1268 [1]	ND	0.97	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 5:07	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	79.2	30-150		10/6/23 5:07
Decachlorobiphenyl [2]	77.7	30-150		10/6/23 5:07
Tetrachloro-m-xylene [1]	68.5	30-150		10/6/23 5:07
Tetrachloro-m-xylene [2]	67.8	30-150		10/6/23 5:07

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St Johnsbury , VT | Sample Description: | Work Order: 23J0277

Date Received: 10/3/2023

Field Sample #: P-FD-017 | Sampled: 10/2/2023 11:25

Sample ID: 23J0277-06

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.96	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 5:24	SFM
Aroclor-1221 [1]	ND	0.96	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 5:24	SFM
Aroclor-1232 [1]	ND	0.96	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 5:24	SFM
Aroclor-1242 [1]	ND	0.96	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 5:24	SFM
Aroclor-1248 [1]	ND	0.96	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 5:24	SFM
Aroclor-1254 [2]	9.3	0.96	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 5:24	SFM
Aroclor-1260 [1]	ND	0.96	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 5:24	SFM
Aroclor-1262 [1]	ND	0.96	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 5:24	SFM
Aroclor-1268 [1]	ND	0.96	mg/Kg	10		SW-846 8082A	10/3/23	10/6/23 5:24	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	53.9	30-150		10/6/23 5:24
Decachlorobiphenyl [2]	59.7	30-150		10/6/23 5:24
Tetrachloro-m-xylene [1]	73.1	30-150		10/6/23 5:24
Tetrachloro-m-xylene [2]	70.2	30-150		10/6/23 5:24

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method:SW-846 3540C **Analytical Method:SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23J0277-01 [P-295-R18]	B353838	2.09	10.0	10/03/23
23J0277-02 [P-296-R15]	B353838	2.15	10.0	10/03/23
23J0277-03 [P-297-R15]	B353838	2.14	10.0	10/03/23
23J0277-04 [P-298-R15]	B353838	2.23	10.0	10/03/23
23J0277-05 [P-FD-016]	B353838	2.07	10.0	10/03/23
23J0277-06 [P-FD-017]	B353838	2.08	10.0	10/03/23

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B353838 - SW-846 3540C										
Blank (B353838-BLK1)				Prepared: 10/03/23 Analyzed: 10/05/23						
Aroclor-1016	ND	0.097	mg/Kg							
Aroclor-1016 [2C]	ND	0.097	mg/Kg							
Aroclor-1221	ND	0.097	mg/Kg							
Aroclor-1221 [2C]	ND	0.097	mg/Kg							
Aroclor-1232	ND	0.097	mg/Kg							
Aroclor-1232 [2C]	ND	0.097	mg/Kg							
Aroclor-1242	ND	0.097	mg/Kg							
Aroclor-1242 [2C]	ND	0.097	mg/Kg							
Aroclor-1248	ND	0.097	mg/Kg							
Aroclor-1248 [2C]	ND	0.097	mg/Kg							
Aroclor-1254	ND	0.097	mg/Kg							
Aroclor-1254 [2C]	ND	0.097	mg/Kg							
Aroclor-1260	ND	0.097	mg/Kg							
Aroclor-1260 [2C]	ND	0.097	mg/Kg							
Aroclor-1262	ND	0.097	mg/Kg							
Aroclor-1262 [2C]	ND	0.097	mg/Kg							
Aroclor-1268	ND	0.097	mg/Kg							
Aroclor-1268 [2C]	ND	0.097	mg/Kg							
Surrogate: Decachlorobiphenyl	*0.997*		mg/Kg	0.966		103	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.984*		mg/Kg	0.966		102	30-150			
Surrogate: Tetrachloro-m-xylene	*0.902*		mg/Kg	0.966		93.3	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.889*		mg/Kg	0.966		92.0	30-150			
LCS (B353838-BS1)				Prepared: 10/03/23 Analyzed: 10/05/23						
Aroclor-1016	0.70	0.073	mg/Kg	0.727		96.7	40-140			
Aroclor-1016 [2C]	0.63	0.073	mg/Kg	0.727		86.4	40-140			
Aroclor-1260	0.67	0.073	mg/Kg	0.727		92.2	40-140			
Aroclor-1260 [2C]	0.60	0.073	mg/Kg	0.727		83.0	40-140			
Surrogate: Decachlorobiphenyl	*0.745*		mg/Kg	0.727		102	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.746*		mg/Kg	0.727		103	30-150			
Surrogate: Tetrachloro-m-xylene	*0.645*		mg/Kg	0.727		88.8	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.639*		mg/Kg	0.727		87.9	30-150			
LCS Dup (B353838-BSD1)				Prepared: 10/03/23 Analyzed: 10/05/23						
Aroclor-1016	0.80	0.090	mg/Kg	0.901		89.0	40-140	13.1	30	
Aroclor-1016 [2C]	0.71	0.090	mg/Kg	0.901		78.6	40-140	11.9	30	
Aroclor-1260	0.77	0.090	mg/Kg	0.901		85.2	40-140	13.5	30	
Aroclor-1260 [2C]	0.70	0.090	mg/Kg	0.901		77.7	40-140	14.7	30	
Surrogate: Decachlorobiphenyl	*0.909*		mg/Kg	0.901		101	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.897*		mg/Kg	0.901		99.5	30-150			
Surrogate: Tetrachloro-m-xylene	*0.797*		mg/Kg	0.901		88.4	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.777*		mg/Kg	0.901		86.2	30-150			

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B353838 - SW-846 3540C											
Matrix Spike (B353838-MS1)	**Source: 23J0277-02**			Prepared: 10/03/23 Analyzed: 10/06/23							
Aroclor-1016	3.3	0.98	mg/Kg	0.980	ND	**335**	*	40-140			MS-21
Aroclor-1016 [2C]	5.8	0.98	mg/Kg	0.980	ND	**593**	*	40-140			MS-21
Aroclor-1260	2.6	0.98	mg/Kg	0.980	ND	**261**	*	40-140			MS-21
Aroclor-1260 [2C]	2.9	0.98	mg/Kg	0.980	ND	**296**	*	40-140			MS-21
Surrogate: Decachlorobiphenyl	*0.736*		mg/Kg	0.980		75.1		30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.789*		mg/Kg	0.980		80.5		30-150			
Surrogate: Tetrachloro-m-xylene	*0.885*		mg/Kg	0.980		90.3		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.854*		mg/Kg	0.980		87.1		30-150			
Matrix Spike Dup (B353838-MSD1)	**Source: 23J0277-02**			Prepared: 10/03/23 Analyzed: 10/06/23							
Aroclor-1016	3.3	0.99	mg/Kg	0.990	ND	**330**	*	40-140	0.439	50	MS-21
Aroclor-1016 [2C]	5.6	0.99	mg/Kg	0.990	ND	**564**	*	40-140	4.03	50	MS-21
Aroclor-1260	2.5	0.99	mg/Kg	0.990	ND	**256**	*	40-140	1.03	50	MS-21
Aroclor-1260 [2C]	2.8	0.99	mg/Kg	0.990	ND	**285**	*	40-140	2.83	50	MS-21
Surrogate: Decachlorobiphenyl	*0.773*		mg/Kg	0.990		78.0		30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.812*		mg/Kg	0.990		82.0		30-150			
Surrogate: Tetrachloro-m-xylene	*0.908*		mg/Kg	0.990		91.7		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.884*		mg/Kg	0.990		89.3		30-150			

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-295-R18

Lab Sample ID: 23J0277-01 Date(s) Analyzed: 10/06/2023 10/06/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	6800	
	2	0.000	0.000	0.000	6200	9.2

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-296-R15

Lab Sample ID: 23J0277-02

Date(s) Analyzed: 10/06/2023 10/06/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	7.0	
	2	0.000	0.000	0.000	7.6	8.2

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-297-R15

Lab Sample ID: 23J0277-03

Date(s) Analyzed: 10/06/2023 10/06/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	12	
	2	0.000	0.000	0.000	13	8.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-298-R15

Lab Sample ID: 23J0277-04 Date(s) Analyzed: 10/06/2023 10/06/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	11	
	2	0.000	0.000	0.000	12	8.7

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-FD-016

Lab Sample ID: 23J0277-05

Date(s) Analyzed: 10/06/2023 10/06/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	1.9	
	2	0.000	0.000	0.000	1.7	11.1

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-FD-017

Lab Sample ID: 23J0277-06

Date(s) Analyzed: 10/06/2023 10/06/2023

Instrument ID (1): ECD3

Instrument ID (2): ECD3

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	0.000	0.000	7.0	
	2	0.000	0.000	0.000	9.3	28.2

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B353838-BS1 Date(s) Analyzed: 10/05/2023 10/05/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.70	
	2	0.000	0.000	0.000	0.63	10.5
Aroclor-1260	1	0.000	0.000	0.000	0.67	
	2	0.000	0.000	0.000	0.60	11.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B353838-BSD1 Date(s) Analyzed: 10/05/2023 10/05/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.80	
	2	0.000	0.000	0.000	0.71	11.9
Aroclor-1260	1	0.000	0.000	0.000	0.77	
	2	0.000	0.000	0.000	0.70	9.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike

Lab Sample ID: B353838-MS1 Date(s) Analyzed: 10/06/2023 10/06/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	3.3	
	2	0.000	0.000	0.000	5.8	54.9
Aroclor-1260	1	0.000	0.000	0.000	2.6	
	2	0.000	0.000	0.000	2.9	10.9

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike Dup

Lab Sample ID: B353838-MSD1 Date(s) Analyzed: 10/06/2023 10/06/2023

Instrument ID (1): ECD3 Instrument ID (2): ECD3

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	3.3	
	2	0.000	0.000	0.000	5.6	51.7
Aroclor-1260	1	0.000	0.000	0.000	2.5	
	2	0.000	0.000	0.000	2.8	11.3

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
MS-21	Matrix spike and/or spike duplicate recovery bias high due to contribution of other Aroclors present in the source sample.
S-01	The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8082A in Product/Solid	
Aroclor-1016	CT,NH,NY,ME,NC,VA,PA
Aroclor-1016 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1262	NY,NC,VA,PA
Aroclor-1262 [2C]	NY,NC,VA,PA
Aroclor-1268	NY,NC,VA,PA
Aroclor-1268 [2C]	NY,NC,VA,PA
SW-846 8082A in Soil	
Aroclor-1016	CT,NH,NY,ME,NC,VA,PA
Aroclor-1016 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1262	NY,NC,VA,PA
Aroclor-1262 [2C]	NY,NC,VA,PA
Aroclor-1268	NY,NC,VA,PA
Aroclor-1268 [2C]	NY,NC,VA,PA

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2024
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2024
NC	North Carolina Div. of Water Quality	652	12/31/2023
ME	State of Maine	MA00100	06/9/2025
VA	Commonwealth of Virginia	460217	12/14/2023
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2024

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

23J0277
RF

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	John Maddigan

Requested Turnaround Time
7-Day ☐ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☑
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
1	P-295-R18	10/2/2023	10:47	GRAB	O	U		1				x
2	P-296-R15	10/2/2023	10:37	GRAB	O	U		1				x
3	P-297-R15	10/2/2023	10:34	GRAB	O	U		1				x
4	P-298-R15	10/2/2023	10:32	GRAB	O	U		1				x
5	P-FD-016	10/2/2023	11:10	GRAB	O	U		1				x
6	P-FD-017	10/2/2023	11:25	GRAB	O	U		1				x

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N
*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature) John Maddigan	Date/Time: 10/2/23 14:18
Received by: (signature) 3.2°C	Date/Time: CHO 10-3-23
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments:

Detection Limit Requirements
MA
CT
Other

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. T Chain of Custody is a legal document that must be complete and accurate and is used to determine w analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. P Analytical values your partnership on each project and will try to assist with missing information, but not be held accountable.

Table of Contents

Fed Sign

FedEx® Tracking Track Another Shipment Local Scan Time Help

DELIVERED

Tuesday

10/3/23 at 9:40 AM

Signed for by: C.HENRIQUEZ

Obtain proof of delivery

How was your delivery?

DELIVERY STATUS

Delivered

TRACKING ID

784507670139

FROM
Craftsbury Common, VT US
Label Created
10/2/23 1:23 PM

WE HAVE YOUR PACKAGE
SAINT JOHNSBURY, VT
10/2/23 2:23 PM

IN TRANSIT
WINDSOR LOCKS, CT
10/3/23 7:52 AM

OUT FOR DELIVERY
WINDSOR LOCKS, CT
10/3/23 8:00 AM

DELIVERED
EAST LONGMEADOW, MA US
Delivered
10/3/23 at 9:40 AM

View travel history

Want updates on this shipment? Enter your email and we will do the rest!

YOUR EMAIL
Contestlab39

SUBMIT

MORE OPTIONS

Manage Delivery

Shipment facts

Shipment overview

TRACKING NUMBER	784507670139
DELIVERED TO	Shipping/Receiving
SHIP DATE	10/2/23

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist
	Effective Date: 07/13/2023

Log In Back-Sheet

Client Nobis Group

Project St Johnsbury Armory

MCP/RCP Required N/A

Deliverable Package Requirement N/A

Location St Johnsbury, VT

PWSID# (When Applicable) N/A

Arrival Method:

Courier ☐ Fed Ex ☑ Walk In ☐ Other ☐

Received By / Date / Time AAM/10-3-23/0940

Back-Sheet By / Date / Time AAM/10-3-23/1402

Temperature Method Temp. Gun # 5

Temp ✓ < 6° C Actual Temperature 3.2°C

Rush Samples: (Yes) / No Notify Ext teams

Short Hold: Yes / (No) Notify

Notes regarding Samples/COC outside of SOP:

work order was split after the first 20 Samples

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy) Any False statement will be brought to the attention of the Client – True or False

	True	False
Received on Ice	☑	☐
Received in Cooler	☑	☐
Custody Seal: DATE TIME	☐	☑
COC Relinquished	☑	☐
COC/Samples Labels Agree	☑	☐
All Samples in Good Condition	☑	☐
Samples Received within Holding Time	☑	☐
Is there enough Volume	☑	☐
Proper Media/Container Used	☑	☐
Splitting Samples Required	☑	☐
MS/MSD	☐	☑
Trip Blanks	☐	☑
Lab to Filters	☐	☑
COC Legible	☑	☐

COC Included: (Check all included)

Client ☑ Analysis ☑ Sampler Name ☑

Project ☑ IDs ☑ Collection Date/Time ☑

All Samples Proper pH: (N/A) ☐ ☐

Additional Container Notes

Note: West Virginia requires all samples to have their temperature taken. Note any outliers.

Qualtrax ID: 120836

Quattrax ID: 120836

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist
	Effective Date: 07/13/2023

		Soils Jars (Circle Amb/Clear)				Ambers					Plastics													VOA Vials						Other / Fill in			
	Sample	16oz Amb/Clear	8oz Amb/Clear	4oz Amb/Clear	2oz Amb/Clear	Unpreserved	HCL	Sulfuric	Sulfuric	Phosphoric	HCl	Unpreserved	Unpreserved	Sulfuric	Unpreserved	Sulfuric	Unpreserved	Trizma	Sulfuric	Nitric	NaOH	Ammonium Acetate	NaOH/Zinc	Unpreserved	HCl	MeOH	D.I. Water	Bisulfate	Col/Bact				
		1 Liter				1 Liter			250mL		100mL	1 Liter		500mL		250mL																	
1																																	
2																																	
3																																	
4																																	
5																																	
6																																	
7																																	
8																																	
9																																	
10																																	
11																																	
12																																	
13																																	
14																																	
15																																	
16																																	
17																																	
18																																	
19																																	
20																																	

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

November 14, 2023

Tim Andrews
Nobis Engineering
585 Middlesex Street
Lowell, MA 01851

Project Location: St. Johnsbury, VT
Client Job Number:
Project Number: S00001.017
Laboratory Work Order Number: 23J4090

Enclosed are results of analyses for samples as received by the laboratory on October 31, 2023. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Rebecca Faust
Project Manager

Table of Contents

Sample Summary 3

Case Narrative 4

Sample Results 5

23J4090-01 5

23J4090-02 6

23J4090-03 7

23J4090-04 8

23J4090-05 9

23J4090-06 10

23J4090-07 11

Sample Preparation Information 12

QC Data 13

Polychlorinated Biphenyls with 3540 Soxhlet Extraction 13

B357801 13

Dual Column RPD Report 14

Flag/Qualifier Summary 16

Certifications 17

Chain of Custody/Sample Receipt 18

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Nobis Engineering
585 Middlesex Street
Lowell, MA 01851
ATTN: Tim Andrews

REPORT DATE: 11/14/2023

PURCHASE ORDER NUMBER:

PROJECT NUMBER: S00001.017

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23J4090

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: St. Johnsbury, VT

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
P-299-Ex	23J4090-01	Product/Solid		SW-846 8082A	
P-300-Ex	23J4090-02	Product/Solid		SW-846 8082A	
P-301-Ex	23J4090-03	Product/Solid		SW-846 8082A	
P-302-Ex	23J4090-04	Product/Solid		SW-846 8082A	
P-303-Ex	23J4090-05	Product/Solid		SW-846 8082A	
P-304-Ex	23J4090-06	Product/Solid		SW-846 8082A	
P-FD-018	23J4090-07	Product/Solid		SW-846 8082A	

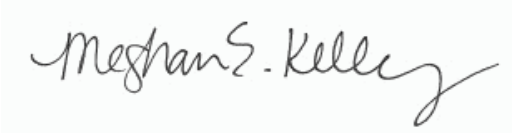
con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Meghan E. Kelley
Reporting Specialist

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23J4090

Date Received: 10/31/2023

Field Sample #: P-299-Ex | Sampled: 10/25/2023 11:20

Sample ID: 23J4090-01

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.087	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 12:22	JM4
Aroclor-1221 [1]	ND	0.087	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 12:22	JM4
Aroclor-1232 [1]	ND	0.087	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 12:22	JM4
Aroclor-1242 [1]	ND	0.087	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 12:22	JM4
Aroclor-1248 [1]	ND	0.087	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 12:22	JM4
Aroclor-1254 [1]	ND	0.087	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 12:22	JM4
Aroclor-1260 [1]	ND	0.087	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 12:22	JM4
Aroclor-1262 [1]	ND	0.087	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 12:22	JM4
Aroclor-1268 [1]	ND	0.087	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 12:22	JM4

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	74.4	30-150		11/13/23 12:22
Decachlorobiphenyl [2]	76.4	30-150		11/13/23 12:22
Tetrachloro-m-xylene [1]	91.9	30-150		11/13/23 12:22
Tetrachloro-m-xylene [2]	87.4	30-150		11/13/23 12:22

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23J4090

Date Received: 10/31/2023

Field Sample #: P-300-Ex | Sampled: 10/25/2023 11:10

Sample ID: 23J4090-02

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.098	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 12:40	JM4
Aroclor-1221 [1]	ND	0.098	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 12:40	JM4
Aroclor-1232 [1]	ND	0.098	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 12:40	JM4
Aroclor-1242 [1]	ND	0.098	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 12:40	JM4
Aroclor-1248 [1]	ND	0.098	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 12:40	JM4
Aroclor-1254 [1]	ND	0.098	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 12:40	JM4
Aroclor-1260 [1]	ND	0.098	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 12:40	JM4
Aroclor-1262 [1]	ND	0.098	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 12:40	JM4
Aroclor-1268 [1]	ND	0.098	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 12:40	JM4

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	77.5	30-150		11/13/23 12:40
Decachlorobiphenyl [2]	78.1	30-150		11/13/23 12:40
Tetrachloro-m-xylene [1]	91.6	30-150		11/13/23 12:40
Tetrachloro-m-xylene [2]	87.2	30-150		11/13/23 12:40

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23J4090

Date Received: 10/31/2023

Field Sample #: P-301-Ex | Sampled: 10/25/2023 11:30

Sample ID: 23J4090-03

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.096	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 12:57	JM4
Aroclor-1221 [1]	ND	0.096	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 12:57	JM4
Aroclor-1232 [1]	ND	0.096	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 12:57	JM4
Aroclor-1242 [1]	ND	0.096	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 12:57	JM4
Aroclor-1248 [1]	ND	0.096	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 12:57	JM4
Aroclor-1254 [1]	ND	0.096	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 12:57	JM4
Aroclor-1260 [1]	ND	0.096	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 12:57	JM4
Aroclor-1262 [1]	ND	0.096	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 12:57	JM4
Aroclor-1268 [1]	ND	0.096	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 12:57	JM4

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	77.1	30-150		11/13/23 12:57
Decachlorobiphenyl [2]	76.8	30-150		11/13/23 12:57
Tetrachloro-m-xylene [1]	94.2	30-150		11/13/23 12:57
Tetrachloro-m-xylene [2]	90.4	30-150		11/13/23 12:57

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23J4090

Date Received: 10/31/2023

Field Sample #: P-302-Ex | Sampled: 10/25/2023 11:40

Sample ID: 23J4090-04

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.096	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 13:14	JM4
Aroclor-1221 [1]	ND	0.096	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 13:14	JM4
Aroclor-1232 [1]	ND	0.096	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 13:14	JM4
Aroclor-1242 [1]	ND	0.096	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 13:14	JM4
Aroclor-1248 [1]	ND	0.096	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 13:14	JM4
Aroclor-1254 [1]	ND	0.096	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 13:14	JM4
Aroclor-1260 [1]	ND	0.096	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 13:14	JM4
Aroclor-1262 [1]	ND	0.096	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 13:14	JM4
Aroclor-1268 [1]	ND	0.096	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 13:14	JM4

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	80.7	30-150		11/13/23 13:14
Decachlorobiphenyl [2]	79.6	30-150		11/13/23 13:14
Tetrachloro-m-xylene [1]	93.3	30-150		11/13/23 13:14
Tetrachloro-m-xylene [2]	89.6	30-150		11/13/23 13:14

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23J4090

Date Received: 10/31/2023

Field Sample #: P-303-Ex | Sampled: 10/25/2023 11:50

Sample ID: 23J4090-05

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.097	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 13:31	JM4
Aroclor-1221 [1]	ND	0.097	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 13:31	JM4
Aroclor-1232 [1]	ND	0.097	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 13:31	JM4
Aroclor-1242 [1]	ND	0.097	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 13:31	JM4
Aroclor-1248 [1]	ND	0.097	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 13:31	JM4
Aroclor-1254 [1]	ND	0.097	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 13:31	JM4
Aroclor-1260 [1]	ND	0.097	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 13:31	JM4
Aroclor-1262 [1]	ND	0.097	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 13:31	JM4
Aroclor-1268 [1]	ND	0.097	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 13:31	JM4

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	81.6	30-150		11/13/23 13:31
Decachlorobiphenyl [2]	79.4	30-150		11/13/23 13:31
Tetrachloro-m-xylene [1]	93.5	30-150		11/13/23 13:31
Tetrachloro-m-xylene [2]	89.4	30-150		11/13/23 13:31

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23J4090

Date Received: 10/31/2023

Field Sample #: P-304-Ex | Sampled: 10/25/2023 12:00

Sample ID: 23J4090-06

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.092	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 13:48	JM4
Aroclor-1221 [1]	ND	0.092	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 13:48	JM4
Aroclor-1232 [1]	ND	0.092	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 13:48	JM4
Aroclor-1242 [1]	ND	0.092	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 13:48	JM4
Aroclor-1248 [1]	ND	0.092	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 13:48	JM4
Aroclor-1254 [1]	ND	0.092	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 13:48	JM4
Aroclor-1260 [1]	ND	0.092	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 13:48	JM4
Aroclor-1262 [1]	ND	0.092	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 13:48	JM4
Aroclor-1268 [1]	ND	0.092	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 13:48	JM4

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	81.8	30-150		11/13/23 13:48
Decachlorobiphenyl [2]	79.3	30-150		11/13/23 13:48
Tetrachloro-m-xylene [1]	94.5	30-150		11/13/23 13:48
Tetrachloro-m-xylene [2]	90.5	30-150		11/13/23 13:48

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23J4090

Date Received: 10/31/2023

Field Sample #: P-FD-018 | Sampled: 10/25/2023 12:10

Sample ID: 23J4090-07

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.098	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 14:05	JM4
Aroclor-1221 [1]	ND	0.098	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 14:05	JM4
Aroclor-1232 [1]	ND	0.098	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 14:05	JM4
Aroclor-1242 [1]	ND	0.098	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 14:05	JM4
Aroclor-1248 [1]	ND	0.098	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 14:05	JM4
Aroclor-1254 [1]	ND	0.098	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 14:05	JM4
Aroclor-1260 [1]	ND	0.098	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 14:05	JM4
Aroclor-1262 [1]	ND	0.098	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 14:05	JM4
Aroclor-1268 [1]	ND	0.098	mg/Kg	1		SW-846 8082A	11/10/23	11/13/23 14:05	JM4

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	84.2	30-150		11/13/23 14:05
Decachlorobiphenyl [2]	81.8	30-150		11/13/23 14:05
Tetrachloro-m-xylene [1]	96.5	30-150		11/13/23 14:05
Tetrachloro-m-xylene [2]	93.0	30-150		11/13/23 14:05

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method:SW-846 3540C **Analytical Method:SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23J4090-01RE1 [P-299-Ex]	B357801	2.31	10.0	11/10/23
23J4090-02RE1 [P-300-Ex]	B357801	2.05	10.0	11/10/23
23J4090-03RE1 [P-301-Ex]	B357801	2.09	10.0	11/10/23
23J4090-04RE1 [P-302-Ex]	B357801	2.09	10.0	11/10/23
23J4090-05RE1 [P-303-Ex]	B357801	2.07	10.0	11/10/23
23J4090-06RE1 [P-304-Ex]	B357801	2.17	10.0	11/10/23
23J4090-07RE1 [P-FD-018]	B357801	2.04	10.0	11/10/23

con-test® A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B357801 - SW-846 3540C										
Blank (B357801-BLK1)				Prepared: 11/10/23 Analyzed: 11/13/23						
Aroclor-1016	ND	0.10	mg/Kg							
Aroclor-1016 [2C]	ND	0.10	mg/Kg							
Aroclor-1221	ND	0.10	mg/Kg							
Aroclor-1221 [2C]	ND	0.10	mg/Kg							
Aroclor-1232	ND	0.10	mg/Kg							
Aroclor-1232 [2C]	ND	0.10	mg/Kg							
Aroclor-1242	ND	0.10	mg/Kg							
Aroclor-1242 [2C]	ND	0.10	mg/Kg							
Aroclor-1248	ND	0.10	mg/Kg							
Aroclor-1248 [2C]	ND	0.10	mg/Kg							
Aroclor-1254	ND	0.10	mg/Kg							
Aroclor-1254 [2C]	ND	0.10	mg/Kg							
Aroclor-1260	ND	0.10	mg/Kg							
Aroclor-1260 [2C]	ND	0.10	mg/Kg							
Aroclor-1262	ND	0.10	mg/Kg							
Aroclor-1262 [2C]	ND	0.10	mg/Kg							
Aroclor-1268	ND	0.10	mg/Kg							
Aroclor-1268 [2C]	ND	0.10	mg/Kg							
Surrogate: Decachlorobiphenyl	*0.722*		mg/Kg	1.00		72.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.757*		mg/Kg	1.00		75.7	30-150			
Surrogate: Tetrachloro-m-xylene	*0.931*		mg/Kg	1.00		93.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.888*		mg/Kg	1.00		88.8	30-150			
LCS (B357801-BS1)				Prepared: 11/10/23 Analyzed: 11/13/23						
Aroclor-1016	0.80	0.10	mg/Kg	1.00		79.8	40-140			
Aroclor-1016 [2C]	0.84	0.10	mg/Kg	1.00		83.9	40-140			
Aroclor-1260	0.80	0.10	mg/Kg	1.00		80.5	40-140			
Aroclor-1260 [2C]	0.76	0.10	mg/Kg	1.00		76.4	40-140			
Surrogate: Decachlorobiphenyl	*0.735*		mg/Kg	1.00		73.5	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.777*		mg/Kg	1.00		77.7	30-150			
Surrogate: Tetrachloro-m-xylene	*0.941*		mg/Kg	1.00		94.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.900*		mg/Kg	1.00		90.0	30-150			
LCS Dup (B357801-BSD1)				Prepared: 11/10/23 Analyzed: 11/13/23						
Aroclor-1016	0.79	0.10	mg/Kg	1.00		79.3	40-140	0.637	30	
Aroclor-1016 [2C]	0.83	0.10	mg/Kg	1.00		83.4	40-140	0.628	30	
Aroclor-1260	0.81	0.10	mg/Kg	1.00		81.1	40-140	0.743	30	
Aroclor-1260 [2C]	0.76	0.10	mg/Kg	1.00		76.5	40-140	0.0844	30	
Surrogate: Decachlorobiphenyl	*0.738*		mg/Kg	1.00		73.8	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.766*		mg/Kg	1.00		76.6	30-150			
Surrogate: Tetrachloro-m-xylene	*0.925*		mg/Kg	1.00		92.5	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.886*		mg/Kg	1.00		88.6	30-150			

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B357801-BS1

Date(s) Analyzed: 11/13/2023 11/13/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.80	
	2	0.000	0.000	0.000	0.84	4.9
Aroclor-1260	1	0.000	0.000	0.000	0.80	
	2	0.000	0.000	0.000	0.76	6.4

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B357801-BSD1 Date(s) Analyzed: 11/13/2023 11/13/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.79	
	2	0.000	0.000	0.000	0.83	4.9
Aroclor-1260	1	0.000	0.000	0.000	0.81	
	2	0.000	0.000	0.000	0.76	6.4

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level

Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.

No results have been blank subtracted unless specified in the case narrative section.

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8082A in Product/Solid	
Aroclor-1016	CT,NH,NY,ME,NC,VA,PA
Aroclor-1016 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1262	NY,NC,VA,PA
Aroclor-1262 [2C]	NY,NC,VA,PA
Aroclor-1268	NY,NC,VA,PA
Aroclor-1268 [2C]	NY,NC,VA,PA

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2024
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2024
NC	North Carolina Div. of Water Quality	652	12/31/2023
ME	State of Maine	MA00100	06/9/2025
VA	Commonwealth of Virginia	460217	12/14/2023
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2024

23J4090 RF

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344
https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number:	
Invoice Recipient:	
Sampled By:	John Maddigan

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
1	P-299-Ex	10/25/2023	11:20	GRAB	O	U		1				x
2	P-300-Ex	10/25/2023	11:10	GRAB	O	U		1				x
3	P-301-Ex	10/25/2023	11:30	GRAB	O	U		1				x
4	P-302-Ex	10/25/2023	11:40	GRAB	O	U		1				x
5	P-303-Ex	10/25/2023	11:50	GRAB	O	U		1				x
6	P-304-Ex	10/25/2023	12:00	GRAB	O	U		1				x
7	P-FD-018	10/25/2023	12:10	GRAB	O	U		1				x

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time: 10/27/23 4:30PM	Client Comments:
Received by: (signature)	Date/Time: 10/31/23 1435	
Relinquished by: (signature)	Date/Time: 10/31/23 1912	
Received by: (signature)	Date/Time: 10/31/23 1912	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist
	Effective Date: 07/13/2023

Log In Back-Sheet

Client: Nobis

Project: St Johnsbury Armory

MCP/RCP Required: no

Deliverable Package Requirement: none

Location: St. Johnsbury, VT

PWSID# (When Applicable): n/a

Arrival Method:

Courier ☑ Fed Ex ☐ Walk In ☐ Other ☐

Received By / Date / Time: MCM 10/31/23 1912

Back-Sheet By / Date / Time: MCM 10/31/23 2055

Temperature Method: Gun # 4

Temp < 6° C Actual Temperature: 2.0

Rush Samples: Yes / No Notify: No

Short Hold: Yes / No Notify: No

Notes regarding Samples/COC outside of SOP:

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy) Any False statement will be brought to the attention of the Client – True or False

	True	False
Received on Ice	☑	☐
Received in Cooler	☑	☐
Custody Seal: DATE TIME	☐	☑
COC Relinquished	☑	☐
COC/Samples Labels Agree	☑	☐
All Samples in Good Condition	☑	☐
Samples Received within Holding Time	☑	☐
Is there enough Volume	☑	☐
Proper Media/Container Used	☑	☐
Splitting Samples Required	☐	☑
MS/MSD	☐	☑
Trip Blanks	☐	☑
Lab to Filters	☐	☑
COC Legible	☑	☐

COC Included: (Check all included)

Client ☑ Analysis ☑ Sampler Name ☑

Project ☑ IDs ☑ Collection Date/Time ☑

All Samples Proper pH: N/A ☐ ☐

Additional Container Notes

Note: West Virginia requires all samples to have their temperature taken. Note any outliers.

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist
	Effective Date: 07/13/2023

Sample			
1	16oz Amb/Clear	(Circle Amb/Clear)	Soils Jars
2	8oz Amb/Clear		
3	4oz Amb/Clear		
4	2oz Amb/Clear		
5	Unpreserved	1 Liter	Ambers
6	HCL		
7	Sulfuric	250mL	
8	Sulfuric		
9	Phosphoric		
10	HCl		
11	Unpreserved	100mL	
12	Unpreserved	1 Liter	Plastics
13	Sulfuric		
14	Unpreserved	500mL	
15	Sulfuric		
16	Unpreserved	250mL	
17	Trizma		
18	Sulfuric		
19	Nitric		
20	NaOH		
	Ammonium Acetate		
	NaOH/Zinc		
	Unpreserved		VOA Vials
	HCl		
	MeOH		
	D.I. Water		
	BiSulfate		
	Col/Bact		Other / Fill in

Qualtrax ID: 120836

Table of Contents

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

November 27, 2023

Tim Andrews
Nobis Engineering
585 Middlesex Street
Lowell, MA 01851

Project Location: St. Johnsbury, VT
Client Job Number:
Project Number: S00001.017
Laboratory Work Order Number: 23K1921

Enclosed are results of analyses for samples as received by the laboratory on November 14, 2023. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Rebecca Faust
Project Manager

Table of Contents

Sample Summary 3

Case Narrative 4

Sample Results 5

23K1921-01 5

23K1921-02 6

23K1921-03 7

Sample Preparation Information 8

QC Data 9

Polychlorinated Biphenyls with 3540 Soxhlet Extraction 9

B358566 9

Dual Column RPD Report 11

Flag/Qualifier Summary 15

Certifications 16

Chain of Custody/Sample Receipt 17

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Nobis Engineering
585 Middlesex Street
Lowell, MA 01851
ATTN: Tim Andrews

REPORT DATE: 11/27/2023

PURCHASE ORDER NUMBER:

PROJECT NUMBER: S00001.017

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23K1921

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: St. Johnsbury, VT

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
P-329-Ex	23K1921-01	Product/Solid		SW-846 8082A	
P-330-Ex	23K1921-02	Product/Solid		SW-846 8082A	
P-331-Ex	23K1921-03	Product/Solid		SW-846 8082A	

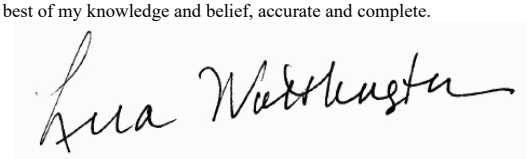
con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Lisa A. Worthington
Technical Representative

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K1921

Date Received: 11/14/2023

Field Sample #: P-329-Ex | Sampled: 11/2/2023 11:09

Sample ID: 23K1921-01

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.099	mg/Kg	1		SW-846 8082A	11/20/23	11/22/23 19:48	TG
Aroclor-1221 [1]	ND	0.099	mg/Kg	1		SW-846 8082A	11/20/23	11/22/23 19:48	TG
Aroclor-1232 [1]	ND	0.099	mg/Kg	1		SW-846 8082A	11/20/23	11/22/23 19:48	TG
Aroclor-1242 [1]	ND	0.099	mg/Kg	1		SW-846 8082A	11/20/23	11/22/23 19:48	TG
Aroclor-1248 [1]	ND	0.099	mg/Kg	1		SW-846 8082A	11/20/23	11/22/23 19:48	TG
Aroclor-1254 [1]	ND	0.099	mg/Kg	1		SW-846 8082A	11/20/23	11/22/23 19:48	TG
Aroclor-1260 [1]	ND	0.099	mg/Kg	1		SW-846 8082A	11/20/23	11/22/23 19:48	TG
Aroclor-1262 [1]	ND	0.099	mg/Kg	1		SW-846 8082A	11/20/23	11/22/23 19:48	TG
Aroclor-1268 [1]	ND	0.099	mg/Kg	1		SW-846 8082A	11/20/23	11/22/23 19:48	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	90.5	30-150		11/22/23 19:48
Decachlorobiphenyl [2]	96.9	30-150		11/22/23 19:48
Tetrachloro-m-xylene [1]	79.1	30-150		11/22/23 19:48
Tetrachloro-m-xylene [2]	76.4	30-150		11/22/23 19:48

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K1921

Date Received: 11/14/2023

Field Sample #: P-330-Ex | Sampled: 11/2/2023 11:10

Sample ID: 23K1921-02

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.099	mg/Kg	1		SW-846 8082A	11/20/23	11/22/23 20:05	TG
Aroclor-1221 [1]	ND	0.099	mg/Kg	1		SW-846 8082A	11/20/23	11/22/23 20:05	TG
Aroclor-1232 [1]	ND	0.099	mg/Kg	1		SW-846 8082A	11/20/23	11/22/23 20:05	TG
Aroclor-1242 [1]	ND	0.099	mg/Kg	1		SW-846 8082A	11/20/23	11/22/23 20:05	TG
Aroclor-1248 [1]	ND	0.099	mg/Kg	1		SW-846 8082A	11/20/23	11/22/23 20:05	TG
Aroclor-1254 [1]	ND	0.099	mg/Kg	1		SW-846 8082A	11/20/23	11/22/23 20:05	TG
Aroclor-1260 [1]	ND	0.099	mg/Kg	1		SW-846 8082A	11/20/23	11/22/23 20:05	TG
Aroclor-1262 [1]	ND	0.099	mg/Kg	1		SW-846 8082A	11/20/23	11/22/23 20:05	TG
Aroclor-1268 [1]	ND	0.099	mg/Kg	1		SW-846 8082A	11/20/23	11/22/23 20:05	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	93.3	30-150		11/22/23 20:05
Decachlorobiphenyl [2]	99.4	30-150		11/22/23 20:05
Tetrachloro-m-xylene [1]	96.1	30-150		11/22/23 20:05
Tetrachloro-m-xylene [2]	93.3	30-150		11/22/23 20:05

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K1921

Date Received: 11/14/2023

Field Sample #: P-331-Ex | Sampled: 11/2/2023 11:11

Sample ID: 23K1921-03

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.099	mg/Kg	1		SW-846 8082A	11/20/23	11/22/23 20:22	TG
Aroclor-1221 [1]	ND	0.099	mg/Kg	1		SW-846 8082A	11/20/23	11/22/23 20:22	TG
Aroclor-1232 [1]	ND	0.099	mg/Kg	1		SW-846 8082A	11/20/23	11/22/23 20:22	TG
Aroclor-1242 [1]	ND	0.099	mg/Kg	1		SW-846 8082A	11/20/23	11/22/23 20:22	TG
Aroclor-1248 [1]	ND	0.099	mg/Kg	1		SW-846 8082A	11/20/23	11/22/23 20:22	TG
Aroclor-1254 [1]	ND	0.099	mg/Kg	1		SW-846 8082A	11/20/23	11/22/23 20:22	TG
Aroclor-1260 [1]	ND	0.099	mg/Kg	1		SW-846 8082A	11/20/23	11/22/23 20:22	TG
Aroclor-1262 [1]	ND	0.099	mg/Kg	1		SW-846 8082A	11/20/23	11/22/23 20:22	TG
Aroclor-1268 [1]	ND	0.099	mg/Kg	1		SW-846 8082A	11/20/23	11/22/23 20:22	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	90.5	30-150		11/22/23 20:22
Decachlorobiphenyl [2]	97.0	30-150		11/22/23 20:22
Tetrachloro-m-xylene [1]	87.2	30-150		11/22/23 20:22
Tetrachloro-m-xylene [2]	84.2	30-150		11/22/23 20:22

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method:SW-846 3540C **Analytical Method:SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23K1921-01 [P-329-Ex]	B358566	2.03	10.0	11/20/23
23K1921-02 [P-330-Ex]	B358566	2.03	10.0	11/20/23
23K1921-03 [P-331-Ex]	B358566	2.02	10.0	11/20/23

con-test® A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B358566 - SW-846 3540C										
Blank (B358566-BLK1)				Prepared: 11/20/23 Analyzed: 11/21/23						
Aroclor-1016	ND	0.10	mg/Kg							
Aroclor-1016 [2C]	ND	0.10	mg/Kg							
Aroclor-1221	ND	0.10	mg/Kg							
Aroclor-1221 [2C]	ND	0.10	mg/Kg							
Aroclor-1232	ND	0.10	mg/Kg							
Aroclor-1232 [2C]	ND	0.10	mg/Kg							
Aroclor-1242	ND	0.10	mg/Kg							
Aroclor-1242 [2C]	ND	0.10	mg/Kg							
Aroclor-1248	ND	0.10	mg/Kg							
Aroclor-1248 [2C]	ND	0.10	mg/Kg							
Aroclor-1254	ND	0.10	mg/Kg							
Aroclor-1254 [2C]	ND	0.10	mg/Kg							
Aroclor-1260	ND	0.10	mg/Kg							
Aroclor-1260 [2C]	ND	0.10	mg/Kg							
Aroclor-1262	ND	0.10	mg/Kg							
Aroclor-1262 [2C]	ND	0.10	mg/Kg							
Aroclor-1268	ND	0.10	mg/Kg							
Aroclor-1268 [2C]	ND	0.10	mg/Kg							
Surrogate: Decachlorobiphenyl	*0.869*		mg/Kg	1.00		86.9	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.934*		mg/Kg	1.00		93.4	30-150			
Surrogate: Tetrachloro-m-xylene	*0.921*		mg/Kg	1.00		92.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.918*		mg/Kg	1.00		91.8	30-150			
LCS (B358566-BS1)				Prepared: 11/20/23 Analyzed: 11/21/23						
Aroclor-1016	0.73	0.10	mg/Kg	0.995		73.2	40-140			
Aroclor-1016 [2C]	0.76	0.10	mg/Kg	0.995		76.8	40-140			
Aroclor-1260	0.75	0.10	mg/Kg	0.995		75.7	40-140			
Aroclor-1260 [2C]	0.80	0.10	mg/Kg	0.995		80.5	40-140			
Surrogate: Decachlorobiphenyl	*0.838*		mg/Kg	0.995		84.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.905*		mg/Kg	0.995		90.9	30-150			
Surrogate: Tetrachloro-m-xylene	*0.894*		mg/Kg	0.995		89.8	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.888*		mg/Kg	0.995		89.3	30-150			
LCS Dup (B358566-BSD1)				Prepared: 11/20/23 Analyzed: 11/21/23						
Aroclor-1016	0.73	0.099	mg/Kg	0.985		74.3	40-140	0.520	30	
Aroclor-1016 [2C]	0.77	0.099	mg/Kg	0.985		78.1	40-140	0.640	30	
Aroclor-1260	0.77	0.099	mg/Kg	0.985		78.3	40-140	2.33	30	
Aroclor-1260 [2C]	0.81	0.099	mg/Kg	0.985		82.3	40-140	1.18	30	
Surrogate: Decachlorobiphenyl	*0.820*		mg/Kg	0.985		83.3	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.883*		mg/Kg	0.985		89.6	30-150			
Surrogate: Tetrachloro-m-xylene	*0.870*		mg/Kg	0.985		88.3	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.854*		mg/Kg	0.985		86.7	30-150			

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B358566 - SW-846 3540C										
Matrix Spike (B358566-MS1)	**Source: 23K1921-01**			Prepared: 11/20/23 Analyzed: 11/22/23						
Aroclor-1016	0.80	0.099	mg/Kg	0.985	ND	81.6	40-140			
Aroclor-1016 [2C]	0.82	0.099	mg/Kg	0.985	ND	83.6	40-140			
Aroclor-1260	0.84	0.099	mg/Kg	0.985	ND	85.2	40-140			
Aroclor-1260 [2C]	0.87	0.099	mg/Kg	0.985	ND	88.5	40-140			
Surrogate: Decachlorobiphenyl	*0.878*		mg/Kg	0.985		89.1	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.939*		mg/Kg	0.985		95.3	30-150			
Surrogate: Tetrachloro-m-xylene	*0.878*		mg/Kg	0.985		89.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.856*		mg/Kg	0.985		86.9	30-150			
Matrix Spike Dup (B358566-MSD1)	**Source: 23K1921-01**			Prepared: 11/20/23 Analyzed: 11/22/23						
Aroclor-1016	0.81	0.099	mg/Kg	0.990	ND	81.6	40-140	0.425	50	
Aroclor-1016 [2C]	0.83	0.099	mg/Kg	0.990	ND	83.6	40-140	0.396	50	
Aroclor-1260	0.85	0.099	mg/Kg	0.990	ND	85.8	40-140	1.13	50	
Aroclor-1260 [2C]	0.88	0.099	mg/Kg	0.990	ND	88.9	40-140	0.998	50	
Surrogate: Decachlorobiphenyl	*0.914*		mg/Kg	0.990		92.3	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.975*		mg/Kg	0.990		98.4	30-150			
Surrogate: Tetrachloro-m-xylene	*0.922*		mg/Kg	0.990		93.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.897*		mg/Kg	0.990		90.6	30-150			

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B358566-BS1

Date(s) Analyzed: 11/21/2023 11/21/2023

Instrument ID (1): ECD 9

Instrument ID (2): ECD 9

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.73	
	2	0.000	0.000	0.000	0.76	4.0
Aroclor-1260	1	0.000	0.000	0.000	0.75	
	2	0.000	0.000	0.000	0.80	6.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B358566-BSD1 Date(s) Analyzed: 11/21/2023 11/21/2023

Instrument ID (1): ECD 9 Instrument ID (2): ECD 9

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.73	
	2	0.000	0.000	0.000	0.77	5.3
Aroclor-1260	1	0.000	0.000	0.000	0.77	
	2	0.000	0.000	0.000	0.81	5.1

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike

Lab Sample ID: B358566-MS1 Date(s) Analyzed: 11/22/2023 11/22/2023

Instrument ID (1): ECD 9 Instrument ID (2): ECD 9

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.80	
	2	0.000	0.000	0.000	0.82	2.5
Aroclor-1260	1	0.000	0.000	0.000	0.84	
	2	0.000	0.000	0.000	0.87	3.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike Dup

Lab Sample ID: B358566-MSD1 Date(s) Analyzed: 11/22/2023 11/22/2023

Instrument ID (1): ECD 9 Instrument ID (2): ECD 9

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.81	
	2	0.000	0.000	0.000	0.83	2.4
Aroclor-1260	1	0.000	0.000	0.000	0.85	
	2	0.000	0.000	0.000	0.88	3.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level

Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.

No results have been blank subtracted unless specified in the case narrative section.

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8082A in Product/Solid	
Aroclor-1016	CT,NH,NY,ME,NC,VA,PA
Aroclor-1016 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1262	NY,NC,VA,PA
Aroclor-1262 [2C]	NY,NC,VA,PA
Aroclor-1268	NY,NC,VA,PA
Aroclor-1268 [2C]	NY,NC,VA,PA

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2024
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2024
NC	North Carolina Div. of Water Quality	652	12/31/2023
ME	State of Maine	MA00100	06/9/2025
VA	Commonwealth of Virginia	460217	12/14/2023
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2024

23K1921

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time

7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction											
	P-328-Ex-06.507	11/2/2023	10:58			U		1				H											
	P-328-Ex-0707.5	11/2/2023	10:59			U		1				H											
	P-328-Ex-07.508	11/2/2023	11:00			U		1				H											
	P-328-Ex-0808.5	11/2/2023	11:01			U		1				H											
	P-328-Ex-08.509	11/2/2023	11:02			U		1				H											
	P-328-Ex-0909.5	11/2/2023	11:03			U		1				H											
	P-328-Ex-09.510	11/2/2023	11:04			U		1				H											
	P-328-Ex-1010.5	11/2/2023	11:05			U		1				H											
	P-328-Ex-10.511	11/2/2023	11:06			U		1				H											
	P-328-Ex-1112	11/2/2023	11:07			U		3				H											

[2] Preservation Code

Courier Use Only

Total Number Of:

VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)		Date/Time: 11/6/23 1157
Received by: (signature)		Date/Time: 11/6/23 1157
Relinquished by: (signature)		Date/Time: 11/6/23 1630
Received by: (signature)		Date/Time: 11/6/23 1630
Relinquished by: (signature)		Date/Time:
Received by: (signature)		Date/Time:
Relinquished by: (signature)		Date/Time:
Received by: (signature)		Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other

☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Per client, P-329-Ex, P-330-Ex & P-331-Ex are to be analyzed.

-RLF 11/14/23

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Pace Analytical®
Phone: 612-607-6400
Fax: 612-607-6344
https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction	[2] Preservation Code
01	P-329-Ex	11/2/2023	11:09			U		1				H	
02	P-330-Ex	11/2/2023	11::10			U		1				H	
03	P-331-Ex	11/2/2023	11:11			U		1				H	
	P-FD019	11/1/2023	8:00			U		1				H	
	P-FD020	11/1/2023	8:01			U		1				H	
	P-FD021	11/1/2023	8:02			U		1				H	
	P-FD022	11/1/2023	8:03			U		1				H	
	P-FD023	11/1/2023	8:04			U		1				H	
	P-FD024	11/1/2023	8:05			U		1				X	
	P-FD025	11/1/2023	8:06			U		1				H	

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time: 11/6/23 1157	Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.
Received by: (signature)	Date/Time: 11/6/23 1157	
Relinquished by: (signature)	Date/Time: 11/6/23 1630	
Received by: (signature)	Date/Time: 11/6/23 1630	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist
	Effective Date: 07/13/2023

Log In Back-Sheet

Client NobisProject St. Johnsbury ArmoryMCP/RCP Required noDeliverable Package Requirement noneLocation St. Johnsbury, VTPWSID# (When Applicable) n/a

Arrival Method:

Courier ☑ Fed Ex ☐ Walk In ☐ Other ☐

Received By / Date / Time Mcm 11/6/23 1430

Back-Sheet By / Date / Time Mcm 11/6/23 2135

Temperature Method Gun # 5

Temp < 6° C Actual Temperature 2.5

Rush Samples: Yes / No Notify No

Short Hold: Yes / No Notify No

Notes regarding Samples/COC outside of SOP:

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy) Any False statement will be brought to the attention of the Client – True or False

	True	False
Received on Ice	☑	☐
Received in Cooler	☑	☐
Custody Seal: DATE TIME	☐	☑
COC Relinquished	☑	☐
COC/Samples Labels Agree	☑	☐
All Samples in Good Condition	☑	☐
Samples Received within Holding Time	☑	☐
Is there enough Volume	☑	☐
Proper Media/Container Used	☑	☐
Splitting Samples Required	☐	☑
MS/MSD	☑	☐
Trip Blanks	☐	☑
Lab to Filters	☐	☑
COC Legible	☑	☐

COC Included: (Check all included)

Client ☑ Analysis ☑ Sampler Name ☑

Project ☑ IDs ☑ Collection Date/Time ☑

All Samples Proper pH: (N/A) ☐ ☐

Additional Container Notes

Note: West Virginia requires all samples to have their temperature taken. Note any outliers.

Sample			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
16oz Amb/Clear	Soils Jars (Circle Amb/Clear)																					
8oz Amb/Clear																						
4oz Amb/Clear			1									3	1									
2oz Amb/Clear																						
Unpreserved	Ambers	1 Liter																				
HCL																						
Sulfuric																						
Sulfuric		250mL																				
Phosphoric																						
HCl																						
Unpreserved		100mL																				
Unpreserved	Plastics	1 Liter																				
Sulfuric																						
Unpreserved		500mL																				
Sulfuric																						
Unpreserved		250mL																				
Trizma																						
Sulfuric																						
Nitric																						
NaOH																						
Ammonium Acetate																						
NaOH/Zinc																						
Unpreserved	VOA Vials																					
HCl																						
MeOH																						
D.I. Water																						
BiSulfate																						
Col/Bact	Other / Fill in																					

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

December 7, 2023

Tim Andrews
Nobis Engineering
585 Middlesex Street
Lowell, MA 01851

Project Location: St. Johnsbury, VT
Client Job Number:
Project Number: S00001.017
Laboratory Work Order Number: 23L0356

Enclosed are results of analyses for samples as received by the laboratory on December 4, 2023. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Rebecca Faust
Project Manager

Table of Contents

Sample Summary 3

Case Narrative 4

Sample Results 5

23L0356-01 5

23L0356-02 6

23L0356-03 7

Sample Preparation Information 8

QC Data 9

Polychlorinated Biphenyls with 3540 Soxhlet Extraction 9

B359751 9

Dual Column RPD Report 10

Flag/Qualifier Summary 12

Certifications 13

Chain of Custody/Sample Receipt 14

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Nobis Engineering
585 Middlesex Street
Lowell, MA 01851
ATTN: Tim Andrews

REPORT DATE: 12/7/2023

PURCHASE ORDER NUMBER:

PROJECT NUMBER: S00001.017

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23L0356

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: St. Johnsbury, VT

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
P-332-EX	23L0356-01	Product/Solid		SW-846 8082A	
P-333-EX	23L0356-02	Product/Solid		SW-846 8082A	
P-334-EX	23L0356-03	Product/Solid		SW-846 8082A	

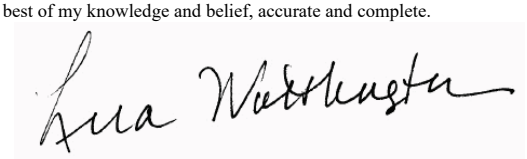
con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Lisa A. Worthington
Technical Representative

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23L0356

Date Received: 12/4/2023

Field Sample #: P-332-EX | Sampled: 12/4/2023 10:30

Sample ID: 23L0356-01

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.091	mg/Kg	1		SW-846 8082A	12/5/23	12/6/23 15:07	JM4
Aroclor-1221 [1]	ND	0.091	mg/Kg	1		SW-846 8082A	12/5/23	12/6/23 15:07	JM4
Aroclor-1232 [1]	ND	0.091	mg/Kg	1		SW-846 8082A	12/5/23	12/6/23 15:07	JM4
Aroclor-1242 [1]	ND	0.091	mg/Kg	1		SW-846 8082A	12/5/23	12/6/23 15:07	JM4
Aroclor-1248 [1]	ND	0.091	mg/Kg	1		SW-846 8082A	12/5/23	12/6/23 15:07	JM4
Aroclor-1254 [1]	ND	0.091	mg/Kg	1		SW-846 8082A	12/5/23	12/6/23 15:07	JM4
Aroclor-1260 [1]	ND	0.091	mg/Kg	1		SW-846 8082A	12/5/23	12/6/23 15:07	JM4
Aroclor-1262 [1]	ND	0.091	mg/Kg	1		SW-846 8082A	12/5/23	12/6/23 15:07	JM4
Aroclor-1268 [1]	ND	0.091	mg/Kg	1		SW-846 8082A	12/5/23	12/6/23 15:07	JM4

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	87.7	30-150		12/6/23 15:07
Decachlorobiphenyl [2]	86.8	30-150		12/6/23 15:07
Tetrachloro-m-xylene [1]	78.1	30-150		12/6/23 15:07
Tetrachloro-m-xylene [2]	78.8	30-150		12/6/23 15:07

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23L0356

Date Received: 12/4/2023

Field Sample #: P-333-EX | Sampled: 12/4/2023 10:50

Sample ID: 23L0356-02

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	12/5/23	12/6/23 15:25	JM4
Aroclor-1221 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	12/5/23	12/6/23 15:25	JM4
Aroclor-1232 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	12/5/23	12/6/23 15:25	JM4
Aroclor-1242 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	12/5/23	12/6/23 15:25	JM4
Aroclor-1248 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	12/5/23	12/6/23 15:25	JM4
Aroclor-1254 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	12/5/23	12/6/23 15:25	JM4
Aroclor-1260 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	12/5/23	12/6/23 15:25	JM4
Aroclor-1262 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	12/5/23	12/6/23 15:25	JM4
Aroclor-1268 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	12/5/23	12/6/23 15:25	JM4

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	96.9	30-150		12/6/23 15:25
Decachlorobiphenyl [2]	97.0	30-150		12/6/23 15:25
Tetrachloro-m-xylene [1]	88.2	30-150		12/6/23 15:25
Tetrachloro-m-xylene [2]	89.4	30-150		12/6/23 15:25

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23L0356

Date Received: 12/4/2023

Field Sample #: P-334-EX | Sampled: 12/4/2023 11:15

Sample ID: 23L0356-03

Sample Matrix: Product/Solid

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	12/5/23	12/6/23 15:42	JM4
Aroclor-1221 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	12/5/23	12/6/23 15:42	JM4
Aroclor-1232 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	12/5/23	12/6/23 15:42	JM4
Aroclor-1242 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	12/5/23	12/6/23 15:42	JM4
Aroclor-1248 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	12/5/23	12/6/23 15:42	JM4
Aroclor-1254 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	12/5/23	12/6/23 15:42	JM4
Aroclor-1260 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	12/5/23	12/6/23 15:42	JM4
Aroclor-1262 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	12/5/23	12/6/23 15:42	JM4
Aroclor-1268 [1]	ND	0.095	mg/Kg	1		SW-846 8082A	12/5/23	12/6/23 15:42	JM4

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	98.6	30-150		12/6/23 15:42
Decachlorobiphenyl [2]	99.3	30-150		12/6/23 15:42
Tetrachloro-m-xylene [1]	92.6	30-150		12/6/23 15:42
Tetrachloro-m-xylene [2]	94.7	30-150		12/6/23 15:42

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method:SW-846 3540C **Analytical Method:SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23L0356-01 [P-332-EX]	B359751	2.20	10.0	12/05/23
23L0356-02 [P-333-EX]	B359751	2.10	10.0	12/05/23
23L0356-03 [P-334-EX]	B359751	2.10	10.0	12/05/23

con-test® A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B359751 - SW-846 3540C										
Blank (B359751-BLK1)				Prepared: 12/05/23 Analyzed: 12/06/23						
Aroclor-1016	ND	0.10	mg/Kg							
Aroclor-1016 [2C]	ND	0.10	mg/Kg							
Aroclor-1221	ND	0.10	mg/Kg							
Aroclor-1221 [2C]	ND	0.10	mg/Kg							
Aroclor-1232	ND	0.10	mg/Kg							
Aroclor-1232 [2C]	ND	0.10	mg/Kg							
Aroclor-1242	ND	0.10	mg/Kg							
Aroclor-1242 [2C]	ND	0.10	mg/Kg							
Aroclor-1248	ND	0.10	mg/Kg							
Aroclor-1248 [2C]	ND	0.10	mg/Kg							
Aroclor-1254	ND	0.10	mg/Kg							
Aroclor-1254 [2C]	ND	0.10	mg/Kg							
Aroclor-1260	ND	0.10	mg/Kg							
Aroclor-1260 [2C]	ND	0.10	mg/Kg							
Aroclor-1262	ND	0.10	mg/Kg							
Aroclor-1262 [2C]	ND	0.10	mg/Kg							
Aroclor-1268	ND	0.10	mg/Kg							
Aroclor-1268 [2C]	ND	0.10	mg/Kg							
Surrogate: Decachlorobiphenyl	*0.986*		mg/Kg	1.00		98.6	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.991*		mg/Kg	1.00		99.1	30-150			
Surrogate: Tetrachloro-m-xylene	*0.937*		mg/Kg	1.00		93.7	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.966*		mg/Kg	1.00		96.6	30-150			
LCS (B359751-BS1)				Prepared: 12/05/23 Analyzed: 12/06/23						
Aroclor-1016	0.78	0.10	mg/Kg	1.00		78.4	40-140			
Aroclor-1016 [2C]	0.90	0.10	mg/Kg	1.00		89.7	40-140			
Aroclor-1260	0.83	0.10	mg/Kg	1.00		83.2	40-140			
Aroclor-1260 [2C]	0.87	0.10	mg/Kg	1.00		86.6	40-140			
Surrogate: Decachlorobiphenyl	*0.969*		mg/Kg	1.00		96.9	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.985*		mg/Kg	1.00		98.5	30-150			
Surrogate: Tetrachloro-m-xylene	*0.954*		mg/Kg	1.00		95.4	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.981*		mg/Kg	1.00		98.1	30-150			
LCS Dup (B359751-BSD1)				Prepared: 12/05/23 Analyzed: 12/06/23						
Aroclor-1016	0.78	0.10	mg/Kg	1.00		78.1	40-140	0.364	30	
Aroclor-1016 [2C]	0.92	0.10	mg/Kg	1.00		92.3	40-140	2.81	30	
Aroclor-1260	0.84	0.10	mg/Kg	1.00		84.3	40-140	1.25	30	
Aroclor-1260 [2C]	0.88	0.10	mg/Kg	1.00		87.5	40-140	1.04	30	
Surrogate: Decachlorobiphenyl	*0.972*		mg/Kg	1.00		97.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.985*		mg/Kg	1.00		98.5	30-150			
Surrogate: Tetrachloro-m-xylene	*0.937*		mg/Kg	1.00		93.7	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.958*		mg/Kg	1.00		95.8	30-150			

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B359751-BS1

Date(s) Analyzed: 12/06/2023 12/06/2023

Instrument ID (1): ECD11

Instrument ID (2): ECD11

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.78	
	2	0.000	0.000	0.000	0.90	14.3
Aroclor-1260	1	0.000	0.000	0.000	0.83	
	2	0.000	0.000	0.000	0.87	4.7

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B359751-BSD1 Date(s) Analyzed: 12/06/2023 12/06/2023

Instrument ID (1): ECD11 Instrument ID (2): ECD11

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.78	
	2	0.000	0.000	0.000	0.92	16.5
Aroclor-1260	1	0.000	0.000	0.000	0.84	
	2	0.000	0.000	0.000	0.88	4.7

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level

Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.

No results have been blank subtracted unless specified in the case narrative section.

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8082A in Product/Solid	
Aroclor-1016	CT,NH,NY,ME,NC,VA,PA
Aroclor-1016 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1262	NY,NC,VA,PA
Aroclor-1262 [2C]	NY,NC,VA,PA
Aroclor-1268	NY,NC,VA,PA
Aroclor-1268 [2C]	NY,NC,VA,PA

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2024
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2024
NC	North Carolina Div. of Water Quality	652	12/31/2023
ME	State of Maine	MA00100	06/9/2025
VA	Commonwealth of Virginia	460217	12/14/2023
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2024

23L0356 RT

Pace Analytical

Phone: 413-525-2332
Fax: 413-525-6405
http://www.pacelabs.com
39 Spruce Street
East Longmeadow, MA 01028

Access COC's and Support Requests

CHAIN OF CUSTODY RECORD

Doc # 381 Rev 5_07/13/2021

Company Name:	Nobis Group
Address:	18 Chenell Drive, Concord NH
Phone:	
Project Name:	St. Johnsbury Armory
Project Location:	St. Johnsbury VT
Project Number:	50000.017
Project Manager:	Tim Andrews
Pace Quote Name/Number:	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time			
7-Day	☐	10-Day	☐
PFAS 10-Day (std)	☐	Due Date:	12/8

Rush-Approval Required			
1-Day	☐	3-Day	☒
2-Day	☐	4-Day	☐

Dissolved Metals Samples	
○	Field Filtered
○	Lab to Filter

Orthophosphate Samples	
○	Field Filtered
○	Lab to Filter

Data Delivery

Format: PDF ☒ EXCEL ☒
Other: EQuIS EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

PCB ONLY
SOXHLET ☒
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet												[2] Preservation Code
1	P-332-Ex	12/3/23	10:30	G	SOL	U		1				✓												
2	P-333-Ex	↓	10:50	G	SOL	U		1				✓												
3	P-334-Ex	↓	11:15	G	SOL	U		1				✓												

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N
*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)		Date/Time: 12/4/23 13:20
Received by: (signature)		Date/Time: 12/4/23 1320
Relinquished by: (signature)		Date/Time: 12/4/23 17:20
Received by: (signature)	3.8	Date/Time: 12/4 1720
Relinquished by: (signature)		Date/Time:
Received by: (signature)		Date/Time:
Relinquished by: (signature)		Date/Time:
Received by: (signature)		Date/Time:

Client Comments:

Detection Limit Requirements	
MA	
CT	
Other:	

Special Requirements	
☐	MA MCP Required
	MCP Certification Form Required
☐	CT RCP Required
	RCP Certification Form Required
☐	MA State DW Required
PWSID #	

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government	☐	Municipality	☐	MWRA	☐	WRTA	☐
Federal	☐	21 J	☐	School	☐		
City	☐	Brownfield	☐	MBTA	☐		

Other
☐ Chromatogram
☐ AIHA-LAP,LLC

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist
	Effective Date: 07/13/2023

Log In Back-Sheet

Client: Nobis (NH)

Project: St. Johnsbury Armory

MCP/RCP Required: no

Deliverable Package Requirement: none

Location: St. Johnsbury, VT

PWSID# (When Applicable): n/a

Arrival Method:

Courier ☑ Fed Ex ☐ Walk In ☐ Other ☐

Received By / Date / Time: Mcm 12/4/23 1320

Back-Sheet By / Date / Time: Mcm 12/4/23 1355

Temperature Method: Gun # 5

Temp < 6° C Actual Temperature: 3.8

Rush Samples: Yes / No Notify: Yes Ext. Teams

Short Hold: Yes / No Notify: No

Notes regarding Samples/COC outside of SOP:

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy) Any False statement will be brought to the attention of the Client – True or False

	True	False
Received on Ice	☑	☐
Received in Cooler	☑	☐
Custody Seal: DATE TIME	☐	☑
COC Relinquished	☑	☐
COC/Samples Labels Agree	☑	☐
All Samples in Good Condition	☑	☐
Samples Received within Holding Time	☑	☐
Is there enough Volume	☑	☐
Proper Media/Container Used	☑	☐
Splitting Samples Required	☐	☑
MS/MSD	☐	☑
Trip Blanks	☐	☑
Lab to Filters	☐	☑
COC Legible	☑	☐

COC Included: (Check all included)

Client ☑ Analysis ☑ Sampler Name ☑

Project ☑ IDs ☑ Collection Date/Time ☑

All Samples Proper pH: (N/A) ☐ ☐

Additional Container Notes

Note: West Virginia requires all samples to have their temperature taken. Note any outliers.

Qualtrax ID: 120836

Sample			
16oz Amb/Clear	Soils Jars (Circle Amb/Clear)		
8oz Amb/Clear			
4oz Amb/Clear			
2oz Amb/Clear			
Unpreserved	Ambers	1 Liter	
HCL			
Sulfuric			
Sulfuric		250mL	
Phosphoric			
HCl			
Unpreserved		100mL	
Unpreserved	Plastics	1 Liter	
Sulfuric			
Unpreserved		500mL	
Sulfuric			
Unpreserved		250mL	
Trizma			
Sulfuric			
Nitric			
NaOH			
Ammonium Acetate			
NaOH/Zinc			
Unpreserved	VOA Vials		
HCl			
MeOH			
D.I. Water			
BiSulfate			
Col/Bact	Other / Fill in		

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

November 13, 2023

Tim Andrews
Nobis Engineering
585 Middlesex Street
Lowell, MA 01851

Project Location: St. Johnsbury, VT
Client Job Number:
Project Number: S00001.017
Laboratory Work Order Number: 23J4095

Enclosed are results of analyses for samples as received by the laboratory on October 31, 2023. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Rebecca Faust
Project Manager

Table of Contents

Sample Summary 3

Case Narrative 4

Sample Results 5

23J4095-01 5

23J4095-02 6

23J4095-03 7

23J4095-04 8

23J4095-05 9

23J4095-06 10

Sample Preparation Information 11

QC Data 12

TCLP - Metals Analyses 12

B357667 12

Flag/Qualifier Summary 13

Certifications 14

Chain of Custody/Sample Receipt 15

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Nobis Engineering
585 Middlesex Street
Lowell, MA 01851
ATTN: Tim Andrews

REPORT DATE: 11/13/2023

PURCHASE ORDER NUMBER:

PROJECT NUMBER: S00001.017

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23J4095

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: St. Johnsbury, VT

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
WC-Lead-Comp-1	23J4095-01	Paint		SW-846 6010D	
WC-Lead-Comp-2	23J4095-02	Paint		SW-846 6010D	
WC-Lead-Comp-3	23J4095-03	Paint		SW-846 6010D	
WC-Lead-Comp-4	23J4095-04	Paint		SW-846 6010D	
WC-Lead-Comp-5	23J4095-05	Paint		SW-846 6010D	
WC-Lead-Comp-Field Dup	23J4095-06	Paint		SW-846 6010D	

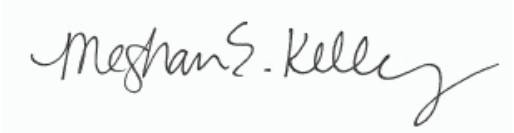
con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Meghan E. Kelley
Reporting Specialist

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23J4095

Date Received: 10/31/2023

Field Sample #: WC-Lead-Comp-1 | Sampled: 10/25/2023 10:10

Sample ID: 23J4095-01

Sample Matrix: Paint

TCLP - Metals Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Lead	5.7	0.10	mg/L	1		SW-846 6010D	11/9/23	11/10/23 17:39	MJH

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23J4095

Date Received: 10/31/2023

Field Sample #: WC-Lead-Comp-2 | Sampled: 10/25/2023 10:15

Sample ID: 23J4095-02

Sample Matrix: Paint

TCLP - Metals Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Lead	15	0.10	mg/L	1		SW-846 6010D	11/9/23	11/10/23 17:47	MJH

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23J4095

Date Received: 10/31/2023

Field Sample #: WC-Lead-Comp-3 | Sampled: 10/25/2023 10:25

Sample ID: 23J4095-03

Sample Matrix: Paint

TCLP - Metals Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Lead	28	0.10	mg/L	1		SW-846 6010D	11/9/23	11/10/23 17:55	MJH

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23J4095

Date Received: 10/31/2023

Field Sample #: WC-Lead-Comp-4 | Sampled: 10/25/2023 10:35

Sample ID: 23J4095-04

Sample Matrix: Paint

TCLP - Metals Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Lead	0.21	0.10	mg/L	1		SW-846 6010D	11/9/23	11/10/23 18:03	MJH

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23J4095

Date Received: 10/31/2023

Field Sample #: WC-Lead-Comp-5 | Sampled: 10/25/2023 10:45

Sample ID: 23J4095-05

Sample Matrix: Paint

TCLP - Metals Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Lead	0.63	0.10	mg/L	1		SW-846 6010D	11/9/23	11/10/23 18:11	MJH

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT Sample Description: Work Order: 23J4095

Date Received: 10/31/2023

Field Sample #: WC-Lead-Comp-Field Dup Sampled: 10/25/2023 10:50

Sample ID: 23J4095-06

Sample Matrix: Paint

TCLP - Metals Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Lead	0.99	0.10	mg/L	1		SW-846 6010D	11/9/23	11/10/23 18:18	MJH

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method:SW-846 3010A **Analytical Method:SW-846 6010D** **Leachates were extracted on 11/8/2023 per SW-846 1311 in Batch B357517**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
23J4095-01 [WC-Lead-Comp-1]	B357667	50.0	50.0	11/09/23
23J4095-02 [WC-Lead-Comp-2]	B357667	50.0	50.0	11/09/23
23J4095-03 [WC-Lead-Comp-3]	B357667	50.0	50.0	11/09/23
23J4095-04 [WC-Lead-Comp-4]	B357667	50.0	50.0	11/09/23
23J4095-05 [WC-Lead-Comp-5]	B357667	50.0	50.0	11/09/23
23J4095-06 [WC-Lead-Comp-Field Dup]	B357667	50.0	50.0	11/09/23

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

TCLP - Metals Analyses - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B357667 - SW-846 3010A										
Blank (B357667-BLK1)				Prepared: 11/09/23 Analyzed: 11/10/23						
Lead	ND	0.10	mg/L							
LCS (B357667-BS1)				Prepared: 11/09/23 Analyzed: 11/10/23						
Lead	0.485	0.10	mg/L	0.500		96.9	80-120			
LCS Dup (B357667-BSD1)				Prepared: 11/09/23 Analyzed: 11/10/23						
Lead	0.475	0.10	mg/L	0.500		95.0	80-120	1.98	20	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level

Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.

No results have been blank subtracted unless specified in the case narrative section.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 6010D in Soil	
Lead	NY,CT,ME,NC,NH,VA
SW-846 6010D in Water	
Lead	NY,CT,ME,NC,NH,VA

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2024
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2024
NC	North Carolina Div. of Water Quality	652	12/31/2023
ME	State of Maine	MA00100	06/9/2025
VA	Commonwealth of Virginia	460217	12/14/2023

23J4095 RF

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	John Maddigan

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☐
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	TCLP Lead
1	WC-Lead-Comp-1	10/25/2023	10:10	COMP	O	U		1				x
2	WC-Lead-Comp-2	10/25/2023	10:15	COMP	O	U		1				x
3	WC-Lead-Comp-3	10/25/2023	10:25	COMP	O	U		1				x
4	WC-Lead-Comp-4	10/25/2023	10:35	COMP	O	U		1				x
5	WC-Lead-Comp-5	10/25/2023	10:45	COMP	O	U		1				x
6	WC-Lead-Comp-Field Dup	10/25/2023	10:50	COMP	O	U		1				x

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N

Glassware in freezer? Y / N

Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time: 10/27/23 4:30PM	Client Comments:
Received by: (signature)	Date/Time: 10/31/23 1432	
Relinquished by: (signature)	Date/Time: 10/31/23 1912	
Received by: (signature)	Date/Time: 10/31/23 1912	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Detection Limit Requirements
MA
CT
Other

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist
	Effective Date: 07/13/2023

Log In Back-Sheet

Client NobisS

Project St. Johnsbury Armory

MCP/RCP Required no

Deliverable Package Requirement none

Location St. Johnsbury, VT

PWSID# (When Applicable) n/a

Arrival Method:

Courier ☑ Fed Ex ☐ Walk In ☐ Other ☐

Received By / Date / Time Mcm 10/31/23 1916

Back-Sheet By / Date / Time Mcm 10/31/23 2157

Temperature Method Gun # 4

Temp < 6° C Actual Temperature 3.6

Rush Samples: Yes / No Notify No

Short Hold: Yes / No Notify No

Notes regarding Samples/COC outside of SOP:

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy) Any False statement will be brought to the attention of the Client – True or False

	True	False
Received on Ice	☑	☐
Received in Cooler	☑	☐
Custody Seal: DATE TIME	☐	☑
COC Relinquished	☑	☐
COC/Samples Labels Agree	☑	☐
All Samples in Good Condition	☑	☐
Samples Received within Holding Time	☑	☐
Is there enough Volume	☑	☐
Proper Media/Container Used	☑	☐
Splitting Samples Required	☐	☑
MS/MSD	☐	☑
Trip Blanks	☐	☑
Lab to Filters	☐	☑
COC Legible	☑	☐

COC Included: (Check all included)

Client	☑	Analysis	☑	Sampler Name	☑
Project	☑	IDs	☑	Collection Date/Time	☑

All Samples Proper pH: (N/A) ☐ ☐

Additional Container Notes

Note: West Virginia requires all samples to have their temperature taken. Note any outliers.

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist
	Effective Date: 07/13/2023

Sample			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
16oz Amb/Clear	Soils Jars (Circle Amb/Clear)																					
8oz Amb/Clear																						
4oz Amb/Clear			~	~	~	~	~	~														
2oz Amb/Clear																						
Unpreserved	Ambers	1 Liter																				
HCL																						
Sulfuric																						
Sulfuric		250mL																				
Phosphoric																						
HCl																						
Unpreserved		100mL																				
Unpreserved	Plastics	1 Liter																				
Sulfuric																						
Unpreserved		500mL																				
Sulfuric																						
Unpreserved		250mL																				
Trizma																						
Sulfuric																						
Nitric																						
NaOH																						
Ammonium Acetate																						
NaOH/Zinc																						
Unpreserved	VOA Vials																					
HCl																						
MeOH																						
D.I. Water																						
BiSulfate																						
Col/Bact	Other / Fill in																					

EMSL Analytical, Inc.

5 Constitution Way, Unit A Woburn, MA 01801

Tel/Fax: (781) 933-8411 / (781) 933-8412

http://www.EMSL.com / bostonlab@emsl.com

EMSL Order: 132305450
Customer ID: NOBI51
Customer PO:
Project ID:

Attention: Bridget Fortier
Nobis Engineering, Inc.
585 Middlesex Street
Lowell, MA 01851

Project: St. Johnsbury Armory

Phone: (978) 683-0891
Fax: (978) 683-0966
Received Date: 08/22/2023 2:55 PM
Analysis Date: 08/29/2023
Collected Date:

Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
A-001A-R22 *132305450-0001*	Room 22 - Yellow Mastic on Concrete	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-001B-R27 *132305450-0002*	Room 27 - Yellow Mastic on Concrete	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-002A-R10 *132305450-0003*	Room 10 - Cellotex Board	Brown Fibrous Homogeneous	95% Cellulose	5% Non-fibrous (Other)	None Detected
A-002B-R06 *132305450-0004*	Room 06 - Cellotex Board	Brown Fibrous Homogeneous	95% Cellulose	5% Non-fibrous (Other)	None Detected
A-003A-R10 *132305450-0005*	Room 10 - Thin Wall Panels	Brown/White Fibrous Homogeneous	85% Cellulose	15% Non-fibrous (Other)	None Detected
A-003B-R16 *132305450-0006*	Room 16 - Thin Wall Panels	Brown/White Fibrous Homogeneous	85% Cellulose	15% Non-fibrous (Other)	None Detected
A-004A-R23 *132305450-0007*	Room 23 - Tile Grout	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-004B-R23 *132305450-0008*	Room 23 - Tile Grout	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-005A-R14 *132305450-0009*	Room 14 - White Sub-Floor Plaster-like Filler	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-005B-R14 *132305450-0010*	Room 14 - White Sub-Floor Plaster-like Filler	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-006A-R5 *132305450-0011*	Room 5 - Gray Adhesive on Brown Paneling	Gray Non-Fibrous Homogeneous		95% Non-fibrous (Other)	5% Chrysotile
A-006B-R5 *132305450-0012*	Room 5 - Gray Adhesive on Brown Paneling				Positive Stop (Not Analyzed)
A-006C-R5 *132305450-0013*	Room 5 - Gray Adhesive on Brown Paneling				Positive Stop (Not Analyzed)
A-007A-R15 *132305450-0014*	Room 15 - Gray Battleship Linoleum	Gray/Black Fibrous Homogeneous	35% Cellulose	65% Non-fibrous (Other)	None Detected
A-007B-R15 *132305450-0015*	Room 15 - Gray Battleship Linoleum	Gray/Black Fibrous Homogeneous	35% Cellulose	65% Non-fibrous (Other)	None Detected
A-008A-R15 *132305450-0016*	Room 15 - Brown Mastic on Gray Battleship Linoleum	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Initial report from: 08/29/2023 14:49:48

EMSL Analytical, Inc.
5 Constitution Way, Unit A Woburn, MA 01801
Tel/Fax: (781) 933-8411 / (781) 933-8412
http://www.EMSL.com / bostonlab@emsl.com

EMSL Order: 132305450
Customer ID: NOBI51
Customer PO:
Project ID:

Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
A-008B-R15 *132305450-0017*	Room 15 - Brown Mastic on Gray Battleship Linoleum	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-009A-R23 *132305450-0018*	Room 23 - Ceramic Tile	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-009B-R23 *132305450-0019*	Room 23 - Ceramic Tile	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-010A-R23 *132305450-0020*	Room 23 - Ceramic Tile Thinset	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-010B-R23 *132305450-0021*	Room 23 - Ceramic Tile Thinset	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-011A-R34 *132305450-0022*	Room 34 - Leveling Compound	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-011B-R27 *132305450-0023*	Room 27 - Leveling Compound	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-011C-R27 *132305450-0024*	Room 27 - Leveling Compound	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-012A-R20 *132305450-0025*	Room 20 - Sprinkler Fitting Thread Sealant	Gray Non-Fibrous Homogeneous	2% Fibrous (Other)	98% Non-fibrous (Other)	None Detected
A-012B-R21 *132305450-0026*	Room 21 - Sprinkler Fitting Thread Sealant	Gray Non-Fibrous Homogeneous	2% Fibrous (Other)	98% Non-fibrous (Other)	None Detected
A-013A-R18 *132305450-0027*	Room 18 - Black Mastic	Black Non-Fibrous Homogeneous		90% Non-fibrous (Other)	10% Chrysotile
A-013B-R18 *132305450-0028*	Room 18 - Black Mastic				Positive Stop (Not Analyzed)
A-014A-R13 *132305450-0029*	Room 13 - Beige Mastic	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-014B-R14 *132305450-0030*	Room 14 - Beige Mastic	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-015A-R12 *132305450-0031*	Room 12 - Carpet Mastic	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-015B-R12 *132305450-0032*	Room 12 - Carpet Mastic	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-016A-R17 *132305450-0033*	Room 17 - Yellow Caulking	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-016B-R17 *132305450-0034*	Room 17 - Yellow Caulking	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-017A-R03 *132305450-0035*	Room 03 - Drywall	Brown/White Fibrous Homogeneous	15% Cellulose	85% Non-fibrous (Other)	None Detected

Initial report from: 08/29/2023 14:49:48

EMSL Analytical, Inc.
5 Constitution Way, Unit A Woburn, MA 01801
Tel/Fax: (781) 933-8411 / (781) 933-8412
http://www.EMSL.com / bostonlab@emsl.com

EMSL Order: 132305450
Customer ID: NOBI51
Customer PO:
Project ID:

Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
A-017B-R03 *132305450-0036*	Room 03 - Drywall	Brown/White Fibrous Homogeneous	15% Cellulose	85% Non-fibrous (Other)	None Detected
A-039A-R07 *132305450-0037*	Room 07 - Drywall	Brown/Gray Fibrous Homogeneous	15% Cellulose 2% Glass	83% Non-fibrous (Other)	None Detected
A-039B-R07 *132305450-0038*	Room 07 - Drywall	Brown/Gray Fibrous Homogeneous	15% Cellulose 2% Glass	83% Non-fibrous (Other)	None Detected
A-040A-R12 *132305450-0039*	Room 12 - Drywall	Brown/Gray Fibrous Homogeneous	15% Cellulose 2% Glass	83% Non-fibrous (Other)	None Detected
A-040B-R12 *132305450-0040*	Room 12 - Drywall	Brown/Gray Fibrous Homogeneous	15% Cellulose 2% Glass	83% Non-fibrous (Other)	None Detected
A-041A-R14 *132305450-0041*	Room 14 - Drywall	Brown/White Fibrous Homogeneous	15% Cellulose	85% Non-fibrous (Other)	None Detected
A-041B-R14 *132305450-0042*	Room 14 - Drywall	Brown/White Fibrous Homogeneous	15% Cellulose	85% Non-fibrous (Other)	None Detected
A-042A-R18 *132305450-0043*	Room 18 - Drywall	Brown/Gray Fibrous Homogeneous	15% Cellulose	85% Non-fibrous (Other)	None Detected
A-042B-R18 *132305450-0044*	Room 18 - Drywall	Brown/White Fibrous Homogeneous	15% Cellulose	85% Non-fibrous (Other)	None Detected
A-043A-R21 *132305450-0045*	Room 21 - Drywall	Brown/White Fibrous Homogeneous	15% Cellulose	85% Non-fibrous (Other)	None Detected
A-043B-R21 *132305450-0046*	Room 21 - Drywall	Brown/White Fibrous Homogeneous	15% Cellulose	85% Non-fibrous (Other)	None Detected
A-044A-R34 *132305450-0047*	Room 34 - Drywall	Brown/Gray Fibrous Homogeneous	15% Cellulose	85% Non-fibrous (Other)	None Detected
A-044B-R34 *132305450-0048*	Room 34 - Drywall	Brown/Gray Fibrous Homogeneous	15% Cellulose	85% Non-fibrous (Other)	None Detected
A-018A-N *132305450-0049*	Exterior - Brick Mortar	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-018B-W *132305450-0050*	Exterior - Brick Mortar	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-018C-S *132305450-0051*	Exterior - Brick Mortar	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-019A-R23 *132305450-0052*	Room 23 - Concrete Slab in Basement	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-019B-R37 *132305450-0053*	Room 37 - Concrete Slab in Basement	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-019C-R28 *132305450-0054*	Room 28 - Concrete Slab in Basement	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Initial report from: 08/29/2023 14:49:48

EMSL Analytical, Inc.
5 Constitution Way, Unit A Woburn, MA 01801
Tel/Fax: (781) 933-8411 / (781) 933-8412
http://www.EMSL.com / bostonlab@emsl.com

EMSL Order: 132305450
Customer ID: NOBI51
Customer PO:
Project ID:

Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
A-020A-R06 *132305450-0055*	Room 06 - Joint Compound	Tan Non-Fibrous Homogeneous		98% Non-fibrous (Other)	2% Chrysotile
A-020B-R06 *132305450-0056*	Room 06 - Joint Compound				Positive Stop (Not Analyzed)
A-035A-R07 *132305450-0057*	Room 07 - Joint Compound	Tan Non-Fibrous Homogeneous		98% Non-fibrous (Other)	2% Chrysotile
A-035B-R07 *132305450-0058*	Room 07 - Joint Compound				Positive Stop (Not Analyzed)
A-036A-R12 *132305450-0059*	Room 12 - Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-036B-R12 *132305450-0060*	Room 12 - Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-037A-R14 *132305450-0061*	Room 14 - Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-037B-R14 *132305450-0062*	Room 14 - Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-038A-R28 *132305450-0063*	Room 28 - Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-038B-R28 *132305450-0064*	Room 28 - Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-021A *132305450-0065*	Exterior - Flashing Caulk	Gray Non-Fibrous Homogeneous		98% Non-fibrous (Other)	2% Chrysotile
A-021B *132305450-0066*	Exterior - Flashing Caulk				Positive Stop (Not Analyzed)
A-021C *132305450-0067*	Exterior - Flashing Caulk				Positive Stop (Not Analyzed)
A-022A *132305450-0068*	Exterior - Silver Paint	Black/Silver Non-Fibrous Homogeneous		97% Non-fibrous (Other)	3% Chrysotile
A-022B *132305450-0069*	Exterior - Silver Paint				Positive Stop (Not Analyzed)
A-022C *132305450-0070*	Exterior - Silver Paint				Positive Stop (Not Analyzed)
A-023A *132305450-0071*	Exterior - White Caulk	Gray Non-Fibrous Homogeneous		98% Non-fibrous (Other)	2% Chrysotile
A-023B *132305450-0072*	Exterior - White Caulk				Positive Stop (Not Analyzed)
A-024A *132305450-0073*	Exterior - Light Gray Caulk	Gray Non-Fibrous Homogeneous		97% Non-fibrous (Other)	3% Chrysotile

Initial report from: 08/29/2023 14:49:48

EMSL Analytical, Inc.
5 Constitution Way, Unit A Woburn, MA 01801
Tel/Fax: (781) 933-8411 / (781) 933-8412
http://www.EMSL.com / bostonlab@emsl.com

EMSL Order: 132305450
Customer ID: NOBI51
Customer PO:
Project ID:

Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
A-024B *132305450-0074*	Exterior - Light Gray Caulk				Positive Stop (Not Analyzed)
A-025A *132305450-0075*	Exterior - Asphalt Shingle	Black Fibrous Homogeneous	35% Cellulose	65% Non-fibrous (Other)	None Detected
A-025B *132305450-0076*	Exterior - Asphalt Shingle	Black Fibrous Homogeneous	35% Cellulose	65% Non-fibrous (Other)	None Detected
A-026A *132305450-0077*	Exterior - Brown Roof Paper	Brown Fibrous Homogeneous	95% Cellulose	5% Non-fibrous (Other)	None Detected
A-026B *132305450-0078*	Exterior - Brown Roof Paper	Brown Fibrous Homogeneous	95% Cellulose	5% Non-fibrous (Other)	None Detected
A-045A *132305450-0079*	Exterior - Black Roof Paper	Black Fibrous Homogeneous	95% Cellulose	5% Non-fibrous (Other)	None Detected
A-045B *132305450-0080*	Exterior - Black Roof Paper	Black Fibrous Homogeneous	95% Cellulose	5% Non-fibrous (Other)	None Detected
A-027A *132305450-0081*	Exterior - Built-up Tar Paper	Black Non-Fibrous Homogeneous	25% Cellulose	65% Non-fibrous (Other)	10% Chrysotile
A-027B *132305450-0082*	Exterior - Built-up Tar Paper				Positive Stop (Not Analyzed)
A-028A *132305450-0083*	Exterior - Asphalt Layer	Black Non-Fibrous Homogeneous	10% Cellulose	84% Non-fibrous (Other)	6% Chrysotile
A-028B *132305450-0084*	Exterior - Asphalt Layer				Positive Stop (Not Analyzed)
A-029A *132305450-0085*	Exterior - Rubber Roofing Membrane	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-029B *132305450-0086*	Exterior - Rubber Roofing Membrane	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-030A *132305450-0087*	Exterior - Fiberboard	Brown/Black Fibrous Homogeneous	90% Cellulose	10% Non-fibrous (Other)	None Detected
A-030B *132305450-0088*	Exterior - Fiberboard	Brown/Black Fibrous Homogeneous	90% Cellulose	10% Non-fibrous (Other)	None Detected
A-031A *132305450-0089*	Exterior - Rubber Roofing Patch Adhesive	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-031B *132305450-0090*	Exterior - Rubber Roofing Patch Adhesive	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-031C *132305450-0091*	Exterior - Rubber Roofing Patch Adhesive	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-032A *132305450-0092*	Gym - Ceiling Panels	Brown/Tan Fibrous Homogeneous	99% Cellulose	1% Non-fibrous (Other)	None Detected

Initial report from: 08/29/2023 14:49:48

EMSL Analytical, Inc.
5 Constitution Way, Unit A Woburn, MA 01801
Tel/Fax: (781) 933-8411 / (781) 933-8412
http://www.EMSL.com / bostonlab@emsl.com

EMSL Order: 132305450
Customer ID: NOBI51
Customer PO:
Project ID:

Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
A-032B *132305450-0093*	Gym - Ceiling Panels	Brown/Tan Fibrous Homogeneous	99% Cellulose	1% Non-fibrous (Other)	None Detected
A-033A *132305450-0094*	Exterior - Gray Caulk	Gray/Black/Clear Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-033B *132305450-0095*	Exterior - Gray Caulk	Gray/Black/Clear Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-034A *132305450-0096*	Exterior - Built-up Roofing	Black Fibrous Homogeneous	35% Cellulose	63% Non-fibrous (Other)	2% Chrysotile
A-034B *132305450-0097*	Exterior - Built-up Roofing				Positive Stop (Not Analyzed)

Analyst(s)
Ava Kopellas (12)
John McCarthy (71)

Steve Grise, Laboratory Manager
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 “Interim Method”) but augmented with procedures outlined in the 1993 (”final”) version of the method. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Analytical, Inc. Woburn, MA NVLAP Lab Code 101147-0, CT PH-0315, MA AA000188, RI AAL-139, VT AL998919, ME LB-0039

Initial report from: 08/29/2023 14:49:48

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

November 13, 2023

Tim Andrews
Nobis Engineering
585 Middlesex Street
Lowell, MA 01851

Project Location: St. Johnsbury, VT
Client Job Number:
Project Number: S00001.017
Laboratory Work Order Number: 23K0792

Enclosed are results of analyses for samples as received by the laboratory on November 6, 2023. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Rebecca Faust
Project Manager

Table of Contents

Sample Summary 3

Case Narrative 4

Sample Results 5

23K0792-01 5

23K0792-14 7

Sample Preparation Information 9

QC Data 10

Polychlorinated Biphenyls with 3540 Soxhlet Extraction 10

B357360 10

Dual Column RPD Report 11

Flag/Qualifier Summary 13

Certifications 14

Chain of Custody/Sample Receipt 15

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Nobis Engineering
585 Middlesex Street
Lowell, MA 01851
ATTN: Tim Andrews

REPORT DATE: 11/13/2023

PURCHASE ORDER NUMBER:

PROJECT NUMBER: S00001.017

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23K0792

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: St. Johnsbury, VT

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
P-305-Ex-000.5	23K0792-01	Soil		SM 2540G	
				SW-846 8082A	
P-305-Ex-0.501	23K0792-02	Soil		-	
P-305-Ex-0101.5	23K0792-03	Soil		-	
P-305-Ex-01.502	23K0792-04	Soil		-	
P-305-Ex-0202.5	23K0792-05	Soil		-	
P-305-Ex-02.503	23K0792-06	Soil		-	
P-305-Ex-0303.5	23K0792-07	Soil		-	
P-305-Ex-03.504	23K0792-08	Soil		-	
P-305-Ex-0404.5	23K0792-09	Soil		-	
P-305-Ex-04.505	23K0792-10	Soil		-	
P-305-Ex-0506	23K0792-11	Soil		-	
P-305-Ex-0607	23K0792-12	Soil		-	
P-305-Ex-0708	23K0792-13	Soil		-	
P-306-Ex-000.5	23K0792-14	Soil		SM 2540G	
				SW-846 8082A	
P-306-Ex-0.501	23K0792-15	Soil		-	
P-306-Ex-0101.5	23K0792-16	Soil		-	
P-306-Ex-01.502	23K0792-17	Soil		-	
P-306-Ex-0202.5	23K0792-18	Soil		-	
P-306-Ex-02.503	23K0792-19	Soil		-	
P-306-Ex-0303.5	23K0792-20	Soil		-	

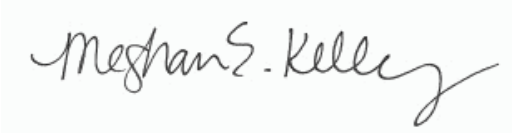
con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Meghan E. Kelley
Reporting Specialist

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K0792

Date Received: 11/6/2023

Field Sample #: P-305-Ex-000.5 | Sampled: 11/1/2023 09:00

Sample ID: 23K0792-01

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 12:07	SFM
Aroclor-1221 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 12:07	SFM
Aroclor-1232 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 12:07	SFM
Aroclor-1242 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 12:07	SFM
Aroclor-1248 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 12:07	SFM
Aroclor-1254 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 12:07	SFM
Aroclor-1260 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 12:07	SFM
Aroclor-1262 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 12:07	SFM
Aroclor-1268 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 12:07	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	84.0	30-150		11/10/23 12:07
Decachlorobiphenyl [2]	87.9	30-150		11/10/23 12:07
Tetrachloro-m-xylene [1]	97.1	30-150		11/10/23 12:07
Tetrachloro-m-xylene [2]	89.8	30-150		11/10/23 12:07

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K0792

Date Received: 11/6/2023

Field Sample #: P-305-Ex-000.5 | Sampled: 11/1/2023 09:00

Sample ID: 23K0792-01

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	91.2		% Wt	1		SM 2540G	11/7/23	11/7/23 9:05	DV

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K0792

Date Received: 11/6/2023

Field Sample #: P-306-Ex-000.5 | Sampled: 11/1/2023 09:30

Sample ID: 23K0792-14

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.078	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 12:24	SFM
Aroclor-1221 [1]	ND	0.078	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 12:24	SFM
Aroclor-1232 [1]	ND	0.078	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 12:24	SFM
Aroclor-1242 [1]	ND	0.078	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 12:24	SFM
Aroclor-1248 [1]	ND	0.078	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 12:24	SFM
Aroclor-1254 [1]	ND	0.078	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 12:24	SFM
Aroclor-1260 [1]	ND	0.078	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 12:24	SFM
Aroclor-1262 [1]	ND	0.078	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 12:24	SFM
Aroclor-1268 [1]	ND	0.078	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 12:24	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	80.1	30-150		11/10/23 12:24
Decachlorobiphenyl [2]	81.7	30-150		11/10/23 12:24
Tetrachloro-m-xylene [1]	94.5	30-150		11/10/23 12:24
Tetrachloro-m-xylene [2]	87.8	30-150		11/10/23 12:24

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K0792

Date Received: 11/6/2023

Field Sample #: P-306-Ex-000.5 | Sampled: 11/1/2023 09:30

Sample ID: 23K0792-14

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	95.6		% Wt	1		SM 2540G	11/7/23	11/7/23 9:05	DV

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method:% Solids **Analytical Method:SM 2540G**

Lab Number [Field ID]	Batch	Date
23K0792-01 [P-305-Ex-000.5]	B357371	11/07/23
23K0792-14 [P-306-Ex-000.5]	B357371	11/07/23

Prep Method:SW-846 3540C **Analytical Method:SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23K0792-01 [P-305-Ex-000.5]	B357360	10.5	10.0	11/07/23
23K0792-14 [P-306-Ex-000.5]	B357360	10.7	10.0	11/07/23

con-test® A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B357360 - SW-846 3540C										
Blank (B357360-BLK1)				Prepared: 11/07/23 Analyzed: 11/09/23						
Aroclor-1016	ND	0.020	mg/Kg wet							
Aroclor-1016 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1221	ND	0.020	mg/Kg wet							
Aroclor-1221 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1232	ND	0.020	mg/Kg wet							
Aroclor-1232 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1242	ND	0.020	mg/Kg wet							
Aroclor-1242 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1248	ND	0.020	mg/Kg wet							
Aroclor-1248 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1254	ND	0.020	mg/Kg wet							
Aroclor-1254 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1260	ND	0.020	mg/Kg wet							
Aroclor-1260 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1262	ND	0.020	mg/Kg wet							
Aroclor-1262 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1268	ND	0.020	mg/Kg wet							
Aroclor-1268 [2C]	ND	0.020	mg/Kg wet							
Surrogate: Decachlorobiphenyl	*0.171*		mg/Kg wet	0.200		85.4	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.183*		mg/Kg wet	0.200		91.5	30-150			
Surrogate: Tetrachloro-m-xylene	*0.184*		mg/Kg wet	0.200		92.0	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.183*		mg/Kg wet	0.200		91.3	30-150			
LCS (B357360-BS1)				Prepared: 11/07/23 Analyzed: 11/09/23						
Aroclor-1016	0.15	0.020	mg/Kg wet	0.200		75.6	40-140			
Aroclor-1016 [2C]	0.16	0.020	mg/Kg wet	0.200		79.8	40-140			
Aroclor-1260	0.15	0.020	mg/Kg wet	0.200		75.1	40-140			
Aroclor-1260 [2C]	0.16	0.020	mg/Kg wet	0.200		81.7	40-140			
Surrogate: Decachlorobiphenyl	*0.173*		mg/Kg wet	0.200		86.5	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.186*		mg/Kg wet	0.200		93.2	30-150			
Surrogate: Tetrachloro-m-xylene	*0.184*		mg/Kg wet	0.200		92.0	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.181*		mg/Kg wet	0.200		90.7	30-150			
LCS Dup (B357360-BSD1)				Prepared: 11/07/23 Analyzed: 11/09/23						
Aroclor-1016	0.15	0.020	mg/Kg wet	0.200		76.0	40-140	0.541	30	
Aroclor-1016 [2C]	0.16	0.020	mg/Kg wet	0.200		80.1	40-140	0.347	30	
Aroclor-1260	0.15	0.020	mg/Kg wet	0.200		75.5	40-140	0.556	30	
Aroclor-1260 [2C]	0.17	0.020	mg/Kg wet	0.200		82.6	40-140	0.996	30	
Surrogate: Decachlorobiphenyl	*0.174*		mg/Kg wet	0.200		86.9	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.188*		mg/Kg wet	0.200		94.0	30-150			
Surrogate: Tetrachloro-m-xylene	*0.185*		mg/Kg wet	0.200		92.7	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.183*		mg/Kg wet	0.200		91.6	30-150			

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B357360-BS1

Date(s) Analyzed: 11/09/2023 11/09/2023

Instrument ID (1): ECD 9

Instrument ID (2): ECD 9

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.16	6.5
Aroclor-1260	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.16	6.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B357360-BSD1 Date(s) Analyzed: 11/09/2023 11/09/2023

Instrument ID (1): ECD 9 Instrument ID (2): ECD 9

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.16	6.5
Aroclor-1260	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.17	12.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level

Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.

No results have been blank subtracted unless specified in the case narrative section.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8082A in Soil	
Aroclor-1016	CT,NH,NY,ME,NC,VA,PA
Aroclor-1016 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1262	NY,NC,VA,PA
Aroclor-1262 [2C]	NY,NC,VA,PA
Aroclor-1268	NY,NC,VA,PA
Aroclor-1268 [2C]	NY,NC,VA,PA

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2024
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2024
NC	North Carolina Div. of Water Quality	652	12/31/2023
ME	State of Maine	MA00100	06/9/2025
VA	Commonwealth of Virginia	460217	12/14/2023
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2024

23K0792 RF

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344
https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
1	P-305-Ex-000.5	11/1/2023	9:00			U		1				X
2	P-305-Ex-0.501	11/1/2023	9:01			U		1				H
3	P-305-Ex-0101.5	11/1/2023	9:02			U		1				H
4	P-305-Ex-01.502	11/1/2023	9:03			U		1				H
5	P-305-Ex-0202.5	11/1/2023	9:04			U		1				H
6	P-305-Ex-02.503	11/1/2023	9:05			U		1				H
7	P-305-Ex-0303.5	11/1/2023	9:06			U		1				H
8	P-305-Ex-03.504	11/1/2023	9:07			U		1				H
9	P-305-Ex-0404.5	11/1/2023	9:08			U		1				H
10	P-305-Ex-04.505	11/1/2023	9:09			U		1				H

[2] Preservation Code
Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N (6)
Glassware in freezer? Y / N (3)
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time: 11/6/23 1157	
Received by: (signature)	Date/Time: 11/6/23 1157	
Relinquished by: (signature)	Date/Time: 11/6/23 1630	
Received by: (signature)	Date/Time: 11/6/23 1820	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
GT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

23K0792 RF

Pace Analytical

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

ANALYSIS REQUESTED

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction	
11	P-305-Ex-0506	11/1/2023	9:10			U		1				H	
12	P-305-Ex-0607	11/1/2023	9:11			U		1				H	
13	P-305-Ex-0708	11/1/2023	9:12			U		1				H	
14	P-306-Ex-000.5	11/1/2023	9:30			U		1				X	
15	P-306-Ex-0.501	11/1/2023	9:31			U		1				H	
16	P-306-Ex-0101.5	11/1/2023	9:32			U		1				H	
17	P-306-Ex-01.502	11/1/2023	9:33			U		1				H	
18	P-306-Ex-0202.5	11/1/2023	9:34			U		1				H	
19	P-306-Ex-02.503	11/1/2023	9:35			U		1				H	
20	P-306-Ex-0303.5	11/1/2023	9:36			U		3				H	

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[2] Preservation Code

Relinquished by: (signature)	Date/Time: 11/6/23 1157	Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.
Received by: (signature)	Date/Time: 11/6/23 1157	
Relinquished by: (signature)	Date/Time: 11/6/23 1630	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

NELAC and AIHA-LAP, LLC Accredited
Other
☐ Chromatogram
☐ AIHA-LAP,LLC

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist
	Effective Date: 07/13/2023

Log In Back-Sheet

Client NobisGroup

Project St Johnsbury Armory

MCP/RCP Required N/A

Deliverable Package Requirement N/A

Location St. Johnsbury, VT

PWSID# (When Applicable) N/A

Arrival Method:

Courier ☒ Fed Ex ☐ Walk In ☐ Other ☐

Received By / Date / Time MEM 11/6/23 1630

Back-Sheet By / Date / Time STM 11/6/23 1454

Temperature Method Gun # 4

Temp ☒ < 6° C Actual Temperature 2.5

Rush Samples: Yes / (No) Notify

Short Hold: Yes (No) Notify

Notes regarding Samples/COC outside of SOP:

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy) Any False statement will be brought to the attention of the Client – True or False

	True	False
Received on Ice	☒	☐
Received in Cooler	☒	☐
Custody Seal: DATE TIME	☐	☒
COC Relinquished	☒	☐
COC/Samples Labels Agree	☒	☐
All Samples in Good Condition	☒	☐
Samples Received within Holding Time	☒	☐
Is there enough Volume	☒	☐
Proper Media/Container Used	☒	☐
Splitting Samples Required	☐	☒
MS/MSD	☒	☐
Trip Blanks	☐	☒
Lab to Filters	☐	☒
COC Legible	☒	☐

COC Included: (Check all included)

Client ☒ Analysis ☒ Sampler Name ☒

Project ☒ IDs ☒ Collection Date/Time ☒

All Samples Proper pH: (N/A) ☐ ☐

Additional Container Notes

Note: West Virginia requires all samples to have their temperature taken. Note any outliers.

Sample			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
16oz Amb/Clear	Soils Jars (Circle Amb/Clear)																					
8oz Amb/Clear																						
4oz Amb/Clear			→																	(3)	–	←
2oz Amb/Clear																						
Unpreserved	Ambers	1 Liter																				
HCL																						
Sulfuric																						
Sulfuric		250mL																				
Phosphoric																						
HCl																						
Unpreserved		100mL																				
Unpreserved	Plastics	1 Liter																				
Sulfuric																						
Unpreserved		500mL																				
Sulfuric																						
Unpreserved		250mL																				
Trizma																						
Sulfuric																						
Nitric																						
NaOH																						
Ammonium Acetate																						
NaOH/Zinc																						
Unpreserved	VOA Vials																					
HCl																						
MeOH																						
D.I. Water																						
BiSulfate																						
Col/Bact	Other / Fill in																					

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

November 13, 2023

Tim Andrews
Nobis Engineering
585 Middlesex Street
Lowell, MA 01851

Project Location: St. Johnsbury, VT
Client Job Number:
Project Number: S00001.017
Laboratory Work Order Number: 23K0793

Enclosed are results of analyses for samples as received by the laboratory on November 6, 2023. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Rebecca Faust
Project Manager

Table of Contents

Sample Summary 3

Case Narrative 4

Sample Results 5

23K0793-07 5

23K0793-20 7

Sample Preparation Information 9

QC Data 10

Polychlorinated Biphenyls with 3540 Soxhlet Extraction 10

B357360 10

Dual Column RPD Report 11

Flag/Qualifier Summary 14

Certifications 15

Chain of Custody/Sample Receipt 16

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Nobis Engineering
585 Middlesex Street
Lowell, MA 01851
ATTN: Tim Andrews

REPORT DATE: 11/13/2023

PURCHASE ORDER NUMBER:

PROJECT NUMBER: S00001.017

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23K0793

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: St. Johnsbury, VT

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
P-306-Ex-03.504	23K0793-01	Soil		-	
P-306-Ex-0404.5	23K0793-02	Soil		-	
P-306-Ex-4.505	23K0793-03	Soil		-	
P-306-Ex-0506	23K0793-04	Soil		-	
P-306-Ex-0607	23K0793-05	Soil		-	
P-306-Ex-0708	23K0793-06	Soil		-	
P-307-Ex-000.5	23K0793-07	Soil		SM 2540G	
				SW-846 8082A	
P-307-Ex-0.501	23K0793-08	Soil		-	
P-307-Ex-0101.5	23K0793-09	Soil		-	
P-307-Ex-01.502	23K0793-10	Soil		-	
P-307-Ex-0202.5	23K0793-11	Soil		-	
P-307-Ex-2.503	23K0793-12	Soil		-	
P-307-Ex-0303.5	23K0793-13	Soil		-	
P-307-Ex-03.504	23K0793-14	Soil		-	
P-307-Ex-0404.5	23K0793-15	Soil		-	
P-307-Ex-04.505	23K0793-16	Soil		-	
P-307-Ex-0506	23K0793-17	Soil		-	
P-307-Ex-0607	23K0793-18	Soil		-	
P-307-Ex-0708	23K0793-19	Soil		-	
P-308-Ex-000.5	23K0793-20	Soil		SM 2540G	
				SW-846 8082A	

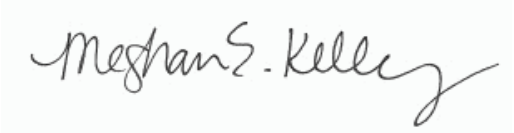
con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Meghan E. Kelley
Reporting Specialist

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K0793

Date Received: 11/6/2023

Field Sample #: P-307-Ex-000.5 | Sampled: 11/1/2023 10:20

Sample ID: 23K0793-07

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.086	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 12:41	SFM
Aroclor-1221 [1]	ND	0.086	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 12:41	SFM
Aroclor-1232 [1]	ND	0.086	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 12:41	SFM
Aroclor-1242 [1]	ND	0.086	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 12:41	SFM
Aroclor-1248 [1]	ND	0.086	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 12:41	SFM
Aroclor-1254 [1]	ND	0.086	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 12:41	SFM
Aroclor-1260 [1]	ND	0.086	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 12:41	SFM
Aroclor-1262 [1]	ND	0.086	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 12:41	SFM
Aroclor-1268 [1]	ND	0.086	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 12:41	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	85.2	30-150		11/10/23 12:41
Decachlorobiphenyl [2]	87.6	30-150		11/10/23 12:41
Tetrachloro-m-xylene [1]	95.2	30-150		11/10/23 12:41
Tetrachloro-m-xylene [2]	88.3	30-150		11/10/23 12:41

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K0793

Date Received: 11/6/2023

Field Sample #: P-307-Ex-000.5 | Sampled: 11/1/2023 10:20

Sample ID: 23K0793-07

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	89.1		% Wt	1		SM 2540G	11/7/23	11/7/23 9:05	DV

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K0793

Date Received: 11/6/2023

Field Sample #: P-308-Ex-000.5 | Sampled: 11/1/2023 11:00

Sample ID: 23K0793-20

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.090	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 12:58	SFM
Aroclor-1221 [1]	ND	0.090	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 12:58	SFM
Aroclor-1232 [1]	ND	0.090	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 12:58	SFM
Aroclor-1242 [1]	ND	0.090	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 12:58	SFM
Aroclor-1248 [1]	ND	0.090	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 12:58	SFM
Aroclor-1254 [1]	0.22	0.090	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 12:58	SFM
Aroclor-1260 [1]	ND	0.090	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 12:58	SFM
Aroclor-1262 [1]	ND	0.090	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 12:58	SFM
Aroclor-1268 [1]	ND	0.090	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 12:58	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	84.6	30-150		11/10/23 12:58
Decachlorobiphenyl [2]	88.8	30-150		11/10/23 12:58
Tetrachloro-m-xylene [1]	98.6	30-150		11/10/23 12:58
Tetrachloro-m-xylene [2]	91.8	30-150		11/10/23 12:58

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K0793

Date Received: 11/6/2023

Field Sample #: P-308-Ex-000.5 | Sampled: 11/1/2023 11:00

Sample ID: 23K0793-20

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	88.9		% Wt	1		SM 2540G	11/7/23	11/7/23 9:05	DV

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method:% Solids **Analytical Method:SM 2540G**

Lab Number [Field ID]	Batch	Date
23K0793-07 [P-307-Ex-000.5]	B357371	11/07/23
23K0793-20 [P-308-Ex-000.5]	B357371	11/07/23

Prep Method:SW-846 3540C **Analytical Method:SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23K0793-07 [P-307-Ex-000.5]	B357360	10.4	10.0	11/07/23
23K0793-20 [P-308-Ex-000.5]	B357360	10.0	10.0	11/07/23

con-test® A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B357360 - SW-846 3540C										
Blank (B357360-BLK1)				Prepared: 11/07/23 Analyzed: 11/09/23						
Aroclor-1016	ND	0.020	mg/Kg wet							
Aroclor-1016 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1221	ND	0.020	mg/Kg wet							
Aroclor-1221 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1232	ND	0.020	mg/Kg wet							
Aroclor-1232 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1242	ND	0.020	mg/Kg wet							
Aroclor-1242 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1248	ND	0.020	mg/Kg wet							
Aroclor-1248 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1254	ND	0.020	mg/Kg wet							
Aroclor-1254 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1260	ND	0.020	mg/Kg wet							
Aroclor-1260 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1262	ND	0.020	mg/Kg wet							
Aroclor-1262 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1268	ND	0.020	mg/Kg wet							
Aroclor-1268 [2C]	ND	0.020	mg/Kg wet							
Surrogate: Decachlorobiphenyl	*0.171*		mg/Kg wet	0.200		85.4	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.183*		mg/Kg wet	0.200		91.5	30-150			
Surrogate: Tetrachloro-m-xylene	*0.184*		mg/Kg wet	0.200		92.0	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.183*		mg/Kg wet	0.200		91.3	30-150			
LCS (B357360-BS1)				Prepared: 11/07/23 Analyzed: 11/09/23						
Aroclor-1016	0.15	0.020	mg/Kg wet	0.200		75.6	40-140			
Aroclor-1016 [2C]	0.16	0.020	mg/Kg wet	0.200		79.8	40-140			
Aroclor-1260	0.15	0.020	mg/Kg wet	0.200		75.1	40-140			
Aroclor-1260 [2C]	0.16	0.020	mg/Kg wet	0.200		81.7	40-140			
Surrogate: Decachlorobiphenyl	*0.173*		mg/Kg wet	0.200		86.5	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.186*		mg/Kg wet	0.200		93.2	30-150			
Surrogate: Tetrachloro-m-xylene	*0.184*		mg/Kg wet	0.200		92.0	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.181*		mg/Kg wet	0.200		90.7	30-150			
LCS Dup (B357360-BSD1)				Prepared: 11/07/23 Analyzed: 11/09/23						
Aroclor-1016	0.15	0.020	mg/Kg wet	0.200		76.0	40-140	0.541	30	
Aroclor-1016 [2C]	0.16	0.020	mg/Kg wet	0.200		80.1	40-140	0.347	30	
Aroclor-1260	0.15	0.020	mg/Kg wet	0.200		75.5	40-140	0.556	30	
Aroclor-1260 [2C]	0.17	0.020	mg/Kg wet	0.200		82.6	40-140	0.996	30	
Surrogate: Decachlorobiphenyl	*0.174*		mg/Kg wet	0.200		86.9	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.188*		mg/Kg wet	0.200		94.0	30-150			
Surrogate: Tetrachloro-m-xylene	*0.185*		mg/Kg wet	0.200		92.7	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.183*		mg/Kg wet	0.200		91.6	30-150			

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-308-Ex-000.5

Lab Sample ID: 23K0793-20

Date(s) Analyzed: 11/10/2023 11/10/2023

Instrument ID (1): ECD 9

Instrument ID (2): ECD 9

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	-0.030	0.030	0.22	
	2	0.000	-0.030	0.030	0.20	9.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B357360-BS1 Date(s) Analyzed: 11/09/2023 11/09/2023

Instrument ID (1): ECD 9 Instrument ID (2): ECD 9

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.16	6.5
Aroclor-1260	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.16	6.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B357360-BSD1 Date(s) Analyzed: 11/09/2023 11/09/2023

Instrument ID (1): ECD 9 Instrument ID (2): ECD 9

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.16	6.5
Aroclor-1260	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.17	12.5

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level

Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.

No results have been blank subtracted unless specified in the case narrative section.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8082A in Soil	
Aroclor-1016	CT,NH,NY,ME,NC,VA,PA
Aroclor-1016 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1262	NY,NC,VA,PA
Aroclor-1262 [2C]	NY,NC,VA,PA
Aroclor-1268	NY,NC,VA,PA
Aroclor-1268 [2C]	NY,NC,VA,PA

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2024
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2024
NC	North Carolina Div. of Water Quality	652	12/31/2023
ME	State of Maine	MA00100	06/9/2025
VA	Commonwealth of Virginia	460217	12/14/2023
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2024

23K0793 RF

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time

7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction	[2] Preservation Code
1	P-306-Ex-03.504	11/1/2023	9:37			U		1				H	
2	P-306-Ex-0404.5	11/1/2023	9:38			U		1				H	
3	P-306-Ex-04.505	11/1/2023	9:39			U		1				H	
4	P-306-Ex-0506	11/1/2023	9:40			U		3				H	
5	P-306-Ex-0607	11/1/2023	9:41			U		1				H	
6	P-306-Ex-0708	11/1/2023	9:42			U		1				H	
7	P-307-Ex-000.5	11/1/2023	10:20			U		1				X	
8	P-307-Ex-0.501	11/1/2023	10:21			U		1				H	
9	P-307-Ex-0101.5	11/1/2023	10:22			U		1				H	
10	P-307-Ex-01.502	11/1/2023	10:23			U		1				H	

Courier Use Only

Total Number Of:

VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time: 11/6/23 1157
Received by: (signature)	Date/Time: 11/6/23 1157
Relinquished by: (signature)	Date/Time: 11/6/23 1630
Received by: (signature) 25, 28, 29	Date/Time: 11/6/23 1634
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

23K0793 RF

Pace Analytical

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time

7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction	[2] Preservation Code
11	P-307-Ex-0202.5	11/1/2023	10:24			U		1				H	
12	P-307-Ex-02.503	11/1/2023	10:25			U		1				H	
13	P-307-Ex-0303.5	11/1/2023	10:26			U		1				H	
14	P-307-Ex-03.504	11/1/2023	10:27			U		1				H	
15	P-307-Ex-0404.5	11/1/2023	10:28			U		1				H	
16	P-307-Ex-04.505	11/1/2023	10:29			U		1				H	
17	P-307-Ex-0506	11/1/2023	10:30			U		1				H	
18	P-307-Ex-0607	11/1/2023	10:31			U		1				H	
19	P-307-Ex-0708	11/1/2023	10:32			U		1				H	
20	P-308-Ex-000.5	11/1/2023	11:00			U		1				X	

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time: 11/6/23 1157	Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.
Received by: (signature)	Date/Time: 11/6/23 1157	
Relinquished by: (signature)	Date/Time: 11/6/23 1630	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist
	Effective Date: 07/13/2023

Log In Back-Sheet

Client NobisGroup

Project St Johnsbury Armory

MCP/RCP Required N/A

Deliverable Package Requirement N/A

Location St. Johnsbury, VT

PWSID# (When Applicable) N/A

Arrival Method:

Courier ☒ Fed Ex ☐ Walk In ☐ Other ☐

Received By / Date / Time MEM 11/6/23 1630

Back-Sheet By / Date / Time STM 11/6/23 2021

Temperature Method Gun # 4

Temp ☒ < 6° C Actual Temperature 2.5, 2.8, 2.9

Rush Samples: Yes (No) Notify

Short Hold: Yes (No) Notify

Notes regarding Samples/COC outside of SOP:

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy) Any False statement will be brought to the attention of the Client – True or False

	True	False
Received on Ice	☒	☐
Received in Cooler	☒	☐
Custody Seal: DATE TIME	☐	☒
COC Relinquished	☒	☐
COC/Samples Labels Agree	☒	☐
All Samples in Good Condition	☒	☐
Samples Received within Holding Time	☒	☐
Is there enough Volume	☒	☐
Proper Media/Container Used	☒	☐
Splitting Samples Required	☐	☒
MS/MSD	☒	☐
Trip Blanks	☐	☒
Lab to Filters	☐	☒
COC Legible	☒	☐

COC Included: (Check all included)

Client ☒ Analysis ☒ Sampler Name ☒

Project ☒ IDs ☒ Collection Date/Time ☒

All Samples Proper pH: (N/A) ☐ ☐

Additional Container Notes

Note: West Virginia requires all samples to have their temperature taken. Note any outliers.

Qualtrax ID: 120836

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist
	Effective Date: 07/13/2023

Sample			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
16oz Amb/Clear	Soils Jars (Circle Amb/Clear)																					
8oz Amb/Clear																						
4oz Amb/Clear			-	-	-	3	-	-	-												-	-
2oz Amb/Clear																						
Unpreserved	Ambers	1 Liter																				
HCL																						
Sulfuric																						
Sulfuric		250mL																				
Phosphoric																						
HCl																						
Unpreserved		100mL																				
Unpreserved	Plastics	1 Liter																				
Sulfuric																						
Unpreserved		500mL																				
Sulfuric																						
Unpreserved		250mL																				
Trizma																						
Sulfuric																						
Nitric																						
NaOH																						
Ammonium Acetate																						
NaOH/Zinc																						
Unpreserved	VOA Vials																					
HCl																						
MeOH																						
D.I. Water																						
BiSulfate																						
Col/Bact	Other / Fill in																					

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

November 13, 2023

Tim Andrews
Nobis Engineering
585 Middlesex Street
Lowell, MA 01851

Project Location: St. Johnsbury, VT
Client Job Number:
Project Number: S00001.017
Laboratory Work Order Number: 23K0794

Enclosed are results of analyses for samples as received by the laboratory on November 6, 2023. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Rebecca Faust
Project Manager

Table of Contents

Sample Summary 3

Case Narrative 4

Sample Results 5

23K0794-13 5

Sample Preparation Information 7

QC Data 8

Polychlorinated Biphenyls with 3540 Soxhlet Extraction 8

B357360 8

Dual Column RPD Report 9

Flag/Qualifier Summary 11

Certifications 12

Chain of Custody/Sample Receipt 13

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Nobis Engineering
585 Middlesex Street
Lowell, MA 01851
ATTN: Tim Andrews

REPORT DATE: 11/13/2023

PURCHASE ORDER NUMBER:

PROJECT NUMBER: S00001.017

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23K0794

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: St. Johnsbury, VT

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
P-308-Ex-0.501	23K0794-01	Soil		-	
P-308-Ex-0101.5	23K0794-02	Soil		-	
P-308-Ex-01.502	23K0794-03	Soil		-	
P-308-Ex-0202.5	23K0794-04	Soil		-	
P-308-Ex-02.503	23K0794-05	Soil		-	
P-308-Ex-0303.5	23K0794-06	Soil		-	
P-308-Ex-03.504	23K0794-07	Soil		-	
P-308-Ex-0404.5	23K0794-08	Soil		-	
P-308-Ex-04.505	23K0794-09	Soil		-	
P-308-Ex-0506	23K0794-10	Soil		-	
P-308-Ex-0607	23K0794-11	Soil		-	
P-308-Ex-0708	23K0794-12	Soil		-	
P-309-Ex-000.5	23K0794-13	Soil		SM 2540G	
				SW-846 8082A	
P-309-Ex-0.501	23K0794-14	Soil		-	
P-309-Ex-0101.5	23K0794-15	Soil		-	
P-309-Ex-01.502	23K0794-16	Soil		-	
P-309-Ex-0202.5	23K0794-17	Soil		-	
P-309-Ex-02.503	23K0794-18	Soil		-	
P-309-Ex-0303.5	23K0794-19	Soil		-	
P-309-Ex-03.504	23K0794-20	Soil		-	

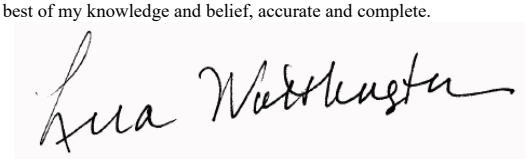
con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Lisa A. Worthington
Technical Representative

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K0794

Date Received: 11/6/2023

Field Sample #: P-309-Ex-000.5 | Sampled: 11/1/2023 11:50

Sample ID: 23K0794-13

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 13:15	SFM
Aroclor-1221 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 13:15	SFM
Aroclor-1232 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 13:15	SFM
Aroclor-1242 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 13:15	SFM
Aroclor-1248 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 13:15	SFM
Aroclor-1254 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 13:15	SFM
Aroclor-1260 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 13:15	SFM
Aroclor-1262 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 13:15	SFM
Aroclor-1268 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 13:15	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	84.6	30-150		11/10/23 13:15
Decachlorobiphenyl [2]	84.1	30-150		11/10/23 13:15
Tetrachloro-m-xylene [1]	82.7	30-150		11/10/23 13:15
Tetrachloro-m-xylene [2]	76.3	30-150		11/10/23 13:15

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K0794

Date Received: 11/6/2023

Field Sample #: P-309-Ex-000.5 | Sampled: 11/1/2023 11:50

Sample ID: 23K0794-13

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	91.8		% Wt	1		SM 2540G	11/7/23	11/7/23 9:05	DV

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method:% Solids **Analytical Method:SM 2540G**

Lab Number [Field ID]	Batch	Date
23K0794-13 [P-309-Ex-000.5]	B357371	11/07/23

Prep Method:SW-846 3540C **Analytical Method:SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23K0794-13 [P-309-Ex-000.5]	B357360	10.4	10.0	11/07/23

con-test® A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B357360 - SW-846 3540C										
Blank (B357360-BLK1)				Prepared: 11/07/23 Analyzed: 11/09/23						
Aroclor-1016	ND	0.020	mg/Kg wet							
Aroclor-1016 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1221	ND	0.020	mg/Kg wet							
Aroclor-1221 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1232	ND	0.020	mg/Kg wet							
Aroclor-1232 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1242	ND	0.020	mg/Kg wet							
Aroclor-1242 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1248	ND	0.020	mg/Kg wet							
Aroclor-1248 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1254	ND	0.020	mg/Kg wet							
Aroclor-1254 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1260	ND	0.020	mg/Kg wet							
Aroclor-1260 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1262	ND	0.020	mg/Kg wet							
Aroclor-1262 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1268	ND	0.020	mg/Kg wet							
Aroclor-1268 [2C]	ND	0.020	mg/Kg wet							
Surrogate: Decachlorobiphenyl	*0.171*		mg/Kg wet	0.200		85.4	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.183*		mg/Kg wet	0.200		91.5	30-150			
Surrogate: Tetrachloro-m-xylene	*0.184*		mg/Kg wet	0.200		92.0	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.183*		mg/Kg wet	0.200		91.3	30-150			
LCS (B357360-BS1)				Prepared: 11/07/23 Analyzed: 11/09/23						
Aroclor-1016	0.15	0.020	mg/Kg wet	0.200		75.6	40-140			
Aroclor-1016 [2C]	0.16	0.020	mg/Kg wet	0.200		79.8	40-140			
Aroclor-1260	0.15	0.020	mg/Kg wet	0.200		75.1	40-140			
Aroclor-1260 [2C]	0.16	0.020	mg/Kg wet	0.200		81.7	40-140			
Surrogate: Decachlorobiphenyl	*0.173*		mg/Kg wet	0.200		86.5	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.186*		mg/Kg wet	0.200		93.2	30-150			
Surrogate: Tetrachloro-m-xylene	*0.184*		mg/Kg wet	0.200		92.0	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.181*		mg/Kg wet	0.200		90.7	30-150			
LCS Dup (B357360-BSD1)				Prepared: 11/07/23 Analyzed: 11/09/23						
Aroclor-1016	0.15	0.020	mg/Kg wet	0.200		76.0	40-140	0.541	30	
Aroclor-1016 [2C]	0.16	0.020	mg/Kg wet	0.200		80.1	40-140	0.347	30	
Aroclor-1260	0.15	0.020	mg/Kg wet	0.200		75.5	40-140	0.556	30	
Aroclor-1260 [2C]	0.17	0.020	mg/Kg wet	0.200		82.6	40-140	0.996	30	
Surrogate: Decachlorobiphenyl	*0.174*		mg/Kg wet	0.200		86.9	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.188*		mg/Kg wet	0.200		94.0	30-150			
Surrogate: Tetrachloro-m-xylene	*0.185*		mg/Kg wet	0.200		92.7	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.183*		mg/Kg wet	0.200		91.6	30-150			

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B357360-BS1

Date(s) Analyzed: 11/09/2023 11/09/2023

Instrument ID (1): ECD 9

Instrument ID (2): ECD 9

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.16	6.5
Aroclor-1260	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.16	6.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B357360-BSD1 Date(s) Analyzed: 11/09/2023 11/09/2023

Instrument ID (1): ECD 9 Instrument ID (2): ECD 9

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.16	6.5
Aroclor-1260	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.17	12.5

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level

Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.

No results have been blank subtracted unless specified in the case narrative section.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8082A in Soil	
Aroclor-1016	CT,NH,NY,ME,NC,VA,PA
Aroclor-1016 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1262	NY,NC,VA,PA
Aroclor-1262 [2C]	NY,NC,VA,PA
Aroclor-1268	NY,NC,VA,PA
Aroclor-1268 [2C]	NY,NC,VA,PA

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2024
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2024
NC	North Carolina Div. of Water Quality	652	12/31/2023
ME	State of Maine	MA00100	06/9/2025
VA	Commonwealth of Virginia	460217	12/14/2023
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2024

23K0744 RF

Pace Analytical
Phone: 612-607-6400
Fax: 612-607-6344
https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction										
1	P-308-Ex-0.501	11/1/2023	11:01			U		1				H										
2	P-308-Ex-0101.5	11/1/2023	11:02			U		1				H										
3	P-308-Ex-01.502	11/1/2023	11:03			U		1				H										
4	P-308-Ex-0202.5	11/1/2023	11:04			U		1				H										
5	P-308-Ex-02.503	11/1/2023	11:05			U		1				H										
6	P-308-Ex-0303.5	11/1/2023	11:06			U		1				H										
7	P-308-Ex-03.504	11/1/2023	11:07			U		1				H										
8	P-308-Ex-0404.5	11/1/2023	11:08			U		1				H										
9	P-308-Ex-04.505	11/1/2023	11:09			U		1				H										
10	P-308-Ex-0506	11/1/2023	11:10			U		1				H										

[2] Preservation Code
Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? (Y) N
Glassware in freezer? Y (N)
Prepackaged Cooler? (Y) / N
*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time: 11/6/23 1157
Received by: (signature)	Date/Time: 11/6/23 1157
Relinquished by: (signature)	Date/Time: 11/6/23 1630
Received by: (signature)	Date/Time: 11/6/23 1630
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

23K0794 RF

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction	
11	P-308-Ex-0607	11/1/2023	11:11			U		1				H	
12	P-308-Ex-0708	11/1/2023	11:12			U		1				H	
13	P-309-Ex-000.5	11/1/2023	11:50			U		1				X	
14	P-309-Ex-0.501	11/1/2023	11:51			U		1				H	
15	P-309-Ex-0101.5	11/1/2023	11:52			U		1				H	
16	P-309-Ex-01.502	11/1/2023	11:53			U		1				H	
17	P-309-Ex-0202.5	11/1/2023	11:54			U		1				H	
18	P-309-Ex-02.503	11/1/2023	11:55			U		1				H	
19	P-309-Ex-0303.5	11/1/2023	11:56			U		1				H	
20	P-309-Ex-03.504	11/1/2023	11:57			U		3				H	

Relinquished by: (signature)		Date/Time: 11/6/23 1157
Received by: (signature)		Date/Time: 11/6/23 1157
Relinquished by: (signature)		Date/Time: 11/6/23 1620
Received by: (signature)		Date/Time:
Relinquished by: (signature)		Date/Time:
Received by: (signature)		Date/Time:
Relinquished by: (signature)		Date/Time:
Received by: (signature)		Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

NELAC and AIHA-LAP, LLC Accredited
Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[2] Preservation Code
Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? (Y) N
Glassware in freezer? Y (N)
Prepackaged Cooler? Y (N)
*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist
	Effective Date: 07/13/2023

Log In Back-Sheet

Client NobisGroup

Project St Johnsbury Armory

MCP/RCP Required N/A

Deliverable Package Requirement N/A

Location St. Johnsbury, VT

PWSID# (When Applicable) N/A

Arrival Method:

Courier ☒ Fed Ex ☐ Walk In ☐ Other ☐

Received By / Date / Time MEM 11/6/23 1630

Back-Sheet By / Date / Time SJM 11/6/23 2049

Temperature Method Gun # 4

Temp ☒ < 6° C Actual Temperature 2.8, 2.9

Rush Samples: Yes / (No) Notify

Short Hold: Yes (No) Notify

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy) Any False statement will be brought to the attention of the Client – True or False

	True	False
Received on Ice	☒	☐
Received in Cooler	☒	☐
Custody Seal: DATE TIME	☐	☒
COC Relinquished	☒	☐
COC/Samples Labels Agree	☒	☐
All Samples in Good Condition	☒	☐
Samples Received within Holding Time	☒	☐
Is there enough Volume	☒	☐
Proper Media/Container Used	☒	☐
Splitting Samples Required	☐	☒
MS/MSD	☒	☐
Trip Blanks	☐	☒
Lab to Filters	☐	☒
COC Legible	☒	☐

COC Included: (Check all included)

Client ☒ Analysis ☒ Sampler Name ☒

Project ☒ IDs ☒ Collection Date/Time ☒

All Samples Proper pH: (N/A) ☐ ☐

Notes regarding Samples/COC outside of SOP:

Additional Container Notes

Note: West Virginia requires all samples to have their temperature taken. Note any outliers.

Qualtrax ID: 120836

	DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist
Pace ANALYTICAL SERVICES	Effective Date: 07/13/2023

Sample																				

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

November 13, 2023

Tim Andrews
Nobis Engineering
585 Middlesex Street
Lowell, MA 01851

Project Location: St. Johnsbury, VT
Client Job Number:
Project Number: S00001.017
Laboratory Work Order Number: 23K0795

Enclosed are results of analyses for samples as received by the laboratory on November 6, 2023. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Rebecca Faust
Project Manager

Table of Contents

Sample Summary 3

Case Narrative 4

Sample Results 5

23K0795-03 5

23K0795-04 7

Sample Preparation Information 9

QC Data 10

Polychlorinated Biphenyls with 3540 Soxhlet Extraction 10

B357360 10

Dual Column RPD Report 11

Flag/Qualifier Summary 14

Certifications 15

Chain of Custody/Sample Receipt 16

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Nobis Engineering
585 Middlesex Street
Lowell, MA 01851
ATTN: Tim Andrews

REPORT DATE: 11/13/2023

PURCHASE ORDER NUMBER:

PROJECT NUMBER: S00001.017

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23K0795

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: St. Johnsbury, VT

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
P-FD026	23K0795-01	Soil		-	
P-FD027	23K0795-02	Soil		-	
P-FD028	23K0795-03	Soil		SM 2540G	
				SW-846 8082A	
P-FD029	23K0795-04	Soil		SM 2540G	
				SW-846 8082A	
P-FD030	23K0795-05	Soil		-	
P-FD031	23K0795-06	Soil		-	
P-FD032	23K0795-07	Soil		-	
P-FD033	23K0795-08	Soil		-	
P-FD034	23K0795-09	Soil		-	

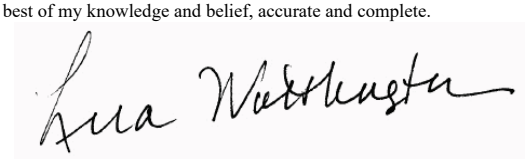
con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Lisa A. Worthington
Technical Representative

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K0795

Date Received: 11/6/2023

Field Sample #: P-FD028 | Sampled: 11/2/2023 16:01

Sample ID: 23K0795-03

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 13:32	SFM
Aroclor-1221 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 13:32	SFM
Aroclor-1232 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 13:32	SFM
Aroclor-1242 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 13:32	SFM
Aroclor-1248 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 13:32	SFM
Aroclor-1254 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 13:32	SFM
Aroclor-1260 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 13:32	SFM
Aroclor-1262 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 13:32	SFM
Aroclor-1268 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 13:32	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	87.8	30-150		11/10/23 13:32
Decachlorobiphenyl [2]	91.6	30-150		11/10/23 13:32
Tetrachloro-m-xylene [1]	100	30-150		11/10/23 13:32
Tetrachloro-m-xylene [2]	93.0	30-150		11/10/23 13:32

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K0795

Date Received: 11/6/2023

Field Sample #: P-FD028 | Sampled: 11/2/2023 16:01

Sample ID: 23K0795-03

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	88.6		% Wt	1		SM 2540G	11/7/23	11/7/23 13:01	DV

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K0795

Date Received: 11/6/2023

Field Sample #: P-FD029 | Sampled: 11/2/2023 16:02

Sample ID: 23K0795-04

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.081	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 13:49	SFM
Aroclor-1221 [1]	ND	0.081	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 13:49	SFM
Aroclor-1232 [1]	ND	0.081	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 13:49	SFM
Aroclor-1242 [1]	ND	0.081	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 13:49	SFM
Aroclor-1248 [1]	ND	0.081	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 13:49	SFM
Aroclor-1254 [1]	0.34	0.081	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 13:49	SFM
Aroclor-1260 [1]	ND	0.081	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 13:49	SFM
Aroclor-1262 [1]	ND	0.081	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 13:49	SFM
Aroclor-1268 [1]	ND	0.081	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 13:49	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	87.2	30-150		11/10/23 13:49
Decachlorobiphenyl [2]	86.5	30-150		11/10/23 13:49
Tetrachloro-m-xylene [1]	96.0	30-150		11/10/23 13:49
Tetrachloro-m-xylene [2]	89.2	30-150		11/10/23 13:49

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K0795

Date Received: 11/6/2023

Field Sample #: P-FD029 | Sampled: 11/2/2023 16:02

Sample ID: 23K0795-04

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	93.7		% Wt	1		SM 2540G	11/7/23	11/7/23 13:01	DV

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method:% Solids **Analytical Method:SM 2540G**

Lab Number [Field ID]	Batch	Date
23K0795-03 [P-FD028]	B357422	11/07/23
23K0795-04 [P-FD029]	B357422	11/07/23

Prep Method:SW-846 3540C **Analytical Method:SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23K0795-03 [P-FD028]	B357360	10.7	10.0	11/07/23
23K0795-04 [P-FD029]	B357360	10.6	10.0	11/07/23

con-test® A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B357360 - SW-846 3540C										
Blank (B357360-BLK1)				Prepared: 11/07/23 Analyzed: 11/09/23						
Aroclor-1016	ND	0.020	mg/Kg wet							
Aroclor-1016 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1221	ND	0.020	mg/Kg wet							
Aroclor-1221 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1232	ND	0.020	mg/Kg wet							
Aroclor-1232 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1242	ND	0.020	mg/Kg wet							
Aroclor-1242 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1248	ND	0.020	mg/Kg wet							
Aroclor-1248 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1254	ND	0.020	mg/Kg wet							
Aroclor-1254 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1260	ND	0.020	mg/Kg wet							
Aroclor-1260 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1262	ND	0.020	mg/Kg wet							
Aroclor-1262 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1268	ND	0.020	mg/Kg wet							
Aroclor-1268 [2C]	ND	0.020	mg/Kg wet							
Surrogate: Decachlorobiphenyl	*0.171*		mg/Kg wet	0.200		85.4	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.183*		mg/Kg wet	0.200		91.5	30-150			
Surrogate: Tetrachloro-m-xylene	*0.184*		mg/Kg wet	0.200		92.0	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.183*		mg/Kg wet	0.200		91.3	30-150			
LCS (B357360-BS1)				Prepared: 11/07/23 Analyzed: 11/09/23						
Aroclor-1016	0.15	0.020	mg/Kg wet	0.200		75.6	40-140			
Aroclor-1016 [2C]	0.16	0.020	mg/Kg wet	0.200		79.8	40-140			
Aroclor-1260	0.15	0.020	mg/Kg wet	0.200		75.1	40-140			
Aroclor-1260 [2C]	0.16	0.020	mg/Kg wet	0.200		81.7	40-140			
Surrogate: Decachlorobiphenyl	*0.173*		mg/Kg wet	0.200		86.5	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.186*		mg/Kg wet	0.200		93.2	30-150			
Surrogate: Tetrachloro-m-xylene	*0.184*		mg/Kg wet	0.200		92.0	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.181*		mg/Kg wet	0.200		90.7	30-150			
LCS Dup (B357360-BSD1)				Prepared: 11/07/23 Analyzed: 11/09/23						
Aroclor-1016	0.15	0.020	mg/Kg wet	0.200		76.0	40-140	0.541	30	
Aroclor-1016 [2C]	0.16	0.020	mg/Kg wet	0.200		80.1	40-140	0.347	30	
Aroclor-1260	0.15	0.020	mg/Kg wet	0.200		75.5	40-140	0.556	30	
Aroclor-1260 [2C]	0.17	0.020	mg/Kg wet	0.200		82.6	40-140	0.996	30	
Surrogate: Decachlorobiphenyl	*0.174*		mg/Kg wet	0.200		86.9	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.188*		mg/Kg wet	0.200		94.0	30-150			
Surrogate: Tetrachloro-m-xylene	*0.185*		mg/Kg wet	0.200		92.7	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.183*		mg/Kg wet	0.200		91.6	30-150			

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-FD029

Lab Sample ID: 23K0795-04 Date(s) Analyzed: 11/10/2023 11/10/2023

Instrument ID (1): ECD 9 Instrument ID (2): ECD 9

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	-0.030	0.030	0.34	
	2	0.000	-0.030	0.030	0.32	6.1

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B357360-BS1 Date(s) Analyzed: 11/09/2023 11/09/2023

Instrument ID (1): ECD 9 Instrument ID (2): ECD 9

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.16	6.5
Aroclor-1260	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.16	6.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B357360-BSD1 Date(s) Analyzed: 11/09/2023 11/09/2023

Instrument ID (1): ECD 9 Instrument ID (2): ECD 9

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.16	6.5
Aroclor-1260	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.17	12.5

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level

Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.

No results have been blank subtracted unless specified in the case narrative section.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8082A in Soil	
Aroclor-1016	CT,NH,NY,ME,NC,VA,PA
Aroclor-1016 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1262	NY,NC,VA,PA
Aroclor-1262 [2C]	NY,NC,VA,PA
Aroclor-1268	NY,NC,VA,PA
Aroclor-1268 [2C]	NY,NC,VA,PA

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2024
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2024
NC	North Carolina Div. of Water Quality	652	12/31/2023
ME	State of Maine	MA00100	06/9/2025
VA	Commonwealth of Virginia	460217	12/14/2023
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2024

23K0795 HT

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time

7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction											[2] Preservation Code
												I											
1	P-FD026	11/1/2023	8:07			U		1				H											
2	P-FD027	11/2/2023	16:00			U		1				H											
3	P-FD028	11/2/2023	16:01			U		1				X											
4	P-FD029	11/2/2023	16:02			U		1				X											
5	P-FD030	11/2/2023	16:03			U		1				H											
6	P-FD031	11/2/2023	16:04			U		1				H											
7	P-FD032	11/2/2023	16:05			U		1				H											
8	P-FD033	11/2/2023	16:06			U		1				H											
9	P-FD034	11/2/2023	16:07			U		1				H											

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N
*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time: 11/6/23 1155	Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.
Received by: (signature)	Date/Time: 11/6/23 1457	
Relinquished by: (signature)	Date/Time: 11/6/23 1630	
Received by: (signature) 2.5	Date/Time: 11/6/23 16:30	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other

☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist
	Effective Date: 07/13/2023

Log In Back-Sheet

Client: Nobis

Project: St. Johnsbury Armory

MCP/RCP Required: no

Deliverable Package Requirement: none

Location: St. Johnsbury, VT

PWSID# (When Applicable): n/a

Arrival Method:

Courier ☑ Fed Ex ☐ Walk In ☐ Other ☐

Received By / Date / Time: Mcm 11/6/23 1630

Back-Sheet By / Date / Time: Mcm 11/6/23 2116

Temperature Method: Gun # 5

Temp < 6° C Actual Temperature: 2.5

Rush Samples: Yes / No Notify: No

Short Hold: Yes / No Notify: No

Notes regarding Samples/COC outside of SOP:

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy) Any False statement will be brought to the attention of the Client – True or False

	True	False
Received on Ice	☑	☐
Received in Cooler	☑	☐
Custody Seal: DATE TIME	☐	☑
COC Relinquished	☑	☐
COC/Samples Labels Agree	☑	☐
All Samples in Good Condition	☑	☐
Samples Received within Holding Time	☑	☐
Is there enough Volume	☑	☐
Proper Media/Container Used	☑	☐
Splitting Samples Required	☐	☑
MS/MSD	☐	☑
Trip Blanks	☐	☑
Lab to Filters	☐	☑
COC Legible	☑	☐

COC Included: (Check all included)

Client ☑ Analysis ☑ Sampler Name ☑

Project ☑ IDs ☑ Collection Date/Time ☑

All Samples Proper pH: (N/A) ☐ ☐

Additional Container Notes

Note: West Virginia requires all samples to have their temperature taken. Note any outliers.

Sample																				
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Soils Jars (Circle Amb/Clear)	16oz Amb/Clear																				
	8oz Amb/Clear																				
	4oz Amb/Clear	—								←											
	2oz Amb/Clear																				
Ambers — 1 Liter	Unpreserved																				
	HCL																				
	Sulfuric																				
Ambers — 250mL	Sulfuric																				
	Phosphoric																				
	HCl																				
Ambers — 100mL	Unpreserved																				
Plastics — 1 Liter	Unpreserved																				
	Sulfuric																				
Plastics — 500mL	Unpreserved																				
	Sulfuric																				
Plastics — 250mL	Unpreserved																				
	Trizma																				
	Sulfuric																				
	Nitric																				
	NaOH																				
	Ammonium Acetate																				
	NaOH/Zinc																				
VOA Vials	Unpreserved																				
	HCl																				
	MeOH																				
	D.I. Water																				
	BiSulfate																				
Other / Fill in	Col/Bact																				

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

November 13, 2023

Tim Andrews
Nobis Engineering
585 Middlesex Street
Lowell, MA 01851

Project Location: St. Johnsbury, VT
Client Job Number:
Project Number: S00001.017
Laboratory Work Order Number: 23K0796

Enclosed are results of analyses for samples as received by the laboratory on November 6, 2023. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Rebecca Faust
Project Manager

Table of Contents

Sample Summary 3

Case Narrative 4

Sample Results 5

23K0796-19 5

Sample Preparation Information 7

QC Data 8

Polychlorinated Biphenyls with 3540 Soxhlet Extraction 8

B357360 8

Dual Column RPD Report 9

Flag/Qualifier Summary 12

Certifications 13

Chain of Custody/Sample Receipt 14

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Nobis Engineering
585 Middlesex Street
Lowell, MA 01851
ATTN: Tim Andrews

REPORT DATE: 11/13/2023

PURCHASE ORDER NUMBER:

PROJECT NUMBER: S00001.017

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23K0796

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: St. Johnsbury, VT

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
P-328-Ex-06.507	23K0796-01	Soil		-	
P-328-Ex-0707.5	23K0796-02	Soil		-	
P-328-Ex-07.508	23K0796-03	Soil		-	
P-328-Ex-0808.5	23K0796-04	Soil		-	
P-328-Ex-08.509	23K0796-05	Soil		-	
P-328-Ex-0909.5	23K0796-06	Soil		-	
P-328-Ex-09.510	23K0796-07	Soil		-	
P-328-Ex-1010.5	23K0796-08	Soil		-	
P-328-Ex-10.511	23K0796-09	Soil		-	
P-328-Ex-1112	23K0796-10	Soil		-	
P-329-Ex	23K0796-11	Product/Solid		-	
P-330-Ex	23K0796-12	Product/Solid		-	
P-331-Ex	23K0796-13	Product/Solid		-	
P-FD019	23K0796-14	Soil		-	
P-FD020	23K0796-15	Soil		-	
P-FD021	23K0796-16	Soil		-	
P-FD022	23K0796-17	Soil		-	
P-FD023	23K0796-18	Soil		-	
P-FD024	23K0796-19	Soil		SM 2540G	
				SW-846 8082A	
P-FD025	23K0796-20	Soil		-	

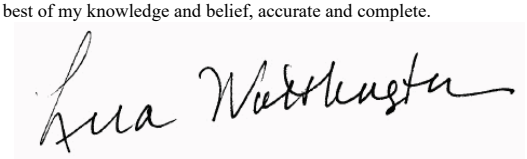
con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Lisa A. Worthington
Technical Representative

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K0796

Date Received: 11/6/2023

Field Sample #: P-FD024 | Sampled: 11/1/2023 08:05

Sample ID: 23K0796-19

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.091	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 14:05	SFM
Aroclor-1221 [1]	ND	0.091	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 14:05	SFM
Aroclor-1232 [1]	ND	0.091	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 14:05	SFM
Aroclor-1242 [1]	ND	0.091	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 14:05	SFM
Aroclor-1248 [1]	ND	0.091	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 14:05	SFM
Aroclor-1254 [1]	0.66	0.091	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 14:05	SFM
Aroclor-1260 [1]	ND	0.091	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 14:05	SFM
Aroclor-1262 [1]	ND	0.091	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 14:05	SFM
Aroclor-1268 [1]	ND	0.091	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 14:05	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	85.2	30-150		11/10/23 14:05
Decachlorobiphenyl [2]	89.8	30-150		11/10/23 14:05
Tetrachloro-m-xylene [1]	95.0	30-150		11/10/23 14:05
Tetrachloro-m-xylene [2]	88.6	30-150		11/10/23 14:05

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K0796

Date Received: 11/6/2023

Field Sample #: P-FD024 | Sampled: 11/1/2023 08:05

Sample ID: 23K0796-19

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	84.7		% Wt	1		SM 2540G	11/7/23	11/7/23 9:05	DV

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method:% Solids **Analytical Method:SM 2540G**

Lab Number [Field ID]	Batch	Date
23K0796-19 [P-FD024]	B357371	11/07/23

Prep Method:SW-846 3540C **Analytical Method:SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23K0796-19 [P-FD024]	B357360	10.4	10.0	11/07/23

con-test® A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B357360 - SW-846 3540C										
Blank (B357360-BLK1)				Prepared: 11/07/23 Analyzed: 11/09/23						
Aroclor-1016	ND	0.020	mg/Kg wet							
Aroclor-1016 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1221	ND	0.020	mg/Kg wet							
Aroclor-1221 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1232	ND	0.020	mg/Kg wet							
Aroclor-1232 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1242	ND	0.020	mg/Kg wet							
Aroclor-1242 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1248	ND	0.020	mg/Kg wet							
Aroclor-1248 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1254	ND	0.020	mg/Kg wet							
Aroclor-1254 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1260	ND	0.020	mg/Kg wet							
Aroclor-1260 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1262	ND	0.020	mg/Kg wet							
Aroclor-1262 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1268	ND	0.020	mg/Kg wet							
Aroclor-1268 [2C]	ND	0.020	mg/Kg wet							
Surrogate: Decachlorobiphenyl	*0.171*		mg/Kg wet	0.200		85.4	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.183*		mg/Kg wet	0.200		91.5	30-150			
Surrogate: Tetrachloro-m-xylene	*0.184*		mg/Kg wet	0.200		92.0	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.183*		mg/Kg wet	0.200		91.3	30-150			
LCS (B357360-BS1)				Prepared: 11/07/23 Analyzed: 11/09/23						
Aroclor-1016	0.15	0.020	mg/Kg wet	0.200		75.6	40-140			
Aroclor-1016 [2C]	0.16	0.020	mg/Kg wet	0.200		79.8	40-140			
Aroclor-1260	0.15	0.020	mg/Kg wet	0.200		75.1	40-140			
Aroclor-1260 [2C]	0.16	0.020	mg/Kg wet	0.200		81.7	40-140			
Surrogate: Decachlorobiphenyl	*0.173*		mg/Kg wet	0.200		86.5	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.186*		mg/Kg wet	0.200		93.2	30-150			
Surrogate: Tetrachloro-m-xylene	*0.184*		mg/Kg wet	0.200		92.0	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.181*		mg/Kg wet	0.200		90.7	30-150			
LCS Dup (B357360-BSD1)				Prepared: 11/07/23 Analyzed: 11/09/23						
Aroclor-1016	0.15	0.020	mg/Kg wet	0.200		76.0	40-140	0.541	30	
Aroclor-1016 [2C]	0.16	0.020	mg/Kg wet	0.200		80.1	40-140	0.347	30	
Aroclor-1260	0.15	0.020	mg/Kg wet	0.200		75.5	40-140	0.556	30	
Aroclor-1260 [2C]	0.17	0.020	mg/Kg wet	0.200		82.6	40-140	0.996	30	
Surrogate: Decachlorobiphenyl	*0.174*		mg/Kg wet	0.200		86.9	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.188*		mg/Kg wet	0.200		94.0	30-150			
Surrogate: Tetrachloro-m-xylene	*0.185*		mg/Kg wet	0.200		92.7	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.183*		mg/Kg wet	0.200		91.6	30-150			

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-FD024

Lab Sample ID: 23K0796-19 Date(s) Analyzed: 11/10/2023 11/10/2023

Instrument ID (1): ECD 9 Instrument ID (2): ECD 9

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	-0.030	0.030	0.66	
	2	0.000	-0.030	0.030	0.63	4.7

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B357360-BS1 Date(s) Analyzed: 11/09/2023 11/09/2023

Instrument ID (1): ECD 9 Instrument ID (2): ECD 9

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.16	6.5
Aroclor-1260	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.16	6.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B357360-BSD1 Date(s) Analyzed: 11/09/2023 11/09/2023

Instrument ID (1): ECD 9 Instrument ID (2): ECD 9

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.16	6.5
Aroclor-1260	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.17	12.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level

Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.

No results have been blank subtracted unless specified in the case narrative section.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8082A in Soil	
Aroclor-1016	CT,NH,NY,ME,NC,VA,PA
Aroclor-1016 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1262	NY,NC,VA,PA
Aroclor-1262 [2C]	NY,NC,VA,PA
Aroclor-1268	NY,NC,VA,PA
Aroclor-1268 [2C]	NY,NC,VA,PA

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2024
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2024
NC	North Carolina Div. of Water Quality	652	12/31/2023
ME	State of Maine	MA00100	06/9/2025
VA	Commonwealth of Virginia	460217	12/14/2023
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2024

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time

7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction											
1	P-328-Ex-06.507	11/2/2023	10:58			U		1				H											
2	P-328-Ex-0707.5	11/2/2023	10:59			U		1				H											
3	P-328-Ex-07.508	11/2/2023	11:00			U		1				H											
4	P-328-Ex-0808.5	11/2/2023	11:01			U		1				H											
5	P-328-Ex-08.509	11/2/2023	11:02			U		1				H											
6	P-328-Ex-0909.5	11/2/2023	11:03			U		1				H											
7	P-328-Ex-09.510	11/2/2023	11:04			U		1				H											
8	P-328-Ex-1010.5	11/2/2023	11:05			U		1				H											
9	P-328-Ex-10.511	11/2/2023	11:06			U		1				H											
10	P-328-Ex-1112	11/2/2023	11:07			U		3				H											

[2] Preservation Code

Courier Use Only

Total Number Of:

VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time: 11/6/23 1157
Received by: (signature)	Date/Time: 11/6/23 1157
Relinquished by: (signature)	Date/Time: 11/6/23 1630
Received by: (signature)	Date/Time: 11/6/23 1630
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other

☐ Chromatogram
☐ AIHA-LAP,LLC

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Pace Analytical®
Phone: 612-607-6400
Fax: 612-607-6344
https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction	[2] Preservation Code
11	P-329-Ex	11/2/2023	11:09			U		1				H	
12	P-330-Ex	11/2/2023	11::10			U		1				H	
13	P-331-Ex	11/2/2023	11:11			U		1				H	
14	P-FD019	11/1/2023	8:00			U		1				H	
15	P-FD020	11/1/2023	8:01			U		1				H	
16	P-FD021	11/1/2023	8:02			U		1				H	
17	P-FD022	11/1/2023	8:03			U		1				H	
18	P-FD023	11/1/2023	8:04			U		1				H	
19	P-FD024	11/1/2023	8:05			U		1				X	
20	P-FD025	11/1/2023	8:06			U		1				H	

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature) — Date/Time: 11/6/23 1157
Received by: (signature) — Date/Time: 11/6/23 1157
Relinquished by: (signature) — Date/Time: 11/6/23 1630
Received by: (signature) — Date/Time: 11/6/23 1630
Relinquished by: (signature) — Date/Time:
Received by: (signature) — Date/Time:
Relinquished by: (signature) — Date/Time:
Received by: (signature) — Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist
	Effective Date: 07/13/2023

Log In Back-Sheet

Client NobisS

Project St. Johnsbury Armory

MCP/RCP Required no

Deliverable Package Requirement none

Location St. Johnsbury, VT

PWSID# (When Applicable) n/a

Arrival Method:

Courier ☑ Fed Ex ☐ Walk In ☐ Other ☐

Received By / Date / Time MCM 11/6/23 1430

Back-Sheet By / Date / Time MCM 11/6/23 2135

Temperature Method Gun # 5

Temp < 6° C Actual Temperature 2.5

Rush Samples: Yes / No Notify No

Short Hold: Yes / No Notify No

Notes regarding Samples/COC outside of SOP:

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy) Any False statement will be brought to the attention of the Client – True or False

	True	False
Received on Ice	☑	☐
Received in Cooler	☑	☐
Custody Seal: DATE TIME	☐	☑
COC Relinquished	☑	☐
COC/Samples Labels Agree	☑	☐
All Samples in Good Condition	☑	☐
Samples Received within Holding Time	☑	☐
Is there enough Volume	☑	☐
Proper Media/Container Used	☑	☐
Splitting Samples Required	☐	☑
MS/MSD	☑	☐
Trip Blanks	☐	☑
Lab to Filters	☐	☑
COC Legible	☑	☐

COC Included: (Check all included)

Client ☑ Analysis ☑ Sampler Name ☑

Project ☑ IDs ☑ Collection Date/Time ☑

All Samples Proper pH: (N/A) ☐ ☐

Additional Container Notes

Note: West Virginia requires all samples to have their temperature taken. Note any outliers.

DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist

Effective Date: 07/13/2023

Sample			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
16oz Amb/Clear	Soils Jars (Circle Amb/Clear)																					
8oz Amb/Clear																						
4oz Amb/Clear			1									3	1									
2oz Amb/Clear																						
Unpreserved	Ambers	1 Liter																				
HCL																						
Sulfuric																						
Sulfuric		250mL																				
Phosphoric																						
HCl																						
Unpreserved		100mL																				
Unpreserved	Plastics	1 Liter																				
Sulfuric																						
Unpreserved		500mL																				
Sulfuric																						
Unpreserved		250mL																				
Trizma																						
Sulfuric																						
Nitric																						
NaOH																						
Ammonium Acetate																						
NaOH/Zinc																						
Unpreserved	VOA Vials																					
HCl																						
MeOH																						
D.I. Water																						
BiSulfate																						
Col/Bact	Other / Fill in																					

Qualtrax ID: 120836

Table of Contents

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

November 13, 2023

Tim Andrews
Nobis Engineering
585 Middlesex Street
Lowell, MA 01851

Project Location: St. Johnsbury, VT
Client Job Number:
Project Number: S00001.017
Laboratory Work Order Number: 23K0797

Enclosed are results of analyses for samples as received by the laboratory on November 6, 2023. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Rebecca Faust
Project Manager

Table of Contents

Sample Summary 3

Case Narrative 4

Sample Results 5

23K0797-01 5

23K0797-14 7

Sample Preparation Information 9

QC Data 10

Polychlorinated Biphenyls with 3540 Soxhlet Extraction 10

B357360 10

Dual Column RPD Report 12

Flag/Qualifier Summary 20

Certifications 21

Chain of Custody/Sample Receipt 22

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Nobis Engineering
585 Middlesex Street
Lowell, MA 01851
ATTN: Tim Andrews

REPORT DATE: 11/13/2023

PURCHASE ORDER NUMBER:

PROJECT NUMBER: S00001.017

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23K0797

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: St. Johnsbury, VT

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
P-325-Ex-000.5	23K0797-01	Soil		SM 2540G	
				SW-846 8082A	
P-325-Ex-0.501	23K0797-02	Soil		-	
P-325-Ex-0101.5	23K0797-03	Soil		-	
P-325-Ex-01.502	23K0797-04	Soil		-	
P-325-Ex-0202.5	23K0797-05	Soil		-	
P-325-Ex-02.503	23K0797-06	Soil		-	
P-325-Ex-0303.5	23K0797-07	Soil		-	
P-325-Ex-03.504	23K0797-08	Soil		-	
P-325-Ex-0404.5	23K0797-09	Soil		-	
P-325-Ex-04.505	23K0797-10	Soil		-	
P-325-Ex-0506	23K0797-11	Soil		-	
P-325-Ex-0607	23K0797-12	Soil		-	
P-325-Ex-0708	23K0797-13	Soil		-	
P-326-Ex-000.5	23K0797-14	Soil		SM 2540G	
				SW-846 8082A	
P-326-Ex-0.501	23K0797-15	Soil		-	
P-326-Ex-0101.5	23K0797-16	Soil		-	
P-326-Ex-01.502	23K0797-17	Soil		-	
P-326-Ex-0202.5	23K0797-18	Soil		-	
P-326-Ex-02.503	23K0797-19	Soil		-	
P-326-Ex-0303.5	23K0797-20	Soil		-	

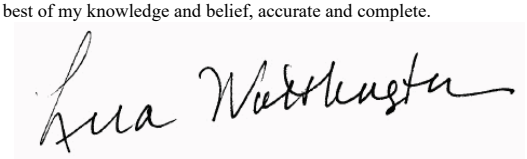
con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Lisa A. Worthington
Technical Representative

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K0797

Date Received: 11/6/2023

Field Sample #: P-325-Ex-000.5 | Sampled: 11/2/2023 10:10

Sample ID: 23K0797-01

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 14:22	SFM
Aroclor-1221 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 14:22	SFM
Aroclor-1232 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 14:22	SFM
Aroclor-1242 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 14:22	SFM
Aroclor-1248 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 14:22	SFM
Aroclor-1254 [1]	0.096	0.083	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 14:22	SFM
Aroclor-1260 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 14:22	SFM
Aroclor-1262 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 14:22	SFM
Aroclor-1268 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 14:22	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	84.5	30-150		11/10/23 14:22
Decachlorobiphenyl [2]	84.8	30-150		11/10/23 14:22
Tetrachloro-m-xylene [1]	89.3	30-150		11/10/23 14:22
Tetrachloro-m-xylene [2]	83.2	30-150		11/10/23 14:22

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K0797

Date Received: 11/6/2023

Field Sample #: P-325-Ex-000.5 | Sampled: 11/2/2023 10:10

Sample ID: 23K0797-01

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	94.0		% Wt	1		SM 2540G	11/7/23	11/7/23 9:05	DV

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K0797

Date Received: 11/6/2023

Field Sample #: P-326-Ex-000.5 | Sampled: 11/2/2023 10:30

Sample ID: 23K0797-14

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 14:39	SFM
Aroclor-1221 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 14:39	SFM
Aroclor-1232 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 14:39	SFM
Aroclor-1242 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 14:39	SFM
Aroclor-1248 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 14:39	SFM
Aroclor-1254 [1]	0.17	0.084	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 14:39	SFM
Aroclor-1260 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 14:39	SFM
Aroclor-1262 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 14:39	SFM
Aroclor-1268 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 14:39	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	88.8	30-150		11/10/23 14:39
Decachlorobiphenyl [2]	93.9	30-150		11/10/23 14:39
Tetrachloro-m-xylene [1]	97.7	30-150		11/10/23 14:39
Tetrachloro-m-xylene [2]	90.4	30-150		11/10/23 14:39

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K0797

Date Received: 11/6/2023

Field Sample #: P-326-Ex-000.5 | Sampled: 11/2/2023 10:30

Sample ID: 23K0797-14

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	92.2		% Wt	1		SM 2540G	11/7/23	11/7/23 9:05	DV

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method:% Solids **Analytical Method:SM 2540G**

Lab Number [Field ID]	Batch	Date
23K0797-01 [P-325-Ex-000.5]	B357371	11/07/23
23K0797-14 [P-326-Ex-000.5]	B357371	11/07/23

Prep Method:SW-846 3540C **Analytical Method:SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23K0797-01 [P-325-Ex-000.5]	B357360	10.2	10.0	11/07/23
23K0797-14 [P-326-Ex-000.5]	B357360	10.3	10.0	11/07/23

con-test® A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B357360 - SW-846 3540C										
Blank (B357360-BLK1)				Prepared: 11/07/23 Analyzed: 11/09/23						
Aroclor-1016	ND	0.020	mg/Kg wet							
Aroclor-1016 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1221	ND	0.020	mg/Kg wet							
Aroclor-1221 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1232	ND	0.020	mg/Kg wet							
Aroclor-1232 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1242	ND	0.020	mg/Kg wet							
Aroclor-1242 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1248	ND	0.020	mg/Kg wet							
Aroclor-1248 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1254	ND	0.020	mg/Kg wet							
Aroclor-1254 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1260	ND	0.020	mg/Kg wet							
Aroclor-1260 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1262	ND	0.020	mg/Kg wet							
Aroclor-1262 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1268	ND	0.020	mg/Kg wet							
Aroclor-1268 [2C]	ND	0.020	mg/Kg wet							
Surrogate: Decachlorobiphenyl	*0.171*		mg/Kg wet	0.200		85.4	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.183*		mg/Kg wet	0.200		91.5	30-150			
Surrogate: Tetrachloro-m-xylene	*0.184*		mg/Kg wet	0.200		92.0	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.183*		mg/Kg wet	0.200		91.3	30-150			
LCS (B357360-BS1)				Prepared: 11/07/23 Analyzed: 11/09/23						
Aroclor-1016	0.15	0.020	mg/Kg wet	0.200		75.6	40-140			
Aroclor-1016 [2C]	0.16	0.020	mg/Kg wet	0.200		79.8	40-140			
Aroclor-1260	0.15	0.020	mg/Kg wet	0.200		75.1	40-140			
Aroclor-1260 [2C]	0.16	0.020	mg/Kg wet	0.200		81.7	40-140			
Surrogate: Decachlorobiphenyl	*0.173*		mg/Kg wet	0.200		86.5	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.186*		mg/Kg wet	0.200		93.2	30-150			
Surrogate: Tetrachloro-m-xylene	*0.184*		mg/Kg wet	0.200		92.0	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.181*		mg/Kg wet	0.200		90.7	30-150			
LCS Dup (B357360-BSD1)				Prepared: 11/07/23 Analyzed: 11/09/23						
Aroclor-1016	0.15	0.020	mg/Kg wet	0.200		76.0	40-140	0.541	30	
Aroclor-1016 [2C]	0.16	0.020	mg/Kg wet	0.200		80.1	40-140	0.347	30	
Aroclor-1260	0.15	0.020	mg/Kg wet	0.200		75.5	40-140	0.556	30	
Aroclor-1260 [2C]	0.17	0.020	mg/Kg wet	0.200		82.6	40-140	0.996	30	
Surrogate: Decachlorobiphenyl	*0.174*		mg/Kg wet	0.200		86.9	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.188*		mg/Kg wet	0.200		94.0	30-150			
Surrogate: Tetrachloro-m-xylene	*0.185*		mg/Kg wet	0.200		92.7	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.183*		mg/Kg wet	0.200		91.6	30-150			

con-test® A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B357360 - SW-846 3540C										
Matrix Spike (B357360-MS1)	**Source: 23K0797-01**			Prepared: 11/07/23 Analyzed: 11/10/23						
Aroclor-1016	0.17	0.084	mg/Kg dry	0.211	ND	82.7	40-140			
Aroclor-1016 [2C]	0.19	0.084	mg/Kg dry	0.211	ND	88.4	40-140			
Aroclor-1260	0.18	0.084	mg/Kg dry	0.211	ND	87.4	40-140			
Aroclor-1260 [2C]	0.19	0.084	mg/Kg dry	0.211	ND	87.9	40-140			
Surrogate: Decachlorobiphenyl	*0.182*		mg/Kg dry	0.211		86.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.186*		mg/Kg dry	0.211		88.4	30-150			
Surrogate: Tetrachloro-m-xylene	*0.193*		mg/Kg dry	0.211		91.4	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.181*		mg/Kg dry	0.211		85.8	30-150			
Matrix Spike (B357360-MS2)	**Source: 23K0797-14**			Prepared: 11/07/23 Analyzed: 11/10/23						
Aroclor-1016	0.18	0.087	mg/Kg dry	0.217	ND	83.3	40-140			
Aroclor-1016 [2C]	0.19	0.087	mg/Kg dry	0.217	ND	87.4	40-140			
Aroclor-1260	0.20	0.087	mg/Kg dry	0.217	ND	94.3	40-140			
Aroclor-1260 [2C]	0.21	0.087	mg/Kg dry	0.217	ND	96.5	40-140			
Surrogate: Decachlorobiphenyl	*0.188*		mg/Kg dry	0.217		86.7	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.202*		mg/Kg dry	0.217		93.1	30-150			
Surrogate: Tetrachloro-m-xylene	*0.210*		mg/Kg dry	0.217		96.8	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.194*		mg/Kg dry	0.217		89.4	30-150			
Matrix Spike Dup (B357360-MSD1)	**Source: 23K0797-01**			Prepared: 11/07/23 Analyzed: 11/10/23						
Aroclor-1016	0.20	0.083	mg/Kg dry	0.209	ND	96.1	40-140	14.1	50	
Aroclor-1016 [2C]	0.21	0.083	mg/Kg dry	0.209	ND	101	40-140	12.5	50	
Aroclor-1260	0.21	0.083	mg/Kg dry	0.209	ND	101	40-140	13.2	50	
Aroclor-1260 [2C]	0.21	0.083	mg/Kg dry	0.209	ND	103	40-140	14.5	50	
Surrogate: Decachlorobiphenyl	*0.195*		mg/Kg dry	0.209		93.3	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.200*		mg/Kg dry	0.209		95.7	30-150			
Surrogate: Tetrachloro-m-xylene	*0.209*		mg/Kg dry	0.209		100	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.196*		mg/Kg dry	0.209		93.9	30-150			
Matrix Spike Dup (B357360-MSD2)	**Source: 23K0797-14**			Prepared: 11/07/23 Analyzed: 11/10/23						
Aroclor-1016	0.19	0.086	mg/Kg dry	0.215	ND	86.3	40-140	2.59	50	
Aroclor-1016 [2C]	0.19	0.086	mg/Kg dry	0.215	ND	89.7	40-140	1.54	50	
Aroclor-1260	0.21	0.086	mg/Kg dry	0.215	ND	97.2	40-140	2.02	50	
Aroclor-1260 [2C]	0.21	0.086	mg/Kg dry	0.215	ND	97.9	40-140	0.367	50	
Surrogate: Decachlorobiphenyl	*0.191*		mg/Kg dry	0.215		88.8	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.200*		mg/Kg dry	0.215		93.4	30-150			
Surrogate: Tetrachloro-m-xylene	*0.217*		mg/Kg dry	0.215		101	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.196*		mg/Kg dry	0.215		91.5	30-150			

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-325-Ex-000.5

Lab Sample ID: 23K0797-01

Date(s) Analyzed: 11/10/2023 11/10/2023

Instrument ID (1): ECD 9

Instrument ID (2): ECD 9

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	-0.030	0.030	0.096	
	2	0.000	-0.030	0.030	0.090	6.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-326-Ex-000.5

Lab Sample ID: 23K0797-14

Date(s) Analyzed: 11/10/2023 11/10/2023

Instrument ID (1): ECD 9

Instrument ID (2): ECD 9

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	-0.030	0.030	0.17	
	2	0.000	-0.030	0.030	0.16	6.1

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B357360-BS1 Date(s) Analyzed: 11/09/2023 11/09/2023

Instrument ID (1): ECD 9 Instrument ID (2): ECD 9

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.16	6.5
Aroclor-1260	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.16	6.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B357360-BSD1 Date(s) Analyzed: 11/09/2023 11/09/2023

Instrument ID (1): ECD 9 Instrument ID (2): ECD 9

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.16	6.5
Aroclor-1260	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.17	12.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike

Lab Sample ID: B357360-MS1

Date(s) Analyzed: 11/10/2023 11/10/2023

Instrument ID (1): ECD 9

Instrument ID (2): ECD 9

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.17	
	2	0.000	-0.030	0.030	0.19	11.1
Aroclor-1260	1	0.000	-0.030	0.030	0.18	
	2	0.000	-0.030	0.030	0.19	5.4

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike

Lab Sample ID: B357360-MS2 Date(s) Analyzed: 11/10/2023 11/10/2023

Instrument ID (1): ECD 9 Instrument ID (2): ECD 9

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.18	
	2	0.000	-0.030	0.030	0.19	5.4
Aroclor-1260	1	0.000	-0.030	0.030	0.20	
	2	0.000	-0.030	0.030	0.21	4.9

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike Dup

Lab Sample ID: B357360-MSD1 Date(s) Analyzed: 11/10/2023 11/10/2023

Instrument ID (1): ECD 9 Instrument ID (2): ECD 9

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.20	
	2	0.000	-0.030	0.030	0.21	4.9
Aroclor-1260	1	0.000	-0.030	0.030	0.21	
	2	0.000	-0.030	0.030	0.21	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike Dup

Lab Sample ID: B357360-MSD2 Date(s) Analyzed: 11/10/2023 11/10/2023

Instrument ID (1): ECD 9 Instrument ID (2): ECD 9

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.19	
	2	0.000	-0.030	0.030	0.19	0.0
Aroclor-1260	1	0.000	-0.030	0.030	0.21	
	2	0.000	-0.030	0.030	0.21	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level

Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.

No results have been blank subtracted unless specified in the case narrative section.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8082A in Soil	
Aroclor-1016	CT,NH,NY,ME,NC,VA,PA
Aroclor-1016 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1262	NY,NC,VA,PA
Aroclor-1262 [2C]	NY,NC,VA,PA
Aroclor-1268	NY,NC,VA,PA
Aroclor-1268 [2C]	NY,NC,VA,PA

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2024
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2024
NC	North Carolina Div. of Water Quality	652	12/31/2023
ME	State of Maine	MA00100	06/9/2025
VA	Commonwealth of Virginia	460217	12/14/2023
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2024

23K0147 KT

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time

7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction	[2] Preservation Code
1	P-325-Ex-000.5	11/2/2023	10:10			U		3				X	
2	P-325-Ex-0.501	11/2/2023	10:11			U		1				H	
3	P-325-Ex-0101.5	11/2/2023	10:12			U		1				H	
4	P-325-Ex-01.502	11/2/2023	10:13			U		1				H	
5	P-325-Ex-0202.5	11/2/2023	10:14			U		1				H	
6	P-325-Ex-02.503	11/2/2023	10:15			U		1				H	
7	P-325-Ex-0303.5	11/2/2023	10:16			U		1				H	
8	P-325-Ex-03.504	11/2/2023	10:17			U		1				H	
9	P-325-Ex-0404.5	11/2/2023	10:18			U		1				H	
10	P-325-Ex-04.505	11/2/2023	10:19			U		1				H	

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)		Date/Time: 11/6/23 1157
Received by: (signature)		Date/Time: 11/6/23 1157
Relinquished by: (signature)		Date/Time: 11/6/23 1630
Received by: (signature)	29	Date/Time: 11/6/23 1630
Relinquished by: (signature)	28.4	Date/Time:
Received by: (signature)	25.	Date/Time:
Relinquished by: (signature)		Date/Time:
Received by: (signature)		Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Pace Analytical®
Phone: 612-607-6400
Fax: 612-607-6344
https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction	[2] Preservation Code
11	P-325-Ex-0506	11/2/2023	10:20			U		1				H	
12	P-325-Ex-0607	11/2/2023	10:21			U		1				H	
13	P-325-Ex-0708	11/2/2023	10:22			U		1				H	
14	P-326-Ex-000.5	11/2/2023	10:30			U		3				X	
15	P-326-Ex-0.501	11/2/2023	10:31			U		1				H	
16	P-326-Ex-0101.5	11/2/2023	10:32			U		1				H	
17	P-326-Ex-01.502	11/2/2023	10:33			U		1				H	
18	P-326-Ex-0202.5	11/2/2023	10:34			U		1				H	
19	P-326-Ex-02.503	11/2/2023	10:35			U		1				H	
20	P-326-Ex-0303.5	11/2/2023	10:36			U		1				H	

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time: 11/6/23 1157	Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.
Received by: (signature)	Date/Time: 11/6/23 1157	
Relinquished by: (signature)	Date/Time: 11/6/23 1630	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist
	Effective Date: 07/13/2023

Log In Back-Sheet

Client: Nobis

Project: St. Johnsbury Armory

MCP/RCP Required: no

Deliverable Package Requirement: none

Location: St. Johnsbury, VT

PWSID# (When Applicable): n/a

Arrival Method:

Courier ☑ Fed Ex ☐ Walk In ☐ Other ☐

Received By / Date / Time: Mcm 11/6/23 1630

Back-Sheet By / Date / Time: Mcm 11/6/23 2141

Temperature Method: Gun # 5

Temp < 6° C Actual Temperature: 25, 28, 29, 40

Rush Samples: Yes / No Notify: No

Short Hold: Yes / No Notify: No

Notes regarding Samples/COC outside of SOP:

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy) Any False statement will be brought to the attention of the Client – True or False

	True	False
Received on Ice	☑	☐
Received in Cooler	☑	☐
Custody Seal: DATE TIME	☐	☑
COC Relinquished	☑	☐
COC/Samples Labels Agree	☑	☐
All Samples in Good Condition	☑	☐
Samples Received within Holding Time	☑	☐
Is there enough Volume	☑	☐
Proper Media/Container Used	☑	☐
Splitting Samples Required	☐	☑
MS/MSD	☑	☐
Trip Blanks	☐	☑
Lab to Filters	☐	☑
COC Legible	☑	☐

COC Included: (Check all included)

Client ☑ Analysis ☑ Sampler Name ☑

Project ☑ IDs ☑ Collection Date/Time ☑

All Samples Proper pH: (N/A) ☐ ☐

Additional Container Notes

Note: West Virginia requires all samples to have their temperature taken. Note any outliers.

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

November 13, 2023

Tim Andrews
Nobis Engineering
585 Middlesex Street
Lowell, MA 01851

Project Location: St. Johnsbury, VT
Client Job Number:
Project Number: S00001.017
Laboratory Work Order Number: 23K0798

Enclosed are results of analyses for samples as received by the laboratory on November 6, 2023. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Rebecca Faust
Project Manager

Table of Contents

Sample Summary 3

Case Narrative 4

Sample Results 5

23K0798-06 5

23K0798-19 7

Sample Preparation Information 9

QC Data 10

Polychlorinated Biphenyls with 3540 Soxhlet Extraction 10

B357360 10

Dual Column RPD Report 11

Flag/Qualifier Summary 13

Certifications 14

Chain of Custody/Sample Receipt 15

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Nobis Engineering
585 Middlesex Street
Lowell, MA 01851
ATTN: Tim Andrews

REPORT DATE: 11/13/2023

PURCHASE ORDER NUMBER:

PROJECT NUMBER: S00001.017

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23K0798

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: St. Johnsbury, VT

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
P-309-Ex-0404.5	23K0798-01	Soil		-	
P-309-Ex-04.505	23K0798-02	Soil		-	
P-309-Ex-0506	23K0798-03	Soil		-	
P-309-Ex-0607	23K0798-04	Soil		-	
P-309-Ex-0708	23K0798-05	Soil		-	
P-310-Ex-000.5	23K0798-06	Soil		SM 2540G	
				SW-846 8082A	
P-310-Ex-0.501	23K0798-07	Soil		-	
P-310-Ex-0101.5	23K0798-08	Soil		-	
P-310-Ex-01.502	23K0798-09	Soil		-	
P-310-Ex-0202.5	23K0798-10	Soil		-	
P-310-Ex-02.503	23K0798-11	Soil		-	
P-310-Ex-0303.5	23K0798-12	Soil		-	
P-310-Ex-03.504	23K0798-13	Soil		-	
P-310-Ex-0404.5	23K0798-14	Soil		-	
P-310-Ex-4.505	23K0798-15	Soil		-	
P-310-Ex-0506	23K0798-16	Soil		-	
P-310-Ex-0607	23K0798-17	Soil		-	
P-310-Ex-0708	23K0798-18	Soil		-	
P-311-Ex-000.5	23K0798-19	Soil		SM 2540G	
				SW-846 8082A	
P-311-Ex-0.501	23K0798-20	Soil		-	

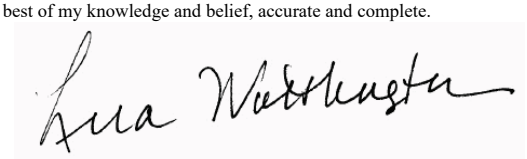
con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Lisa A. Worthington
Technical Representative

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K0798

Date Received: 11/6/2023

Field Sample #: P-310-Ex-000.5 | Sampled: 11/1/2023 12:40

Sample ID: 23K0798-06

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.081	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 14:56	SFM
Aroclor-1221 [1]	ND	0.081	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 14:56	SFM
Aroclor-1232 [1]	ND	0.081	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 14:56	SFM
Aroclor-1242 [1]	ND	0.081	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 14:56	SFM
Aroclor-1248 [1]	ND	0.081	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 14:56	SFM
Aroclor-1254 [1]	ND	0.081	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 14:56	SFM
Aroclor-1260 [1]	ND	0.081	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 14:56	SFM
Aroclor-1262 [1]	ND	0.081	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 14:56	SFM
Aroclor-1268 [1]	ND	0.081	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 14:56	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	86.2	30-150		11/10/23 14:56
Decachlorobiphenyl [2]	87.8	30-150		11/10/23 14:56
Tetrachloro-m-xylene [1]	94.4	30-150		11/10/23 14:56
Tetrachloro-m-xylene [2]	88.9	30-150		11/10/23 14:56

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K0798

Date Received: 11/6/2023

Field Sample #: P-310-Ex-000.5 | Sampled: 11/1/2023 12:40

Sample ID: 23K0798-06

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	97.6		% Wt	1		SM 2540G	11/7/23	11/7/23 9:05	DV

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K0798

Date Received: 11/6/2023

Field Sample #: P-311-Ex-000.5 | Sampled: 11/1/2023 13:20

Sample ID: 23K0798-19

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.082	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 15:17	SFM
Aroclor-1221 [1]	ND	0.082	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 15:17	SFM
Aroclor-1232 [1]	ND	0.082	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 15:17	SFM
Aroclor-1242 [1]	ND	0.082	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 15:17	SFM
Aroclor-1248 [1]	ND	0.082	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 15:17	SFM
Aroclor-1254 [1]	ND	0.082	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 15:17	SFM
Aroclor-1260 [1]	ND	0.082	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 15:17	SFM
Aroclor-1262 [1]	ND	0.082	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 15:17	SFM
Aroclor-1268 [1]	ND	0.082	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 15:17	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	85.3	30-150		11/10/23 15:17
Decachlorobiphenyl [2]	86.0	30-150		11/10/23 15:17
Tetrachloro-m-xylene [1]	91.0	30-150		11/10/23 15:17
Tetrachloro-m-xylene [2]	84.6	30-150		11/10/23 15:17

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K0798

Date Received: 11/6/2023

Field Sample #: P-311-Ex-000.5 | Sampled: 11/1/2023 13:20

Sample ID: 23K0798-19

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	94.7		% Wt	1		SM 2540G	11/7/23	11/7/23 9:05	DV

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method:% Solids **Analytical Method:SM 2540G**

Lab Number [Field ID]	Batch	Date
23K0798-06 [P-310-Ex-000.5]	B357371	11/07/23
23K0798-19 [P-311-Ex-000.5]	B357371	11/07/23

Prep Method:SW-846 3540C **Analytical Method:SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23K0798-06 [P-310-Ex-000.5]	B357360	10.1	10.0	11/07/23
23K0798-19 [P-311-Ex-000.5]	B357360	10.3	10.0	11/07/23

con-test® A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B357360 - SW-846 3540C										
Blank (B357360-BLK1)				Prepared: 11/07/23 Analyzed: 11/09/23						
Aroclor-1016	ND	0.020	mg/Kg wet							
Aroclor-1016 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1221	ND	0.020	mg/Kg wet							
Aroclor-1221 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1232	ND	0.020	mg/Kg wet							
Aroclor-1232 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1242	ND	0.020	mg/Kg wet							
Aroclor-1242 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1248	ND	0.020	mg/Kg wet							
Aroclor-1248 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1254	ND	0.020	mg/Kg wet							
Aroclor-1254 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1260	ND	0.020	mg/Kg wet							
Aroclor-1260 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1262	ND	0.020	mg/Kg wet							
Aroclor-1262 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1268	ND	0.020	mg/Kg wet							
Aroclor-1268 [2C]	ND	0.020	mg/Kg wet							
Surrogate: Decachlorobiphenyl	*0.171*		mg/Kg wet	0.200		85.4	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.183*		mg/Kg wet	0.200		91.5	30-150			
Surrogate: Tetrachloro-m-xylene	*0.184*		mg/Kg wet	0.200		92.0	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.183*		mg/Kg wet	0.200		91.3	30-150			
LCS (B357360-BS1)				Prepared: 11/07/23 Analyzed: 11/09/23						
Aroclor-1016	0.15	0.020	mg/Kg wet	0.200		75.6	40-140			
Aroclor-1016 [2C]	0.16	0.020	mg/Kg wet	0.200		79.8	40-140			
Aroclor-1260	0.15	0.020	mg/Kg wet	0.200		75.1	40-140			
Aroclor-1260 [2C]	0.16	0.020	mg/Kg wet	0.200		81.7	40-140			
Surrogate: Decachlorobiphenyl	*0.173*		mg/Kg wet	0.200		86.5	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.186*		mg/Kg wet	0.200		93.2	30-150			
Surrogate: Tetrachloro-m-xylene	*0.184*		mg/Kg wet	0.200		92.0	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.181*		mg/Kg wet	0.200		90.7	30-150			
LCS Dup (B357360-BSD1)				Prepared: 11/07/23 Analyzed: 11/09/23						
Aroclor-1016	0.15	0.020	mg/Kg wet	0.200		76.0	40-140	0.541	30	
Aroclor-1016 [2C]	0.16	0.020	mg/Kg wet	0.200		80.1	40-140	0.347	30	
Aroclor-1260	0.15	0.020	mg/Kg wet	0.200		75.5	40-140	0.556	30	
Aroclor-1260 [2C]	0.17	0.020	mg/Kg wet	0.200		82.6	40-140	0.996	30	
Surrogate: Decachlorobiphenyl	*0.174*		mg/Kg wet	0.200		86.9	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.188*		mg/Kg wet	0.200		94.0	30-150			
Surrogate: Tetrachloro-m-xylene	*0.185*		mg/Kg wet	0.200		92.7	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.183*		mg/Kg wet	0.200		91.6	30-150			

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B357360-BS1

Date(s) Analyzed: 11/09/2023 11/09/2023

Instrument ID (1): ECD 9

Instrument ID (2): ECD 9

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.16	6.5
Aroclor-1260	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.16	6.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B357360-BSD1 Date(s) Analyzed: 11/09/2023 11/09/2023

Instrument ID (1): ECD 9 Instrument ID (2): ECD 9

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.16	6.5
Aroclor-1260	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.17	12.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level

Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.

No results have been blank subtracted unless specified in the case narrative section.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8082A in Soil	
Aroclor-1016	CT,NH,NY,ME,NC,VA,PA
Aroclor-1016 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1262	NY,NC,VA,PA
Aroclor-1262 [2C]	NY,NC,VA,PA
Aroclor-1268	NY,NC,VA,PA
Aroclor-1268 [2C]	NY,NC,VA,PA

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2024
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2024
NC	North Carolina Div. of Water Quality	652	12/31/2023
ME	State of Maine	MA00100	06/9/2025
VA	Commonwealth of Virginia	460217	12/14/2023
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2024

23K0798 RF

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time

7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction											[2] Preservation Code
1	P-309-Ex-0404.5	11/1/2023	11:58			U		1				H											
2	P-309-Ex-04.505	11/1/2023	11:59			U		1				H											
3	P-309-Ex-0506	11/1/2023	12:00			U		1				H											
4	P-309-Ex-0607	11/1/2023	12:01			U		1				H											
5	P-309-Ex-0708	11/1/2023	12:02			U		1				H											
6	P-310-Ex-000.5	11/1/2023	12:40			U		1				X											
7	P-310-Ex-0.501	11/1/2023	12:41			U		1				H											
8	P-310-Ex-0101.5	11/1/2023	12:42			U		1				H											
9	P-310-Ex-01.502	11/1/2023	12:43			U		1				H											
10	P-310-Ex-0202.5	11/1/2023	12:44			U		1				H											

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time: 11/6/23 1557
Received by: (signature)	Date/Time: 11/6/23 1157
Relinquished by: (signature)	Date/Time: 11/6/23 1630
Received by: (signature) 28, 29	Date/Time: 11/6/23 1830
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Pace Analytical®
Phone: 612-607-6400
Fax: 612-607-6344

23K0798 RF

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction	[2] Preservation Code
11	P-310-Ex-02.503	11/1/2023	12:45			U		1				H	
12	P-310-Ex-0303.5	11/1/2023	12:46			U		1				H	
13	P-310-Ex-03.504	11/1/2023	12:47			U		1				H	
14	P-310-Ex-0404.5	11/1/2023	12:48			U		1				H	
15	P-310-Ex-04.505	11/1/2023	12:49			U		1				H	
16	P-310-Ex-0506	11/1/2023	12:50			U		3				H	
17	P-310-Ex-0607	11/1/2023	12:51			U		1				H	
18	P-310-Ex-0708	11/1/2023	12:52			U		1				H	
19	P-311-Ex-000.5	11/1/2023	13:20			U		1				X	
20	P-311-Ex-0.501	11/1/2023	13:21			U		1				H	

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time: 11/6/23 15	
Received by: (signature)	Date/Time: 11/6/23 1157	
Relinquished by: (signature)	Date/Time: 11/6/23 1630	
Received by: (signature)	Date/Time: 11/8 1630	28
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist
	Effective Date: 07/13/2023

Log In Back-Sheet

Client NobisGroup

Project St Johnsbury Armory

MCP/RCP Required N/A

Deliverable Package Requirement N/A

Location St. Johnsbury, VT

PWSID# (When Applicable) N/A

Arrival Method:

Courier ☒ Fed Ex ☐ Walk In ☐ Other ☐

Received By / Date / Time MEM 11/6/23 1630

Back-Sheet By / Date / Time STM 11/6/23 2146

Temperature Method Gun # 4

Temp ☒ < 6° C Actual Temperature 2.8, 2.9

Rush Samples: Yes / (No) Notify

Short Hold: Yes / (No) Notify

Notes regarding Samples/COC outside of SOP:

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy) Any False statement will be brought to the attention of the Client – True or False

	True	False
Received on Ice	☒	☐
Received in Cooler	☒	☐
Custody Seal: DATE TIME	☐	☒
COC Relinquished	☒	☐
COC/Samples Labels Agree	☒	☐
All Samples in Good Condition	☒	☐
Samples Received within Holding Time	☒	☐
Is there enough Volume	☒	☐
Proper Media/Container Used	☒	☐
Splitting Samples Required	☐	☒
MS/MSD	☒	☐
Trip Blanks	☐	☒
Lab to Filters	☐	☒
COC Legible	☒	☐

COC Included: (Check all included)

Client ☒ Analysis ☒ Sampler Name ☒

Project ☒ IDs ☒ Collection Date/Time ☒

All Samples Proper pH: (N/A) ☐ ☐

Additional Container Notes

Note: West Virginia requires all samples to have their temperature taken. Note any outliers.

Sample			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
16oz Amb/Clear	(Circle Amb/Clear)	Soils Jars																				
8oz Amb/Clear																						
4oz Amb/Clear			—	—	—	—	—	—	—	—	—	—	—	—	—	←	—	U	—	—	—	—
2oz Amb/Clear																						
Unpreserved	1 Liter	Ambers																				
HCL																						
Sulfuric																						
Sulfuric	250mL																					
Phosphoric																						
HCl																						
Unpreserved	100mL																					
Unpreserved	1 Liter	Plastics																				
Sulfuric																						
Unpreserved	500mL																					
Sulfuric																						
Unpreserved	250mL																					
Trizma																						
Sulfuric																						
Nitric																						
NaOH																						
Ammonium Acetate																						
NaOH/Zinc																						
Unpreserved		VOA Vials																				
HCl																						
MeOH																						
D.I. Water																						
BiSulfate																						
Col/Bact		Other / Fill in																				

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

November 13, 2023

Tim Andrews
Nobis Engineering
585 Middlesex Street
Lowell, MA 01851

Project Location: St. Johnsbury, VT
Client Job Number:
Project Number: S00001.017
Laboratory Work Order Number: 23K0799

Enclosed are results of analyses for samples as received by the laboratory on November 6, 2023. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Rebecca Faust
Project Manager

Table of Contents

Sample Summary 3

Case Narrative 4

Sample Results 5

23K0799-07 5

23K0799-20 7

Sample Preparation Information 9

QC Data 10

Polychlorinated Biphenyls with 3540 Soxhlet Extraction 10

B357389 10

Dual Column RPD Report 11

Flag/Qualifier Summary 13

Certifications 14

Chain of Custody/Sample Receipt 15

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Nobis Engineering
585 Middlesex Street
Lowell, MA 01851
ATTN: Tim Andrews

REPORT DATE: 11/13/2023

PURCHASE ORDER NUMBER:

PROJECT NUMBER: S00001.017

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23K0799

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: St. Johnsbury, VT

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
P-326-Ex-03.504	23K0799-01	Soil		-	
P-326-Ex-0404.5	23K0799-02	Soil		-	
P-326-Ex-04.505	23K0799-03	Soil		-	
P-326-Ex-0506	23K0799-04	Soil		-	
P-326-Ex-0607	23K0799-05	Soil		-	
P-326-Ex-0708	23K0799-06	Soil		-	
P-327-Ex-000.5	23K0799-07	Soil		SM 2540G	
				SW-846 8082A	
P-327-Ex-0501	23K0799-08	Soil		-	
P-327-Ex-0101.5	23K0799-09	Soil		-	
P-327-Ex-01.502	23K0799-10	Soil		-	
P-327-Ex-0202.5	23K0799-11	Soil		-	
P-327-Ex-02.503	23K0799-12	Soil		-	
P-327-Ex-0303.5	23K0799-13	Soil		-	
P-327-Ex-03.504	23K0799-14	Soil		-	
P-327-Ex-0404.5	23K0799-15	Soil		-	
P-327-Ex-04.505	23K0799-16	Soil		-	
P-327-Ex-0506	23K0799-17	Soil		-	
P-327-Ex-0607	23K0799-18	Soil		-	
P-327-Ex-0708	23K0799-19	Soil		-	
P-328-Ex-0606.5	23K0799-20	Soil		SM 2540G	
				SW-846 8082A	

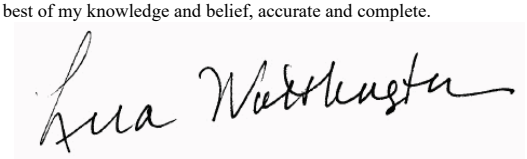
con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Lisa A. Worthington
Technical Representative

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K0799

Date Received: 11/6/2023

Field Sample #: P-327-Ex-000.5 | Sampled: 11/2/2023 10:45

Sample ID: 23K0799-07

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.081	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 19:35	SFM
Aroclor-1221 [1]	ND	0.081	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 19:35	SFM
Aroclor-1232 [1]	ND	0.081	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 19:35	SFM
Aroclor-1242 [1]	ND	0.081	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 19:35	SFM
Aroclor-1248 [1]	ND	0.081	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 19:35	SFM
Aroclor-1254 [1]	ND	0.081	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 19:35	SFM
Aroclor-1260 [1]	ND	0.081	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 19:35	SFM
Aroclor-1262 [1]	ND	0.081	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 19:35	SFM
Aroclor-1268 [1]	ND	0.081	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 19:35	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	90.2	30-150		11/10/23 19:35
Decachlorobiphenyl [2]	92.3	30-150		11/10/23 19:35
Tetrachloro-m-xylene [1]	96.7	30-150		11/10/23 19:35
Tetrachloro-m-xylene [2]	92.0	30-150		11/10/23 19:35

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K0799

Date Received: 11/6/2023

Field Sample #: P-327-Ex-000.5 | Sampled: 11/2/2023 10:45

Sample ID: 23K0799-07

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	98.5		% Wt	1		SM 2540G	11/7/23	11/7/23 9:05	DV

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K0799

Date Received: 11/6/2023

Field Sample #: P-328-Ex-0606.5 | Sampled: 11/2/2023 10:58

Sample ID: 23K0799-20

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.10	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 19:52	SFM
Aroclor-1221 [1]	ND	0.10	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 19:52	SFM
Aroclor-1232 [1]	ND	0.10	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 19:52	SFM
Aroclor-1242 [1]	ND	0.10	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 19:52	SFM
Aroclor-1248 [1]	ND	0.10	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 19:52	SFM
Aroclor-1254 [1]	ND	0.10	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 19:52	SFM
Aroclor-1260 [1]	ND	0.10	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 19:52	SFM
Aroclor-1262 [1]	ND	0.10	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 19:52	SFM
Aroclor-1268 [1]	ND	0.10	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 19:52	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	93.7	30-150		11/10/23 19:52
Decachlorobiphenyl [2]	95.9	30-150		11/10/23 19:52
Tetrachloro-m-xylene [1]	96.7	30-150		11/10/23 19:52
Tetrachloro-m-xylene [2]	92.6	30-150		11/10/23 19:52

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K0799

Date Received: 11/6/2023

Field Sample #: P-328-Ex-0606.5 | Sampled: 11/2/2023 10:58

Sample ID: 23K0799-20

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	79.2		% Wt	1		SM 2540G	11/7/23	11/7/23 9:05	DV

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method:% Solids **Analytical Method:SM 2540G**

Lab Number [Field ID]	Batch	Date
23K0799-07 [P-327-Ex-000.5]	B357371	11/07/23
23K0799-20 [P-328-Ex-0606.5]	B357371	11/07/23

Prep Method:SW-846 3540C **Analytical Method:SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23K0799-07 [P-327-Ex-000.5]	B357389	10.0	10.0	11/07/23
23K0799-20 [P-328-Ex-0606.5]	B357389	10.0	10.0	11/07/23

con-test® A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B357389 - SW-846 3540C										
Blank (B357389-BLK1)				Prepared: 11/07/23 Analyzed: 11/10/23						
Aroclor-1016	ND	0.020	mg/Kg wet							
Aroclor-1016 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1221	ND	0.020	mg/Kg wet							
Aroclor-1221 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1232	ND	0.020	mg/Kg wet							
Aroclor-1232 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1242	ND	0.020	mg/Kg wet							
Aroclor-1242 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1248	ND	0.020	mg/Kg wet							
Aroclor-1248 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1254	ND	0.020	mg/Kg wet							
Aroclor-1254 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1260	ND	0.020	mg/Kg wet							
Aroclor-1260 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1262	ND	0.020	mg/Kg wet							
Aroclor-1262 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1268	ND	0.020	mg/Kg wet							
Aroclor-1268 [2C]	ND	0.020	mg/Kg wet							
Surrogate: Decachlorobiphenyl	*0.173*		mg/Kg wet	0.200		86.7	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.187*		mg/Kg wet	0.200		93.4	30-150			
Surrogate: Tetrachloro-m-xylene	*0.184*		mg/Kg wet	0.200		92.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.186*		mg/Kg wet	0.200		93.0	30-150			
LCS (B357389-BS1)				Prepared: 11/07/23 Analyzed: 11/10/23						
Aroclor-1016	0.15	0.020	mg/Kg wet	0.200		75.4	40-140			
Aroclor-1016 [2C]	0.17	0.020	mg/Kg wet	0.200		82.7	40-140			
Aroclor-1260	0.15	0.020	mg/Kg wet	0.200		76.2	40-140			
Aroclor-1260 [2C]	0.17	0.020	mg/Kg wet	0.200		82.8	40-140			
Surrogate: Decachlorobiphenyl	*0.175*		mg/Kg wet	0.200		87.7	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.189*		mg/Kg wet	0.200		94.5	30-150			
Surrogate: Tetrachloro-m-xylene	*0.186*		mg/Kg wet	0.200		93.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.186*		mg/Kg wet	0.200		93.0	30-150			
LCS Dup (B357389-BSD1)				Prepared: 11/07/23 Analyzed: 11/10/23						
Aroclor-1016	0.14	0.020	mg/Kg wet	0.200		72.0	40-140	4.70	30	
Aroclor-1016 [2C]	0.16	0.020	mg/Kg wet	0.200		78.8	40-140	4.84	30	
Aroclor-1260	0.15	0.020	mg/Kg wet	0.200		74.7	40-140	1.97	30	
Aroclor-1260 [2C]	0.16	0.020	mg/Kg wet	0.200		80.9	40-140	2.28	30	
Surrogate: Decachlorobiphenyl	*0.176*		mg/Kg wet	0.200		88.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.191*		mg/Kg wet	0.200		95.6	30-150			
Surrogate: Tetrachloro-m-xylene	*0.176*		mg/Kg wet	0.200		88.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.177*		mg/Kg wet	0.200		88.5	30-150			

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B357389-BS1

Date(s) Analyzed: 11/10/2023 11/10/2023

Instrument ID (1): ECD 9

Instrument ID (2): ECD 9

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.17	12.5
Aroclor-1260	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.17	12.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B357389-BSD1 Date(s) Analyzed: 11/10/2023 11/10/2023

Instrument ID (1): ECD 9 Instrument ID (2): ECD 9

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.14	
	2	0.000	-0.030	0.030	0.16	13.3
Aroclor-1260	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.16	6.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level

Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.

No results have been blank subtracted unless specified in the case narrative section.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8082A in Soil	
Aroclor-1016	CT,NH,NY,ME,NC,VA,PA
Aroclor-1016 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1262	NY,NC,VA,PA
Aroclor-1262 [2C]	NY,NC,VA,PA
Aroclor-1268	NY,NC,VA,PA
Aroclor-1268 [2C]	NY,NC,VA,PA

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2024
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2024
NC	North Carolina Div. of Water Quality	652	12/31/2023
ME	State of Maine	MA00100	06/9/2025
VA	Commonwealth of Virginia	460217	12/14/2023
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2024

L3KPFM Kt

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time

7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction											[2] Preservation Code
1	P-326-Ex-03.504	11/2/2023	10:37			U		1				H											
2	P-326-Ex-0404.5	11/2/2023	10:38			U		1				H											
3	P-326-Ex-04.505	11/2/2023	10:39			U		1				H											
4	P-326-Ex-0506	11/2/2023	10:40			U		1				H											
5	P-326-Ex-0607	11/2/2023	10:41			U		1				H											
6	P-326-Ex-0708	11/2/2023	10:42			U		1				H											
7	P-327-Ex-000.5	11/2/2023	10:45			U		1				X											
8	P-327-Ex-0.501	11/2/2023	10:46			U		1				H											
9	P-327-Ex-0101.5	11/2/2023	10:47			U		1				H											
10	P-327-Ex-01.502	11/2/2023	10:48			U		1				H											

Relinquished by: (signature)	Date/Time: 11/6/23 1157
Received by: (signature)	Date/Time: 11/6/23 1157
Relinquished by: (signature)	Date/Time: 11/6/23 1630
Received by: (signature)	Date/Time: 11/6/23 1630
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other

☐ Chromatogram
☐ *AIHA-LAP,LLC*

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Pace Analytical®
Phone: 612-607-6400
Fax: 612-607-6344
https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction	[2] Preservation Code
11	P-327-Ex-0202.5	11/2/2023	10:49			U		1				H	
12	P-327-Ex-02.503	11/2/2023	10:50			U		1				H	
13	P-327-Ex-0303.5	11/2/2023	10:51			U		1				H	
14	P-327-Ex-03.504	11/2/2023	10:52			U		1				H	
15	P-327-Ex-0404.5	11/2/2023	10:53			U		1				H	
16	P-327-Ex-04.505	11/2/2023	10:54			U		1				H	
17	P-327-Ex-0506	11/2/2023	10:55			U		1				H	
18	P-327-Ex-0607	11/2/2023	10:56			U		1				H	
19	P-327-Ex-0708	11/2/2023	10:57			U		1				H	
20	P-328-Ex-0606.5	11/2/2023	10:58			U		1				X	

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? (Y) N
Glassware in freezer? (Y) N
Prepackaged Cooler? (Y) N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time: 11/6/23 1157	Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.
Received by: (signature)	Date/Time: 11/6/23 1157	
Relinquished by: (signature)	Date/Time: 11/6/23 1630	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist
	Effective Date: 07/13/2023

Log In Back-Sheet

Client: Nobis

Project: St. Johnsbury Armory

MCP/RCP Required: no

Deliverable Package Requirement: none

Location: St. Johnsbury, VT

PWSID# (When Applicable): n/a

Arrival Method:

Courier ☑ Fed Ex ☐ Walk In ☐ Other ☐

Received By / Date / Time: Mcm 11/6/23 1630

Back-Sheet By / Date / Time: Mcm 11/6/23 2150

Temperature Method: Gun # 5

Temp < 6° C Actual Temperature: 2.9, 4.0

Rush Samples: Yes / No Notify: No

Short Hold: Yes / No Notify: No

Notes regarding Samples/COC outside of SOP:

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy) Any False statement will be brought to the attention of the Client – True or False

	True	False
Received on Ice	☑	☐
Received in Cooler	☑	☐
Custody Seal: DATE TIME	☐	☑
COC Relinquished	☑	☐
COC/Samples Labels Agree	☑	☐
All Samples in Good Condition	☑	☐
Samples Received within Holding Time	☑	☐
Is there enough Volume	☑	☐
Proper Media/Container Used	☑	☐
Splitting Samples Required	☐	☑
MS/MSD	☐	☑
Trip Blanks	☐	☑
Lab to Filters	☐	☑
COC Legible	☑	☐

COC Included: (Check all included)

Client ☑ Analysis ☑ Sampler Name ☑

Project ☑ IDs ☑ Collection Date/Time ☑

All Samples Proper pH: (N/A) ☐ ☐

Additional Container Notes

Note: West Virginia requires all samples to have their temperature taken. Note any outliers.

Sample			
16oz Amb/Clear	Soils Jars (Circle Amb/Clear)		
8oz Amb/Clear			
4oz Amb/Clear			
2oz Amb/Clear			
Unpreserved	Ambers	1 Liter	
HCL			
Sulfuric			
Sulfuric		250mL	
Phosphoric			
HCl			
Unpreserved		100mL	
Unpreserved	Plastics	1 Liter	
Sulfuric			
Unpreserved		500mL	
Sulfuric			
Unpreserved		250mL	
Trizma			
Sulfuric			
Nitric			
NaOH			
Ammonium Acetate			
NaOH/Zinc			
Unpreserved	VOA Vials		
HCl			
MeOH			
D.I. Water			
BiSulfate			
Col/Bact	Other / Fill in		

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Qualtrax ID: 120836

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

November 13, 2023

Tim Andrews
Nobis Engineering
585 Middlesex Street
Lowell, MA 01851

Project Location: St. Johnsbury, VT
Client Job Number:
Project Number: S00001.017
Laboratory Work Order Number: 23K0800

Enclosed are results of analyses for samples as received by the laboratory on November 6, 2023. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Rebecca Faust
Project Manager

Table of Contents

Sample Summary 3

Case Narrative 4

Sample Results 5

23K0800-12 5

Sample Preparation Information 7

QC Data 8

Polychlorinated Biphenyls with 3540 Soxhlet Extraction 8

B357389 8

Dual Column RPD Report 9

Flag/Qualifier Summary 11

Certifications 12

Chain of Custody/Sample Receipt 13

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Nobis Engineering
585 Middlesex Street
Lowell, MA 01851
ATTN: Tim Andrews

REPORT DATE: 11/13/2023

PURCHASE ORDER NUMBER:

PROJECT NUMBER: S00001.017

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23K0800

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: St. Johnsbury, VT

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
P-311-Ex-0101.5	23K0800-01	Soil		-	
P-311-Ex-01.502	23K0800-02	Soil		-	
P-311-Ex-0202.5	23K0800-03	Soil		-	
P-311-Ex-02.503	23K0800-04	Soil		-	
P-311-Ex-0303.5	23K0800-05	Soil		-	
P-311-Ex-03.504	23K0800-06	Soil		-	
P-311-Ex-0404.5	23K0800-07	Soil		-	
P-311-Ex-4.505	23K0800-08	Soil		-	
P-311-Ex-0506	23K0800-09	Soil		-	
P-311-Ex-0607	23K0800-10	Soil		-	
P-311-Ex-0708	23K0800-11	Soil		-	
P-312-Ex-000.5	23K0800-12	Soil		SM 2540G	
				SW-846 8082A	
P-312-Ex-0.501	23K0800-13	Soil		-	
P-312-Ex-0101.5	23K0800-14	Soil		-	
P-312-Ex-01.502	23K0800-15	Soil		-	
P-312-Ex-0202.5	23K0800-16	Soil		-	
P-312-Ex-2.503	23K0800-17	Soil		-	
P-312-Ex-0303.5	23K0800-18	Soil		-	
P-312-Ex-3.504	23K0800-19	Soil		-	
P-312-Ex-0404.5	23K0800-20	Soil		-	

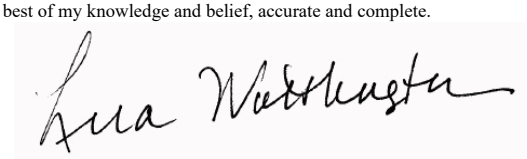
con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Lisa A. Worthington
Technical Representative

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K0800

Date Received: 11/6/2023

Field Sample #: P-312-Ex-000.5 | Sampled: 11/1/2023 13:40

Sample ID: 23K0800-12

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 20:09	SFM
Aroclor-1221 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 20:09	SFM
Aroclor-1232 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 20:09	SFM
Aroclor-1242 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 20:09	SFM
Aroclor-1248 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 20:09	SFM
Aroclor-1254 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 20:09	SFM
Aroclor-1260 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 20:09	SFM
Aroclor-1262 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 20:09	SFM
Aroclor-1268 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 20:09	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	91.0	30-150		11/10/23 20:09
Decachlorobiphenyl [2]	93.2	30-150		11/10/23 20:09
Tetrachloro-m-xylene [1]	100	30-150		11/10/23 20:09
Tetrachloro-m-xylene [2]	95.4	30-150		11/10/23 20:09

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K0800

Date Received: 11/6/2023

Field Sample #: P-312-Ex-000.5 | Sampled: 11/1/2023 13:40

Sample ID: 23K0800-12

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	91.5		% Wt	1		SM 2540G	11/7/23	11/7/23 9:05	DV

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method:% Solids **Analytical Method:SM 2540G**

Lab Number [Field ID]	Batch	Date
23K0800-12 [P-312-Ex-000.5]	B357371	11/07/23

Prep Method:SW-846 3540C **Analytical Method:SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23K0800-12 [P-312-Ex-000.5]	B357389	10.4	10.0	11/07/23

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B357389 - SW-846 3540C										
Blank (B357389-BLK1)				Prepared: 11/07/23 Analyzed: 11/10/23						
Aroclor-1016	ND	0.020	mg/Kg wet							
Aroclor-1016 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1221	ND	0.020	mg/Kg wet							
Aroclor-1221 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1232	ND	0.020	mg/Kg wet							
Aroclor-1232 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1242	ND	0.020	mg/Kg wet							
Aroclor-1242 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1248	ND	0.020	mg/Kg wet							
Aroclor-1248 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1254	ND	0.020	mg/Kg wet							
Aroclor-1254 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1260	ND	0.020	mg/Kg wet							
Aroclor-1260 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1262	ND	0.020	mg/Kg wet							
Aroclor-1262 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1268	ND	0.020	mg/Kg wet							
Aroclor-1268 [2C]	ND	0.020	mg/Kg wet							
Surrogate: Decachlorobiphenyl	*0.173*		mg/Kg wet	0.200		86.7	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.187*		mg/Kg wet	0.200		93.4	30-150			
Surrogate: Tetrachloro-m-xylene	*0.184*		mg/Kg wet	0.200		92.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.186*		mg/Kg wet	0.200		93.0	30-150			
LCS (B357389-BS1)				Prepared: 11/07/23 Analyzed: 11/10/23						
Aroclor-1016	0.15	0.020	mg/Kg wet	0.200		75.4	40-140			
Aroclor-1016 [2C]	0.17	0.020	mg/Kg wet	0.200		82.7	40-140			
Aroclor-1260	0.15	0.020	mg/Kg wet	0.200		76.2	40-140			
Aroclor-1260 [2C]	0.17	0.020	mg/Kg wet	0.200		82.8	40-140			
Surrogate: Decachlorobiphenyl	*0.175*		mg/Kg wet	0.200		87.7	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.189*		mg/Kg wet	0.200		94.5	30-150			
Surrogate: Tetrachloro-m-xylene	*0.186*		mg/Kg wet	0.200		93.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.186*		mg/Kg wet	0.200		93.0	30-150			
LCS Dup (B357389-BSD1)				Prepared: 11/07/23 Analyzed: 11/10/23						
Aroclor-1016	0.14	0.020	mg/Kg wet	0.200		72.0	40-140	4.70	30	
Aroclor-1016 [2C]	0.16	0.020	mg/Kg wet	0.200		78.8	40-140	4.84	30	
Aroclor-1260	0.15	0.020	mg/Kg wet	0.200		74.7	40-140	1.97	30	
Aroclor-1260 [2C]	0.16	0.020	mg/Kg wet	0.200		80.9	40-140	2.28	30	
Surrogate: Decachlorobiphenyl	*0.176*		mg/Kg wet	0.200		88.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.191*		mg/Kg wet	0.200		95.6	30-150			
Surrogate: Tetrachloro-m-xylene	*0.176*		mg/Kg wet	0.200		88.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.177*		mg/Kg wet	0.200		88.5	30-150			

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B357389-BS1

Date(s) Analyzed: 11/10/2023 11/10/2023

Instrument ID (1): ECD 9

Instrument ID (2): ECD 9

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.17	12.5
Aroclor-1260	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.17	12.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B357389-BSD1 Date(s) Analyzed: 11/10/2023 11/10/2023

Instrument ID (1): ECD 9 Instrument ID (2): ECD 9

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.14	
	2	0.000	-0.030	0.030	0.16	13.3
Aroclor-1260	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.16	6.5

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level

Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.

No results have been blank subtracted unless specified in the case narrative section.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8082A in Soil	
Aroclor-1016	CT,NH,NY,ME,NC,VA,PA
Aroclor-1016 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1262	NY,NC,VA,PA
Aroclor-1262 [2C]	NY,NC,VA,PA
Aroclor-1268	NY,NC,VA,PA
Aroclor-1268 [2C]	NY,NC,VA,PA

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2024
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2024
NC	North Carolina Div. of Water Quality	652	12/31/2023
ME	State of Maine	MA00100	06/9/2025
VA	Commonwealth of Virginia	460217	12/14/2023
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2024

23K0800 RF

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction	I
1	P-311-Ex-0101.5	11/1/2023	13:22			U		1				H	
2	P-311-Ex-01.502	11/1/2023	13:23			U		1				H	
3	P-311-Ex-0202.5	11/1/2023	13:24			U		1				H	
4	P-311-Ex-02.503	11/1/2023	13:25			U		1				H	
5	P-311-Ex-0303.5	11/1/2023	13:26			U		1				H	
6	P-311-Ex-03.504	11/1/2023	13:27			U		1				H	
7	P-311-Ex-0404.5	11/1/2023	13:28			U		1				H	
8	P-311-Ex-04.505	11/1/2023	13:29			U		1				H	
9	P-311-Ex-0506	11/1/2023	13:30			U		3				H	
10	P-311-Ex-0607	11/1/2023	13:31			U		1				H	

[2] Preservation Code

Courier Use Only

Total Number Of:

VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? (Y) N

Glassware in freezer? Y / N

Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time: 11/6/23 1157
Received by: (signature)	Date/Time: 11/6/23 1157
Relinquished by: (signature)	Date/Time: 11/6/23 1630
Received by: (signature) 28, 29	Date/Time: 11/6/23 1830
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA:
CT:
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

23K0800 RF

Pace Analytical

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction	[2] Preservation Code
11	P-311-Ex-0708	11/1/2023	13:32			U		1				H	
12	P-312-Ex-000.5	11/1/2023	13:40			U		1				X	
13	P-312-Ex-0.501	11/1/2023	13:41			U		1				H	
14	P-312-Ex-0101.5	11/1/2023	13:42			U		1				H	
15	P-312-Ex-01.502	11/1/2023	13:43			U		1				H	
16	P-312-Ex-0202.5	11/1/2023	13:44			U		1				H	
17	P-312-Ex-02.503	11/1/2023	13:45			U		1				H	
18	P-312-Ex-0303.5	11/1/2023	13:46			U		1				H	
19	P-312-Ex-03.504	11/1/2023	13:47			U		1				H	
20	P-312-Ex-0404.5	11/1/2023	13:48			U		1				H	

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? (Y) N
Glassware in freezer? Y (N)
Prepackaged Cooler? Y (N)

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time:	11/6/23 1157
Received by: (signature)	Date/Time:	11/6/23 1157
Relinquished by: (signature)	Date/Time:	11/6/23 1630
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

NELAC and AIHA-LAP, LLC Accredited

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist
	Effective Date: 07/13/2023

Log In Back-Sheet

Client NobisGroup

Project St Johnsbury Armory

MCP/RCP Required N/A

Deliverable Package Requirement N/A

Location St. Johnsbury, VT

PWSID# (When Applicable) N/A

Arrival Method:

Courier ☒ Fed Ex ☐ Walk In ☐ Other ☐

Received By / Date / Time MEM 11/6/23 1630

Back-Sheet By / Date / Time JTM 11/6/23 2206

Temperature Method Gun # 4

Temp ☒ < 6° C Actual Temperature 2-8, 2-9

Rush Samples: Yes (No) Notify

Short Hold: Yes (No) Notify

Notes regarding Samples/COC outside of SOP:

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy) Any False statement will be brought to the attention of the Client – True or False

	True	False
Received on Ice	☒	☐
Received in Cooler	☒	☐
Custody Seal: DATE TIME	☐	☒
COC Relinquished	☒	☐
COC/Samples Labels Agree	☒	☐
All Samples in Good Condition	☒	☐
Samples Received within Holding Time	☒	☐
Is there enough Volume	☒	☐
Proper Media/Container Used	☒	☐
Splitting Samples Required	☐	☒
MS/MSD	☒	☐
Trip Blanks	☐	☒
Lab to Filters	☐	☒
COC Legible	☒	☐

COC Included: (Check all included)

Client ☒ Analysis ☒ Sampler Name ☒

Project ☒ IDs ☒ Collection Date/Time ☒

All Samples Proper pH: (N/A) ☐ ☐

Additional Container Notes

Note: West Virginia requires all samples to have their temperature taken. Note any outliers.

Qualtrax ID: 120836

Sample			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
16oz Amb/Clear	Soils Jars (Circle Amb/Clear)																					
8oz Amb/Clear																						
4oz Amb/Clear																						
2oz Amb/Clear																						
Unpreserved	Ambers	1 Liter																				
HCL																						
Sulfuric																						
Sulfuric		250mL																				
Phosphoric																						
HCl																						
Unpreserved		100mL																				
Unpreserved	Plastics	1 Liter																				
Sulfuric																						
Unpreserved		500mL																				
Sulfuric																						
Unpreserved		250mL																				
Trizma																						
Sulfuric																						
Nitric																						
NaOH																						
Ammonium Acetate																						
NaOH/Zinc																						
Unpreserved	VOA Vials																					
HCl																						
MeOH																						
D.I. Water																						
BiSulfate																						
Col/Bact	Other / Fill in																					

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

November 13, 2023

Tim Andrews
Nobis Engineering
585 Middlesex Street
Lowell, MA 01851

Project Location: St. Johnsbury, VT
Client Job Number:
Project Number: S00001.017
Laboratory Work Order Number: 23K0801

Enclosed are results of analyses for samples as received by the laboratory on November 6, 2023. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Rebecca Faust
Project Manager

Table of Contents

Sample Summary 3

Case Narrative 4

Sample Results 5

23K0801-08 5

Sample Preparation Information 7

QC Data 8

Polychlorinated Biphenyls with 3540 Soxhlet Extraction 8

B357389 8

Dual Column RPD Report 9

Flag/Qualifier Summary 11

Certifications 12

Chain of Custody/Sample Receipt 13

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Nobis Engineering
585 Middlesex Street
Lowell, MA 01851
ATTN: Tim Andrews

REPORT DATE: 11/13/2023

PURCHASE ORDER NUMBER:

PROJECT NUMBER: S00001.017

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23K0801

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: St. Johnsbury, VT

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
P-323-Ex-0303.5	23K0801-01	Soil		-	
P-323-Ex-03.504	23K0801-02	Soil		-	
P-323-Ex-0404.5	23K0801-03	Soil		-	
P-323-Ex-04.505	23K0801-04	Soil		-	
P-323-Ex-0506	23K0801-05	Soil		-	
P-323-Ex-0607	23K0801-06	Soil		-	
P-323-Ex-0708	23K0801-07	Soil		-	
P-324-Ex-000.5	23K0801-08	Soil		SM 2540G	
				SW-846 8082A	
P-324-Ex-0.501	23K0801-09	Soil		-	
P-324-Ex-0101.5	23K0801-10	Soil		-	
P-324-Ex-01.502	23K0801-11	Soil		-	
P-324-Ex-0202.5	23K0801-12	Soil		-	
P-324-Ex-02.503	23K0801-13	Soil		-	
P-324-Ex-0303.5	23K0801-14	Soil		-	
P-324-Ex-03.504	23K0801-15	Soil		-	
P-324-Ex-0404.5	23K0801-16	Soil		-	
P-324-Ex-04.505	23K0801-17	Soil		-	
P-324-Ex-0506	23K0801-18	Soil		-	
P-324-Ex-0607	23K0801-19	Soil		-	
P-324-Ex-0708	23K0801-20	Soil		-	

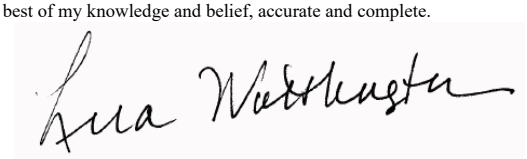
con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Lisa A. Worthington
Technical Representative

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K0801

Date Received: 11/6/2023

Field Sample #: P-324-Ex-000.5 | Sampled: 11/2/2023 09:50

Sample ID: 23K0801-08

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 20:26	SFM
Aroclor-1221 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 20:26	SFM
Aroclor-1232 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 20:26	SFM
Aroclor-1242 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 20:26	SFM
Aroclor-1248 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 20:26	SFM
Aroclor-1254 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 20:26	SFM
Aroclor-1260 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 20:26	SFM
Aroclor-1262 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 20:26	SFM
Aroclor-1268 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 20:26	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	89.5	30-150		11/10/23 20:26
Decachlorobiphenyl [2]	91.1	30-150		11/10/23 20:26
Tetrachloro-m-xylene [1]	99.0	30-150		11/10/23 20:26
Tetrachloro-m-xylene [2]	94.2	30-150		11/10/23 20:26

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K0801

Date Received: 11/6/2023

Field Sample #: P-324-Ex-000.5 | Sampled: 11/2/2023 09:50

Sample ID: 23K0801-08

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	93.1		% Wt	1		SM 2540G	11/7/23	11/7/23 9:05	DV

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method:% Solids **Analytical Method:SM 2540G**

Lab Number [Field ID]	Batch	Date
23K0801-08 [P-324-Ex-000.5]	B357371	11/07/23

Prep Method:SW-846 3540C **Analytical Method:SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23K0801-08 [P-324-Ex-000.5]	B357389	10.4	10.0	11/07/23

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B357389 - SW-846 3540C										
Blank (B357389-BLK1)				Prepared: 11/07/23 Analyzed: 11/10/23						
Aroclor-1016	ND	0.020	mg/Kg wet							
Aroclor-1016 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1221	ND	0.020	mg/Kg wet							
Aroclor-1221 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1232	ND	0.020	mg/Kg wet							
Aroclor-1232 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1242	ND	0.020	mg/Kg wet							
Aroclor-1242 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1248	ND	0.020	mg/Kg wet							
Aroclor-1248 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1254	ND	0.020	mg/Kg wet							
Aroclor-1254 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1260	ND	0.020	mg/Kg wet							
Aroclor-1260 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1262	ND	0.020	mg/Kg wet							
Aroclor-1262 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1268	ND	0.020	mg/Kg wet							
Aroclor-1268 [2C]	ND	0.020	mg/Kg wet							
Surrogate: Decachlorobiphenyl	*0.173*		mg/Kg wet	0.200		86.7	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.187*		mg/Kg wet	0.200		93.4	30-150			
Surrogate: Tetrachloro-m-xylene	*0.184*		mg/Kg wet	0.200		92.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.186*		mg/Kg wet	0.200		93.0	30-150			
LCS (B357389-BS1)				Prepared: 11/07/23 Analyzed: 11/10/23						
Aroclor-1016	0.15	0.020	mg/Kg wet	0.200		75.4	40-140			
Aroclor-1016 [2C]	0.17	0.020	mg/Kg wet	0.200		82.7	40-140			
Aroclor-1260	0.15	0.020	mg/Kg wet	0.200		76.2	40-140			
Aroclor-1260 [2C]	0.17	0.020	mg/Kg wet	0.200		82.8	40-140			
Surrogate: Decachlorobiphenyl	*0.175*		mg/Kg wet	0.200		87.7	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.189*		mg/Kg wet	0.200		94.5	30-150			
Surrogate: Tetrachloro-m-xylene	*0.186*		mg/Kg wet	0.200		93.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.186*		mg/Kg wet	0.200		93.0	30-150			
LCS Dup (B357389-BSD1)				Prepared: 11/07/23 Analyzed: 11/10/23						
Aroclor-1016	0.14	0.020	mg/Kg wet	0.200		72.0	40-140	4.70	30	
Aroclor-1016 [2C]	0.16	0.020	mg/Kg wet	0.200		78.8	40-140	4.84	30	
Aroclor-1260	0.15	0.020	mg/Kg wet	0.200		74.7	40-140	1.97	30	
Aroclor-1260 [2C]	0.16	0.020	mg/Kg wet	0.200		80.9	40-140	2.28	30	
Surrogate: Decachlorobiphenyl	*0.176*		mg/Kg wet	0.200		88.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.191*		mg/Kg wet	0.200		95.6	30-150			
Surrogate: Tetrachloro-m-xylene	*0.176*		mg/Kg wet	0.200		88.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.177*		mg/Kg wet	0.200		88.5	30-150			

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B357389-BS1

Date(s) Analyzed: 11/10/2023 11/10/2023

Instrument ID (1): ECD 9

Instrument ID (2): ECD 9

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.17	12.5
Aroclor-1260	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.17	12.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B357389-BSD1 Date(s) Analyzed: 11/10/2023 11/10/2023

Instrument ID (1): ECD 9 Instrument ID (2): ECD 9

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.14	
	2	0.000	-0.030	0.030	0.16	13.3
Aroclor-1260	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.16	6.5

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level

Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.

No results have been blank subtracted unless specified in the case narrative section.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8082A in Soil	
Aroclor-1016	CT,NH,NY,ME,NC,VA,PA
Aroclor-1016 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1262	NY,NC,VA,PA
Aroclor-1262 [2C]	NY,NC,VA,PA
Aroclor-1268	NY,NC,VA,PA
Aroclor-1268 [2C]	NY,NC,VA,PA

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2024
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2024
NC	North Carolina Div. of Water Quality	652	12/31/2023
ME	State of Maine	MA00100	06/9/2025
VA	Commonwealth of Virginia	460217	12/14/2023
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2024

23K0801 KF

Pace Analytical®
Phone: 612-607-6400
Fax: 612-607-6344
https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction												[2] Preservation Code
1	P-323-Ex-0303.5	11/2/2023	9:36			U		1				H												I
2	P-323-Ex-03.504	11/2/2023	9:37			U		1				H												
3	P-323-Ex-0404.5	11/2/2023	9:38			U		1				H												
4	P-323-Ex-04.505	11/2/2023	9:39			U		1				H												
5	P-323-Ex-0506	11/2/2023	9:40			U		1				H												
6	P-323-Ex-0607	11/2/2023	9:41			U		3				H												
7	P-323-Ex-0708	11/2/2023	9:42			U		1				H												
8	P-324-Ex-000.5	11/2/2023	9:50			U		1				X												
9	P-324-Ex-0.501	11/2/2023	9:52			U		1				H												
10	P-324-Ex-0101.5	11/2/2023	9:53			U		1				H												

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time:	11/6/23 1157
Received by: (signature)	Date/Time:	11/6/23 1152
Relinquished by: (signature)	Date/Time:	11/6/23 1630
Received by: (signature)	Date/Time:	11/6/23 1825
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Pace Analytical®
Phone: 612-607-6400
Fax: 612-607-6344
https://www.pacelabs.com/

CHAIN OF CUSTODY RECORD

Doc # 381 Rev 4_01/08/2020

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
11	P-324-Ex-01.502	11/2/2023	9:53			U		1				H
12	P-324-Ex-0202.5	11/2/2023	9:54			U		1				H
13	P-324-Ex-02.503	11/2/2023	9:55			U		1				H
14	P-324-Ex-0303.5	11/2/2023	9:56			U		1				H
15	P-324-Ex-03.504	11/2/2023	9:57			U		1				H
16	P-324-Ex-0404.5	11/2/2023	9:58			U		1				H
17	P-324-Ex-04.505	11/2/2023	9:59			U		1				H
18	P-324-Ex-0506	11/2/2023	10:00			U		1				H
19	P-324-Ex-0607	11/2/2023	10:01			U		1				H
20	P-324-Ex-0708	11/2/2023	10:02			U		1				H

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Relinquished by: (signature)	Date/Time: 11/6/23 1157
Received by: (signature)	Date/Time: 11/6/23 1157
Relinquished by: (signature)	Date/Time: 11/6/23 1630
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
☐ MCP Certification Form Required
☐ CT RCP Required
☐ RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

[2] Preservation Code
Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y N
Glassware in freezer? Y N
Prepackaged Cooler? Y N
*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist
	Effective Date: 07/13/2023

Log In Back-Sheet

Client: Nobis

Project: St. Johnsbury Armory

MCP/RCP Required: no

Deliverable Package Requirement: none

Location: St. Johnsbury, VT

PWSID# (When Applicable): n/a

Arrival Method:

Courier ☑ Fed Ex ☐ Walk In ☐ Other ☐

Received By / Date / Time: Mcm 11/6/23 1630

Back-Sheet By / Date / Time: Mcm 11/6/23 2210

Temperature Method: Gun # 5

Temp < 6° C Actual Temperature: 25.29, 4.0

Rush Samples: Yes / No Notify: No

Short Hold: Yes / No Notify: No

Notes regarding Samples/COC outside of SOP:

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy) Any False statement will be brought to the attention of the Client – True or False

	True	False
Received on Ice	☑	☐
Received in Cooler	☑	☐
Custody Seal: DATE TIME	☐	☑
COC Relinquished	☑	☐
COC/Samples Labels Agree	☑	☐
All Samples in Good Condition	☑	☐
Samples Received within Holding Time	☑	☐
Is there enough Volume	☑	☐
Proper Media/Container Used	☑	☐
Splitting Samples Required	☐	☑
MS/MSD	☑	☐
Trip Blanks	☐	☑
Lab to Filters	☐	☑
COC Legible	☑	☐

COC Included: (Check all included)

Client ☑ Analysis ☑ Sampler Name ☑

Project ☑ IDs ☑ Collection Date/Time ☑

All Samples Proper pH: (N/A) ☐ ☐

Additional Container Notes

Note: West Virginia requires all samples to have their temperature taken. Note any outliers.

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist
	Effective Date: 07/13/2023

Sample			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
16oz Amb/Clear	(Circle Amb/Clear)	Soils Jars																				
8oz Amb/Clear																						
4oz Amb/Clear			1				1	3	1													4
2oz Amb/Clear																						
Unpreserved	1 Liter	Ambers																				
HCL																						
Sulfuric																						
Sulfuric	250mL																					
Phosphoric																						
HCl																						
Unpreserved	100mL																					
Unpreserved	1 Liter	Plastics																				
Sulfuric																						
Unpreserved	500mL																					
Sulfuric																						
Unpreserved	250mL																					
Trizma																						
Sulfuric																						
Nitric																						
NaOH																						
Ammonium Acetate																						
NaOH/Zinc																						
Unpreserved		VOA Vials																				
HCl																						
MeOH																						
D.I. Water																						
BiSulfate																						
Col/Bact		Other / Fill in																				

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

November 13, 2023

Tim Andrews
Nobis Engineering
585 Middlesex Street
Lowell, MA 01851

Project Location: St. Johnsbury, VT
Client Job Number:
Project Number: S00001.017
Laboratory Work Order Number: 23K0802

Enclosed are results of analyses for samples as received by the laboratory on November 6, 2023. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Rebecca Faust
Project Manager

Table of Contents

Sample Summary 3

Case Narrative 4

Sample Results 5

23K0802-05 5

23K0802-18 7

Sample Preparation Information 9

QC Data 10

Polychlorinated Biphenyls with 3540 Soxhlet Extraction 10

B357389 10

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) 12

B357371 12

Dual Column RPD Report 13

Flag/Qualifier Summary 18

Certifications 19

Chain of Custody/Sample Receipt 20

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Nobis Engineering
585 Middlesex Street
Lowell, MA 01851
ATTN: Tim Andrews

REPORT DATE: 11/13/2023

PURCHASE ORDER NUMBER:

PROJECT NUMBER: S00001.017

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23K0802

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: St. Johnsbury, VT

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
P-312-Ex-04.505	23K0802-01	Soil		-	
P-312-Ex-0506	23K0802-02	Soil		-	
P-312-Ex-0607	23K0802-03	Soil		-	
P-312-Ex-0708	23K0802-04	Soil		-	
P-313-Ex-000.5	23K0802-05	Soil		SM 2540G	
				SW-846 8082A	
P-313-Ex-0.501	23K0802-06	Soil		-	
P-313-Ex-0101.5	23K0802-07	Soil		-	
P-313-Ex-01.502	23K0802-08	Soil		-	
P-313-Ex-0202.5	23K0802-09	Soil		-	
P-313-Ex-2.503	23K0802-10	Soil		-	
P-313-Ex-0303.5	23K0802-11	Soil		-	
P-313-Ex-3.504	23K0802-12	Soil		-	
P-313-Ex-0404.5	23K0802-13	Soil		-	
P-313-Ex-4.505	23K0802-14	Soil		-	
P-313-Ex-0506	23K0802-15	Soil		-	
P-313-Ex-0607	23K0802-16	Soil		-	
P-313-Ex-0708	23K0802-17	Soil		-	
P-314-Ex-000.5	23K0802-18	Soil		SM 2540G	
				SW-846 8082A	
P-314-Ex-0.501	23K0802-19	Soil		-	
P-314-Ex-0101.5	23K0802-20	Soil		-	

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Lisa A. Worthington
Technical Representative

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K0802

Date Received: 11/6/2023

Field Sample #: P-313-Ex-000.5 | Sampled: 11/1/2023 13:55

Sample ID: 23K0802-05

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.090	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 20:43	SFM
Aroclor-1221 [1]	ND	0.090	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 20:43	SFM
Aroclor-1232 [1]	ND	0.090	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 20:43	SFM
Aroclor-1242 [1]	ND	0.090	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 20:43	SFM
Aroclor-1248 [1]	ND	0.090	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 20:43	SFM
Aroclor-1254 [1]	0.13	0.090	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 20:43	SFM
Aroclor-1260 [1]	ND	0.090	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 20:43	SFM
Aroclor-1262 [1]	ND	0.090	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 20:43	SFM
Aroclor-1268 [1]	ND	0.090	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 20:43	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	93.0	30-150		11/10/23 20:43
Decachlorobiphenyl [2]	95.2	30-150		11/10/23 20:43
Tetrachloro-m-xylene [1]	99.3	30-150		11/10/23 20:43
Tetrachloro-m-xylene [2]	94.6	30-150		11/10/23 20:43

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K0802

Date Received: 11/6/2023

Field Sample #: P-313-Ex-000.5 | Sampled: 11/1/2023 13:55

Sample ID: 23K0802-05

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	85.8		% Wt	1		SM 2540G	11/7/23	11/7/23 9:05	DV

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K0802

Date Received: 11/6/2023

Field Sample #: P-314-Ex-000.5 | Sampled: 11/1/2023 14:10

Sample ID: 23K0802-18

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.093	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 22:41	SFM
Aroclor-1221 [1]	ND	0.093	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 22:41	SFM
Aroclor-1232 [1]	ND	0.093	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 22:41	SFM
Aroclor-1242 [1]	ND	0.093	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 22:41	SFM
Aroclor-1248 [1]	ND	0.093	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 22:41	SFM
Aroclor-1254 [1]	0.29	0.093	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 22:41	SFM
Aroclor-1260 [1]	ND	0.093	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 22:41	SFM
Aroclor-1262 [1]	ND	0.093	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 22:41	SFM
Aroclor-1268 [1]	ND	0.093	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 22:41	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	93.7	30-150		11/10/23 22:41
Decachlorobiphenyl [2]	98.3	30-150		11/10/23 22:41
Tetrachloro-m-xylene [1]	101	30-150		11/10/23 22:41
Tetrachloro-m-xylene [2]	95.0	30-150		11/10/23 22:41

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K0802

Date Received: 11/6/2023

Field Sample #: P-314-Ex-000.5 | Sampled: 11/1/2023 14:10

Sample ID: 23K0802-18

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	84.9		% Wt	1		SM 2540G	11/7/23	11/7/23 9:05	DV

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method:% Solids **Analytical Method:SM 2540G**

Lab Number [Field ID]	Batch	Date
23K0802-05 [P-313-Ex-000.5]	B357371	11/07/23
23K0802-18 [P-314-Ex-000.5]	B357371	11/07/23

Prep Method:SW-846 3540C **Analytical Method:SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23K0802-05 [P-313-Ex-000.5]	B357389	10.4	10.0	11/07/23
23K0802-18 [P-314-Ex-000.5]	B357389	10.1	10.0	11/07/23

con-test® A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B357389 - SW-846 3540C										
Blank (B357389-BLK1)				Prepared: 11/07/23 Analyzed: 11/10/23						
Aroclor-1016	ND	0.020	mg/Kg wet							
Aroclor-1016 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1221	ND	0.020	mg/Kg wet							
Aroclor-1221 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1232	ND	0.020	mg/Kg wet							
Aroclor-1232 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1242	ND	0.020	mg/Kg wet							
Aroclor-1242 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1248	ND	0.020	mg/Kg wet							
Aroclor-1248 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1254	ND	0.020	mg/Kg wet							
Aroclor-1254 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1260	ND	0.020	mg/Kg wet							
Aroclor-1260 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1262	ND	0.020	mg/Kg wet							
Aroclor-1262 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1268	ND	0.020	mg/Kg wet							
Aroclor-1268 [2C]	ND	0.020	mg/Kg wet							
Surrogate: Decachlorobiphenyl	*0.173*		mg/Kg wet	0.200		86.7	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.187*		mg/Kg wet	0.200		93.4	30-150			
Surrogate: Tetrachloro-m-xylene	*0.184*		mg/Kg wet	0.200		92.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.186*		mg/Kg wet	0.200		93.0	30-150			
LCS (B357389-BS1)				Prepared: 11/07/23 Analyzed: 11/10/23						
Aroclor-1016	0.15	0.020	mg/Kg wet	0.200		75.4	40-140			
Aroclor-1016 [2C]	0.17	0.020	mg/Kg wet	0.200		82.7	40-140			
Aroclor-1260	0.15	0.020	mg/Kg wet	0.200		76.2	40-140			
Aroclor-1260 [2C]	0.17	0.020	mg/Kg wet	0.200		82.8	40-140			
Surrogate: Decachlorobiphenyl	*0.175*		mg/Kg wet	0.200		87.7	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.189*		mg/Kg wet	0.200		94.5	30-150			
Surrogate: Tetrachloro-m-xylene	*0.186*		mg/Kg wet	0.200		93.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.186*		mg/Kg wet	0.200		93.0	30-150			
LCS Dup (B357389-BSD1)				Prepared: 11/07/23 Analyzed: 11/10/23						
Aroclor-1016	0.14	0.020	mg/Kg wet	0.200		72.0	40-140	4.70	30	
Aroclor-1016 [2C]	0.16	0.020	mg/Kg wet	0.200		78.8	40-140	4.84	30	
Aroclor-1260	0.15	0.020	mg/Kg wet	0.200		74.7	40-140	1.97	30	
Aroclor-1260 [2C]	0.16	0.020	mg/Kg wet	0.200		80.9	40-140	2.28	30	
Surrogate: Decachlorobiphenyl	*0.176*		mg/Kg wet	0.200		88.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.191*		mg/Kg wet	0.200		95.6	30-150			
Surrogate: Tetrachloro-m-xylene	*0.176*		mg/Kg wet	0.200		88.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.177*		mg/Kg wet	0.200		88.5	30-150			

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B357389 - SW-846 3540C										
Matrix Spike (B357389-MS1)	**Source: 23K0802-05**			Prepared: 11/07/23 Analyzed: 11/10/23						
Aroclor-1016	0.22	0.091	mg/Kg dry	0.229	ND	94.4	40-140			
Aroclor-1016 [2C]	0.24	0.091	mg/Kg dry	0.229	ND	105	40-140			
Aroclor-1260	0.35	0.091	mg/Kg dry	0.229	0.088	115	40-140			
Aroclor-1260 [2C]	0.37	0.091	mg/Kg dry	0.229	0.081	127	40-140			
Surrogate: Decachlorobiphenyl	*0.208*		mg/Kg dry	0.229		91.1	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.219*		mg/Kg dry	0.229		96.0	30-150			
Surrogate: Tetrachloro-m-xylene	*0.225*		mg/Kg dry	0.229		98.4	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.213*		mg/Kg dry	0.229		93.0	30-150			
Matrix Spike Dup (B357389-MSD1)	**Source: 23K0802-05**			Prepared: 11/07/23 Analyzed: 11/10/23						
Aroclor-1016	0.22	0.091	mg/Kg dry	0.229	ND	98.4	40-140	4.17	50	
Aroclor-1016 [2C]	0.25	0.091	mg/Kg dry	0.229	ND	109	40-140	3.56	50	
Aroclor-1260	0.36	0.091	mg/Kg dry	0.229	0.088	119	40-140	2.40	50	
Aroclor-1260 [2C]	0.38	0.091	mg/Kg dry	0.229	0.081	130	40-140	1.84	50	
Surrogate: Decachlorobiphenyl	*0.218*		mg/Kg dry	0.229		95.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.229*		mg/Kg dry	0.229		100	30-150			
Surrogate: Tetrachloro-m-xylene	*0.238*		mg/Kg dry	0.229		104	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.226*		mg/Kg dry	0.229		99.0	30-150			

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B357371 - % Solids										
Duplicate (B357371-DUP1)	**Source: 23K0802-18**		Prepared & Analyzed: 11/07/23							
% Solids	85.4		% Wt		84.9			0.580	10	

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-314-Ex-000.5

Lab Sample ID: 23K0802-18

Date(s) Analyzed: 11/10/2023 11/10/2023

Instrument ID (1): ECD 9

Instrument ID (2): ECD 9

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	-0.030	0.030	0.29	
	2	0.000	-0.030	0.030	0.21	32.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B357389-BS1 Date(s) Analyzed: 11/10/2023 11/10/2023

Instrument ID (1): ECD 9 Instrument ID (2): ECD 9

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.17	12.5
Aroclor-1260	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.17	12.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B357389-BSD1 Date(s) Analyzed: 11/10/2023 11/10/2023

Instrument ID (1): ECD 9 Instrument ID (2): ECD 9

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.14	
	2	0.000	-0.030	0.030	0.16	13.3
Aroclor-1260	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.16	6.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike

Lab Sample ID: B357389-MS1 Date(s) Analyzed: 11/10/2023 11/10/2023

Instrument ID (1): ECD 9 Instrument ID (2): ECD 9

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.22	
	2	0.000	-0.030	0.030	0.24	8.7
Aroclor-1260	1	0.000	-0.030	0.030	0.35	
	2	0.000	-0.030	0.030	0.37	5.6

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike Dup

Lab Sample ID: B357389-MSD1 Date(s) Analyzed: 11/10/2023 11/10/2023

Instrument ID (1): ECD 9 Instrument ID (2): ECD 9

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.22	
	2	0.000	-0.030	0.030	0.25	8.3
Aroclor-1260	1	0.000	-0.030	0.030	0.36	
	2	0.000	-0.030	0.030	0.38	5.4

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level

Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.

No results have been blank subtracted unless specified in the case narrative section.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8082A in Soil	
Aroclor-1016	CT,NH,NY,ME,NC,VA,PA
Aroclor-1016 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1262	NY,NC,VA,PA
Aroclor-1262 [2C]	NY,NC,VA,PA
Aroclor-1268	NY,NC,VA,PA
Aroclor-1268 [2C]	NY,NC,VA,PA

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2024
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2024
NC	North Carolina Div. of Water Quality	652	12/31/2023
ME	State of Maine	MA00100	06/9/2025
VA	Commonwealth of Virginia	460217	12/14/2023
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2024

23K0802 RF

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction	
1	P-312-Ex-04.505	11/1/2023	13:49			U		1				H	
2	P-312-Ex-0506	11/1/2023	13:50			U		1				H	
3	P-312-Ex-0607	11/1/2023	13:51			U		1				H	
4	P-312-Ex-0708	11/1/2023	13:52			U		1				H	
5	P-313-Ex-000.5	11/1/2023	13:55			U		3				X	
6	P-313-Ex-0.501	11/1/2023	13:56			U		1				H	
7	P-313-Ex-0101.5	11/1/2023	13:57			U		1				H	
8	P-313-Ex-01.502	11/1/2023	13:58			U		1				H	
9	P-313-Ex-0202.5	11/1/2023	13:59			U		1				H	
10	P-313-Ex-02.503	11/1/2023	14:00			U		1				H	

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time:	11/6/23 15
Received by: (signature)	Date/Time:	11/6/23 1152
Relinquished by: (signature)	Date/Time:	11/6/23 1630
Received by: (signature)	Date/Time:	11/7/23 630
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
CT
Others

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

23K0802 RF

Pace Analytical

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction	
11	P-313-Ex-0303.5	11/1/2023	14:01			U		1				H	
12	P-313-Ex-03.504	11/1/2023	14:02			U		1				H	
13	P-313-Ex-0404.5	11/1/2023	14:03			U		1				H	
14	P-313-Ex-04.505	11/1/2023	14:04			U		1				H	
15	P-313-Ex-0506	11/1/2023	14:05			U		1				H	
16	P-313-Ex-0607	11/1/2023	14:06			U		1				H	
17	P-313-Ex-0708	11/1/2023	14:07			U		1				H	
18	P-314-Ex-000.5	11/1/2023	14:10			U		1				X	
19	P-314-Ex-0.501	11/1/2023	14:11			U		1				H	
20	P-314-Ex-0101.5	11/1/2023	14:12			U		1				H	

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Relinquished by: (signature)		Date/Time: 11/6/23 1157
Received by: (signature)		Date/Time: 11/6/23 1157
Relinquished by: (signature)		Date/Time: 11/6/23 1600
Received by: (signature)		Date/Time:
Relinquished by: (signature)		Date/Time:
Received by: (signature)		Date/Time:
Relinquished by: (signature)		Date/Time:
Received by: (signature)		Date/Time:

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

NELAC and AIHA-LAP, LLC Accredited
Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

[2] Preservation Code
Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? (Y) N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N
*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist
	Effective Date: 07/13/2023

Log In Back-Sheet

Client NobisGroup

Project St Johnsbury Armory

MCP/RCP Required N/A

Deliverable Package Requirement N/A

Location St. Johnsbury, VT

PWSID# (When Applicable) N/A

Arrival Method:

Courier ☒ Fed Ex ☐ Walk In ☐ Other ☐

Received By / Date / Time MEM 11/6/23 1630

Back-Sheet By / Date / Time STM 11/6/23 2225

Temperature Method Gun # 4

Temp ☒ < 6° C Actual Temperature 2.8, 2.9

Rush Samples: Yes (No) Notify ____

Short Hold: Yes (No) Notify ____

Notes regarding Samples/COC outside of SOP:

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy) Any False statement will be brought to the attention of the Client – True or False

	True	False
Received on Ice	☒	☐
Received in Cooler	☒	☐
Custody Seal: DATE TIME	☐	☒
COC Relinquished	☒	☐
COC/Samples Labels Agree	☒	☐
All Samples in Good Condition	☒	☐
Samples Received within Holding Time	☒	☐
Is there enough Volume	☒	☐
Proper Media/Container Used	☒	☐
Splitting Samples Required	☐	☒
MS/MSD	☒	☐
Trip Blanks	☐	☒
Lab to Filters	☐	☒
COC Legible	☒	☐

COC Included: (Check all included)

Client ☒ Analysis ☒ Sampler Name ☒

Project ☒ IDs ☒ Collection Date/Time ☒

All Samples Proper pH: (N/A) ☐ ☐

Additional Container Notes

Note: West Virginia requires all samples to have their temperature taken. Note any outliers.

Qualtrax ID: 120836

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist
	Effective Date: 07/13/2023

Sample			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
16oz Amb/Clear	Soils Jars (Circle Amb/Clear)																					
8oz Amb/Clear																						
4oz Amb/Clear																						
2oz Amb/Clear																						
Unpreserved	Ambers	1 Liter																				
HCL																						
Sulfuric																						
Sulfuric		250mL																				
Phosphoric																						
HCl																						
Unpreserved		100mL																				
Unpreserved	Plastics	1 Liter																				
Sulfuric																						
Unpreserved		500mL																				
Sulfuric																						
Unpreserved		250mL																				
Trizma																						
Sulfuric																						
Nitric																						
NaOH																						
Ammonium Acetate																						
NaOH/Zinc																						
Unpreserved	VOA Vials																					
HCl																						
MeOH																						
D.I. Water																						
BiSulfate																						
Col/Bact	Other / Fill in																					

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

November 13, 2023

Tim Andrews
Nobis Engineering
585 Middlesex Street
Lowell, MA 01851

Project Location: St. Johnsbury, VT
Client Job Number:
Project Number: S00001.017
Laboratory Work Order Number: 23K0803

Enclosed are results of analyses for samples as received by the laboratory on November 6, 2023. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Rebecca Faust
Project Manager

Table of Contents

Sample Summary 3

Case Narrative 4

Sample Results 5

23K0803-02 5

23K0803-15 7

Sample Preparation Information 9

QC Data 10

Polychlorinated Biphenyls with 3540 Soxhlet Extraction 10

B357389 10

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) 11

B357371 11

Dual Column RPD Report 12

Flag/Qualifier Summary 15

Certifications 16

Chain of Custody/Sample Receipt 17

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Nobis Engineering
585 Middlesex Street
Lowell, MA 01851
ATTN: Tim Andrews

REPORT DATE: 11/13/2023

PURCHASE ORDER NUMBER:

PROJECT NUMBER: S00001.017

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23K0803

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: St. Johnsbury, VT

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
P-321-Ex-0708	23K0803-01	Soil		-	
P-322-Ex-000.5	23K0803-02	Soil		SM 2540G	
				SW-846 8082A	
P-322-Ex-0501	23K0803-03	Soil		-	
P-322-Ex-0101.5	23K0803-04	Soil		-	
P-322-Ex-01.502	23K0803-05	Soil		-	
P-322-Ex-0202.5	23K0803-06	Soil		-	
P-322-Ex-02.503	23K0803-07	Soil		-	
P-322-Ex-0303.5	23K0803-08	Soil		-	
P-322-Ex-03.504	23K0803-09	Soil		-	
P-322-Ex-0404.5	23K0803-10	Soil		-	
P-322-Ex-04.505	23K0803-11	Soil		-	
P-322-Ex-0506	23K0803-12	Soil		-	
P-322-Ex-0607	23K0803-13	Soil		-	
P-322-Ex-0708	23K0803-14	Soil		-	
P-323-Ex-000.5	23K0803-15	Soil		SM 2540G	
				SW-846 8082A	
P-323-Ex-0501	23K0803-16	Soil		-	
P-323-Ex-0101.5	23K0803-17	Soil		-	
P-323-Ex-01.502	23K0803-18	Soil		-	
P-323-Ex-0202.5	23K0803-19	Soil		-	
P-323-Ex-02.503	23K0803-20	Soil		-	

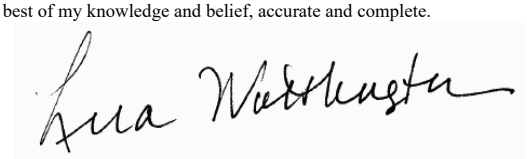
con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Lisa A. Worthington
Technical Representative

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K0803

Date Received: 11/6/2023

Field Sample #: P-322-Ex-000.5 | Sampled: 11/2/2023 09:10

Sample ID: 23K0803-02

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.085	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 22:58	SFM
Aroclor-1221 [1]	ND	0.085	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 22:58	SFM
Aroclor-1232 [1]	ND	0.085	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 22:58	SFM
Aroclor-1242 [1]	ND	0.085	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 22:58	SFM
Aroclor-1248 [1]	ND	0.085	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 22:58	SFM
Aroclor-1254 [1]	ND	0.085	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 22:58	SFM
Aroclor-1260 [1]	ND	0.085	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 22:58	SFM
Aroclor-1262 [1]	ND	0.085	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 22:58	SFM
Aroclor-1268 [1]	ND	0.085	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 22:58	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	95.3	30-150		11/10/23 22:58
Decachlorobiphenyl [2]	97.4	30-150		11/10/23 22:58
Tetrachloro-m-xylene [1]	98.3	30-150		11/10/23 22:58
Tetrachloro-m-xylene [2]	92.9	30-150		11/10/23 22:58

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K0803

Date Received: 11/6/2023

Field Sample #: P-322-Ex-000.5 | Sampled: 11/2/2023 09:10

Sample ID: 23K0803-02

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	92.2		% Wt	1		SM 2540G	11/7/23	11/7/23 9:05	DV

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K0803

Date Received: 11/6/2023

Field Sample #: P-323-Ex-000.5 | Sampled: 11/2/2023 09:30

Sample ID: 23K0803-15

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.085	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 23:14	SFM
Aroclor-1221 [1]	ND	0.085	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 23:14	SFM
Aroclor-1232 [1]	ND	0.085	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 23:14	SFM
Aroclor-1242 [1]	ND	0.085	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 23:14	SFM
Aroclor-1248 [1]	ND	0.085	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 23:14	SFM
Aroclor-1254 [2]	0.52	0.085	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 23:14	SFM
Aroclor-1260 [1]	ND	0.085	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 23:14	SFM
Aroclor-1262 [1]	ND	0.085	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 23:14	SFM
Aroclor-1268 [1]	ND	0.085	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 23:14	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	92.3	30-150		11/10/23 23:14
Decachlorobiphenyl [2]	94.5	30-150		11/10/23 23:14
Tetrachloro-m-xylene [1]	103	30-150		11/10/23 23:14
Tetrachloro-m-xylene [2]	97.8	30-150		11/10/23 23:14

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K0803

Date Received: 11/6/2023

Field Sample #: P-323-Ex-000.5 | Sampled: 11/2/2023 09:30

Sample ID: 23K0803-15

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	94.0		% Wt	1		SM 2540G	11/7/23	11/7/23 13:01	DV

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method:% Solids **Analytical Method:SM 2540G**

Lab Number [Field ID]	Batch	Date
23K0803-02 [P-322-Ex-000.5]	B357371	11/07/23

Prep Method:% Solids **Analytical Method:SM 2540G**

Lab Number [Field ID]	Batch	Date
23K0803-15 [P-323-Ex-000.5]	B357422	11/07/23

Prep Method:SW-846 3540C **Analytical Method:SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23K0803-02 [P-322-Ex-000.5]	B357389	10.2	10.0	11/07/23
23K0803-15 [P-323-Ex-000.5]	B357389	10.0	10.0	11/07/23

con-test® A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B357389 - SW-846 3540C										
Blank (B357389-BLK1)				Prepared: 11/07/23 Analyzed: 11/10/23						
Aroclor-1016	ND	0.020	mg/Kg wet							
Aroclor-1016 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1221	ND	0.020	mg/Kg wet							
Aroclor-1221 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1232	ND	0.020	mg/Kg wet							
Aroclor-1232 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1242	ND	0.020	mg/Kg wet							
Aroclor-1242 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1248	ND	0.020	mg/Kg wet							
Aroclor-1248 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1254	ND	0.020	mg/Kg wet							
Aroclor-1254 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1260	ND	0.020	mg/Kg wet							
Aroclor-1260 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1262	ND	0.020	mg/Kg wet							
Aroclor-1262 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1268	ND	0.020	mg/Kg wet							
Aroclor-1268 [2C]	ND	0.020	mg/Kg wet							
Surrogate: Decachlorobiphenyl	*0.173*		mg/Kg wet	0.200		86.7	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.187*		mg/Kg wet	0.200		93.4	30-150			
Surrogate: Tetrachloro-m-xylene	*0.184*		mg/Kg wet	0.200		92.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.186*		mg/Kg wet	0.200		93.0	30-150			
LCS (B357389-BS1)				Prepared: 11/07/23 Analyzed: 11/10/23						
Aroclor-1016	0.15	0.020	mg/Kg wet	0.200		75.4	40-140			
Aroclor-1016 [2C]	0.17	0.020	mg/Kg wet	0.200		82.7	40-140			
Aroclor-1260	0.15	0.020	mg/Kg wet	0.200		76.2	40-140			
Aroclor-1260 [2C]	0.17	0.020	mg/Kg wet	0.200		82.8	40-140			
Surrogate: Decachlorobiphenyl	*0.175*		mg/Kg wet	0.200		87.7	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.189*		mg/Kg wet	0.200		94.5	30-150			
Surrogate: Tetrachloro-m-xylene	*0.186*		mg/Kg wet	0.200		93.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.186*		mg/Kg wet	0.200		93.0	30-150			
LCS Dup (B357389-BSD1)				Prepared: 11/07/23 Analyzed: 11/10/23						
Aroclor-1016	0.14	0.020	mg/Kg wet	0.200		72.0	40-140	4.70	30	
Aroclor-1016 [2C]	0.16	0.020	mg/Kg wet	0.200		78.8	40-140	4.84	30	
Aroclor-1260	0.15	0.020	mg/Kg wet	0.200		74.7	40-140	1.97	30	
Aroclor-1260 [2C]	0.16	0.020	mg/Kg wet	0.200		80.9	40-140	2.28	30	
Surrogate: Decachlorobiphenyl	*0.176*		mg/Kg wet	0.200		88.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.191*		mg/Kg wet	0.200		95.6	30-150			
Surrogate: Tetrachloro-m-xylene	*0.176*		mg/Kg wet	0.200		88.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.177*		mg/Kg wet	0.200		88.5	30-150			

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B357371 - % Solids										
Duplicate (B357371-DUP2)	**Source: 23K0803-02**		Prepared & Analyzed: 11/07/23							
% Solids	87.7		% Wt		92.2			5.05	10	

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-323-Ex-000.5

Lab Sample ID: 23K0803-15 Date(s) Analyzed: 11/10/2023 11/10/2023

Instrument ID (1): ECD 9 Instrument ID (2): ECD 9

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	-0.030	0.030	0.51	
	2	0.000	-0.030	0.030	0.52	1.9

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B357389-BS1 Date(s) Analyzed: 11/10/2023 11/10/2023

Instrument ID (1): ECD 9 Instrument ID (2): ECD 9

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.17	12.5
Aroclor-1260	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.17	12.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B357389-BSD1 Date(s) Analyzed: 11/10/2023 11/10/2023

Instrument ID (1): ECD 9 Instrument ID (2): ECD 9

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.14	
	2	0.000	-0.030	0.030	0.16	13.3
Aroclor-1260	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.16	6.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level

Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.

No results have been blank subtracted unless specified in the case narrative section.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8082A in Soil	
Aroclor-1016	CT,NH,NY,ME,NC,VA,PA
Aroclor-1016 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1262	NY,NC,VA,PA
Aroclor-1262 [2C]	NY,NC,VA,PA
Aroclor-1268	NY,NC,VA,PA
Aroclor-1268 [2C]	NY,NC,VA,PA

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2024
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2024
NC	North Carolina Div. of Water Quality	652	12/31/2023
ME	State of Maine	MA00100	06/9/2025
VA	Commonwealth of Virginia	460217	12/14/2023
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2024

L3K0808 KT

Pace Analytical®
Phone: 612-607-6400
Fax: 612-607-6344
https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time			
7-Day	☐	10-Day	☑
PFAS 10-Day (std)	☐	Due Date:	

Rush-Approval Required			
1-Day	☐	3-Day	☐
2-Day	☐	4-Day	☐

Data Delivery			
Format:	PDF ☑	EXCEL ☑	
Other:	Equis EDD		
CLP Like Data Pkg Required:	☐		
Email To:	tandrews@nobis-group.com		
Fax To #:			

Dissolved Metals Samples	
○	Field Filtered
○	Lab to Filter

Orthophosphate Samples	
○	Field Filtered
○	Lab to Filter

PCB ONLY

SOXHLET ☑

NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction												[2] Preservation Code
1	P-321-Ex-0708	11/2/2023	9:02			U		1				H												
2	P-322-Ex-000.5	11/2/2023	9:10			U		1				X												
3	P-322-Ex-0.501	11/2/2023	9:11			U		1				H												
4	P-322-Ex-0101.5	11/2/2023	9:12			U		1				H												
5	P-322-Ex-01.502	11/2/2023	9:13			U		1				H												
6	P-322-Ex-0202.5	11/2/2023	9:14			U		1				H												
7	P-322-Ex-02.503	11/2/2023	9:15			U		1				H												
8	P-322-Ex-0303.5	11/2/2023	9:16			U		1				H												
9	P-322-Ex-03.504	11/2/2023	9:17			U		1				H												
10	P-322-Ex-0404.5	11/2/2023	9:18			U		1				H												

Courier Use Only

Total Number Of:

VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N

Glassware in freezer? Y / N

Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time: 11/6/23 1157	Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.
Received by: (signature)	Date/Time: 11/6/23 1157	
Relinquished by: (signature)	Date/Time: 11/6/23 1630	
Received by: (signature)	Date/Time: 11/8 1630	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Detection Limit Requirements	
MA	
CT	
Other:	

Special Requirements	
☐	MA MCP Required
	MCP Certification Form Required
☐	CT RCP Required
	RCP Certification Form Required
☐	MA State DW Required
PWSID #	

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government	☐	Municipality	☐	MWRA	☐	WRTA	☐
Federal	☐	21 J	☐	School	☐		
City	☐	Brownfield	☐	MBTA	☐		

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Pace Analytical®
Phone: 612-607-6400
Fax: 612-607-6344
https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1] Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction											[2] Preservation Code
11	P-322-Ex-04.505	11/2/2023	9:19			U		3				H											
12	P-322-Ex-0506	11/2/2023	9:20			U		1				H											
13	P-322-Ex-0607	11/2/2023	9:21			U		1				H											
14	P-322-Ex-0708	11/2/2023	9:22			U		1				H											
15	P-323-Ex-000.5	11/2/2023	9:30			U		1				X											
16	P-323-Ex-0.501	11/2/2023	9:31			U		1				H											
17	P-323-Ex-0101.5	11/2/2023	9:32			U		1				H											
18	P-323-Ex-01.502	11/2/2023	9:33			U		1				H											
19	P-323-Ex-0202.5	11/2/2023	9:34			U		1				H											
20	P-323-Ex-02.503	11/2/2023	9:35			U		1				H											

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? (Y) N
Glassware in freezer? Y (N)
Prepackaged Cooler? Y (N)
*Pace Analytical is not responsible for missing samples from prepacked coolers

	Date/Time:
Relinquished by: (signature)	11/6/23 1157
Received by: (signature)	11/6/23 1157
Relinquished by: (signature)	11/6/23 1630
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
GT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist
	Effective Date: 07/13/2023

Log In Back-Sheet

Client: Nobis

Project: St. Johnsbury Armory

MCP/RCP Required: no

Deliverable Package Requirement: none

Location: St. Johnsbury, VT

PWSID# (When Applicable): n/a

Arrival Method:

Courier ☑ Fed Ex ☐ Walk In ☐ Other ☐

Received By / Date / Time: Mcm 11/6/23 1630

Back-Sheet By / Date / Time: Mcm 11/6/23 2246

Temperature Method: Gun # 5

Temp < 6° C Actual Temperature: 4.0, 2.9

Rush Samples: Yes / No Notify: No

Short Hold: Yes / No Notify: No

Notes regarding Samples/COC outside of SOP:

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy) Any False statement will be brought to the attention of the Client – True or False

	True	False
Received on Ice	☑	☐
Received in Cooler	☑	☐
Custody Seal: DATE TIME	☐	☑
COC Relinquished	☑	☐
COC/Samples Labels Agree	☑	☐
All Samples in Good Condition	☑	☐
Samples Received within Holding Time	☑	☐
Is there enough Volume	☑	☐
Proper Media/Container Used	☑	☐
Splitting Samples Required	☐	☑
MS/MSD	☑	☐
Trip Blanks	☐	☑
Lab to Filters	☐	☑
COC Legible	☑	☐

COC Included: (Check all included)

Client ☑ Analysis ☑ Sampler Name ☑

Project ☑ IDs ☑ Collection Date/Time ☑

All Samples Proper pH: N/A ☐ ☐

Additional Container Notes

Note: West Virginia requires all samples to have their temperature taken. Note any outliers.

Sample		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
16oz Amb/Clear	Soils Jars (Circle Amb/Clear)																				
8oz Amb/Clear																					
4oz Amb/Clear		1	←	←	←	←	←	←	←	←	←	3	1								
2oz Amb/Clear																					
Unpreserved	Ambers 1 Liter																				
HCL																					
Sulfuric																					
Sulfuric	Ambers 250mL																				
Phosphoric																					
HCl																					
Unpreserved	Ambers 100mL																				
Unpreserved	Plastics 1 Liter																				
Sulfuric																					
Unpreserved	Plastics 500mL																				
Sulfuric																					
Unpreserved	Plastics 250mL																				
Trizma																					
Sulfuric																					
Nitric																					
NaOH																					
Ammonium Acetate																					
NaOH/Zinc																					
Unpreserved	VOA Vials																				
HCl																					
MeOH																					
D.I. Water																					
BiSulfate																					
Col/Bact	Other / Fill in																				

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

November 13, 2023

Tim Andrews
Nobis Engineering
585 Middlesex Street
Lowell, MA 01851

Project Location: St. Johnsbury, VT
Client Job Number:
Project Number: S00001.017
Laboratory Work Order Number: 23K0804

Enclosed are results of analyses for samples as received by the laboratory on November 6, 2023. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Rebecca Faust
Project Manager

Table of Contents

Sample Summary 3

Case Narrative 4

Sample Results 5

23K0804-11 5

Sample Preparation Information 7

QC Data 8

Polychlorinated Biphenyls with 3540 Soxhlet Extraction 8

B357389 8

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) 9

B357371 9

Dual Column RPD Report 10

Flag/Qualifier Summary 13

Certifications 14

Chain of Custody/Sample Receipt 15

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Nobis Engineering
585 Middlesex Street
Lowell, MA 01851
ATTN: Tim Andrews

REPORT DATE: 11/13/2023

PURCHASE ORDER NUMBER:

PROJECT NUMBER: S00001.017

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23K0804

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: St. Johnsbury, VT

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
P-314-Ex-01.502	23K0804-01	Soil		-	
P-314-Ex-0202.5	23K0804-02	Soil		-	
P-314-Ex-2.503	23K0804-03	Soil		-	
P-314-Ex-0303.5	23K0804-04	Soil		-	
P-314-Ex-3.504	23K0804-05	Soil		-	
P-314-Ex-0404.5	23K0804-06	Soil		-	
P-314-Ex-04.505	23K0804-07	Soil		-	
P-314-Ex-0506	23K0804-08	Soil		-	
P-314-Ex-0607	23K0804-09	Soil		-	
P-314-Ex-0708	23K0804-10	Soil		-	
P-315-Ex-000.5	23K0804-11	Soil		SM 2540G	
				SW-846 8082A	
P-315-Ex-0.501	23K0804-12	Soil		-	
P-315-Ex-0101.5	23K0804-13	Soil		-	
P-315-Ex-1.502	23K0804-14	Soil		-	
P-315-Ex-0202.5	23K0804-15	Soil		-	
P-315-Ex-2.503	23K0804-16	Soil		-	
P-315-Ex-0303.5	23K0804-17	Soil		-	
P-315-Ex-3.504	23K0804-18	Soil		-	
P-315-Ex-0404.5	23K0804-19	Soil		-	
P-315-Ex-4.505	23K0804-20	Soil		-	

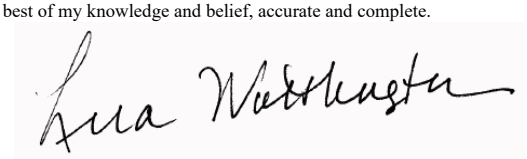
con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Lisa A. Worthington
Technical Representative

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K0804

Date Received: 11/6/2023

Field Sample #: P-315-Ex-000.5 | Sampled: 11/1/2023 14:25

Sample ID: 23K0804-11

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.45	mg/Kg dry	20		SW-846 8082A	11/7/23	11/11/23 8:17	SFM
Aroclor-1221 [1]	ND	0.45	mg/Kg dry	20		SW-846 8082A	11/7/23	11/11/23 8:17	SFM
Aroclor-1232 [1]	ND	0.45	mg/Kg dry	20		SW-846 8082A	11/7/23	11/11/23 8:17	SFM
Aroclor-1242 [1]	ND	0.45	mg/Kg dry	20		SW-846 8082A	11/7/23	11/11/23 8:17	SFM
Aroclor-1248 [1]	ND	0.45	mg/Kg dry	20		SW-846 8082A	11/7/23	11/11/23 8:17	SFM
Aroclor-1254 [1]	1.3	0.45	mg/Kg dry	20		SW-846 8082A	11/7/23	11/11/23 8:17	SFM
Aroclor-1260 [2]	3.1	0.45	mg/Kg dry	20		SW-846 8082A	11/7/23	11/11/23 8:17	SFM
Aroclor-1262 [1]	ND	0.45	mg/Kg dry	20		SW-846 8082A	11/7/23	11/11/23 8:17	SFM
Aroclor-1268 [1]	ND	0.45	mg/Kg dry	20		SW-846 8082A	11/7/23	11/11/23 8:17	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	98.7	30-150		11/11/23 8:17
Decachlorobiphenyl [2]	94.9	30-150		11/11/23 8:17
Tetrachloro-m-xylene [1]	107	30-150		11/11/23 8:17
Tetrachloro-m-xylene [2]	102	30-150		11/11/23 8:17

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K0804

Date Received: 11/6/2023

Field Sample #: P-315-Ex-000.5 | Sampled: 11/1/2023 14:25

Sample ID: 23K0804-11

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	84.2		% Wt	1		SM 2540G	11/7/23	11/7/23 9:05	DV

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method:% Solids **Analytical Method:SM 2540G**

Lab Number [Field ID]	Batch	Date
23K0804-11 [P-315-Ex-000.5]	B357371	11/07/23

Prep Method:SW-846 3540C **Analytical Method:SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23K0804-11 [P-315-Ex-000.5]	B357389	10.5	10.0	11/07/23

con-test® A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B357389 - SW-846 3540C										
Blank (B357389-BLK1)				Prepared: 11/07/23 Analyzed: 11/10/23						
Aroclor-1016	ND	0.020	mg/Kg wet							
Aroclor-1016 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1221	ND	0.020	mg/Kg wet							
Aroclor-1221 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1232	ND	0.020	mg/Kg wet							
Aroclor-1232 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1242	ND	0.020	mg/Kg wet							
Aroclor-1242 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1248	ND	0.020	mg/Kg wet							
Aroclor-1248 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1254	ND	0.020	mg/Kg wet							
Aroclor-1254 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1260	ND	0.020	mg/Kg wet							
Aroclor-1260 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1262	ND	0.020	mg/Kg wet							
Aroclor-1262 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1268	ND	0.020	mg/Kg wet							
Aroclor-1268 [2C]	ND	0.020	mg/Kg wet							
Surrogate: Decachlorobiphenyl	*0.173*		mg/Kg wet	0.200		86.7	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.187*		mg/Kg wet	0.200		93.4	30-150			
Surrogate: Tetrachloro-m-xylene	*0.184*		mg/Kg wet	0.200		92.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.186*		mg/Kg wet	0.200		93.0	30-150			
LCS (B357389-BS1)				Prepared: 11/07/23 Analyzed: 11/10/23						
Aroclor-1016	0.15	0.020	mg/Kg wet	0.200		75.4	40-140			
Aroclor-1016 [2C]	0.17	0.020	mg/Kg wet	0.200		82.7	40-140			
Aroclor-1260	0.15	0.020	mg/Kg wet	0.200		76.2	40-140			
Aroclor-1260 [2C]	0.17	0.020	mg/Kg wet	0.200		82.8	40-140			
Surrogate: Decachlorobiphenyl	*0.175*		mg/Kg wet	0.200		87.7	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.189*		mg/Kg wet	0.200		94.5	30-150			
Surrogate: Tetrachloro-m-xylene	*0.186*		mg/Kg wet	0.200		93.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.186*		mg/Kg wet	0.200		93.0	30-150			
LCS Dup (B357389-BSD1)				Prepared: 11/07/23 Analyzed: 11/10/23						
Aroclor-1016	0.14	0.020	mg/Kg wet	0.200		72.0	40-140	4.70	30	
Aroclor-1016 [2C]	0.16	0.020	mg/Kg wet	0.200		78.8	40-140	4.84	30	
Aroclor-1260	0.15	0.020	mg/Kg wet	0.200		74.7	40-140	1.97	30	
Aroclor-1260 [2C]	0.16	0.020	mg/Kg wet	0.200		80.9	40-140	2.28	30	
Surrogate: Decachlorobiphenyl	*0.176*		mg/Kg wet	0.200		88.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.191*		mg/Kg wet	0.200		95.6	30-150			
Surrogate: Tetrachloro-m-xylene	*0.176*		mg/Kg wet	0.200		88.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.177*		mg/Kg wet	0.200		88.5	30-150			

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B357371 - % Solids										
Duplicate (B357371-DUP3)		**Source: 23K0804-11**		Prepared & Analyzed: 11/07/23						
% Solids	83.5		% Wt		84.2			0.848	10	

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-315-Ex-000.5

Lab Sample ID: 23K0804-11

Date(s) Analyzed: 11/11/2023 11/11/2023

Instrument ID (1): ECD 9

Instrument ID (2): ECD 9

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	-0.030	0.030	1.3	
	2	0.000	-0.030	0.030	1.0	26.1
Aroclor-1260	1	0.000	-0.030	0.030	2.9	
	2	0.000	-0.030	0.030	3.1	6.7

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B357389-BS1 Date(s) Analyzed: 11/10/2023 11/10/2023

Instrument ID (1): ECD 9 Instrument ID (2): ECD 9

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.17	12.5
Aroclor-1260	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.17	12.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B357389-BSD1 Date(s) Analyzed: 11/10/2023 11/10/2023

Instrument ID (1): ECD 9 Instrument ID (2): ECD 9

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.14	
	2	0.000	-0.030	0.030	0.16	13.3
Aroclor-1260	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.16	6.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level

Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.

No results have been blank subtracted unless specified in the case narrative section.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8082A in Soil	
Aroclor-1016	CT,NH,NY,ME,NC,VA,PA
Aroclor-1016 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1262	NY,NC,VA,PA
Aroclor-1262 [2C]	NY,NC,VA,PA
Aroclor-1268	NY,NC,VA,PA
Aroclor-1268 [2C]	NY,NC,VA,PA

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2024
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2024
NC	North Carolina Div. of Water Quality	652	12/31/2023
ME	State of Maine	MA00100	06/9/2025
VA	Commonwealth of Virginia	460217	12/14/2023
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2024

23K0804 RF

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction										[2] Preservation Code
1	P-314-Ex-01.502	11/1/2023	14:13			U		1				H										
2	P-314-Ex-0202.5	11/1/2023	14:14			U		1				H										
3	P-314-Ex-02.503	11/1/2023	14:15			U		1				H										
4	P-314-Ex-0303.5	11/1/2023	14:16			U		1				H										
5	P-314-Ex-03.504	11/1/2023	14:17			U		1				H										
6	P-314-Ex-0404.5	11/1/2023	14:18			U		1				H										
7	P-314-Ex-04.505	11/1/2023	14:19			U		1				H										
8	P-314-Ex-0506	11/1/2023	14:20			U		1				H										
9	P-314-Ex-0607	11/1/2023	14:21			U		1				H										
10	P-314-Ex-0708	11/1/2023	14:22			U		1				H										

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)		Date/Time: 11/6/23 1157
Received by: (signature)		Date/Time: 11/6/23 1157
Relinquished by: (signature)		Date/Time: 11/6/23 1630
Received by: (signature)		Date/Time: 11/6/23 1630
Relinquished by: (signature)		Date/Time:
Received by: (signature)		Date/Time:
Relinquished by: (signature)		Date/Time:
Received by: (signature)		Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

23K0804 RF

https://www.pacelabs.com/

CHAIN OF CUSTODY RECORD

Doc # 381 Rev 4_01/08/2020

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time

7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
11	P-315-Ex-000.5	11/1/2023	14:25			U		1				X
12	P-315-Ex-0.501	11/1/2023	14:26			U		1				H
13	P-315-Ex-0101.5	11/1/2023	14:27			U		1				H
14	P-315-Ex-01.502	11/1/2023	14:28			U		1				H
15	P-315-Ex-0202.5	11/1/2023	14:29			U		1				H
16	P-315-Ex-02.503	11/1/2023	14:30			U		1				H
17	P-315-Ex-0303.5	11/1/2023	14:31			U		1				H
18	P-315-Ex-03.504	11/1/2023	14:32			U		1				H
19	P-315-Ex-0404.5	11/1/2023	14:33			U		1				H
20	P-315-Ex-04.505	11/1/2023	14:34			U		3				H

Relinquished by: (signature) Date/Time: 11/6/23 1157
Received by: (signature) Date/Time: 11/6/23 1157
Relinquished by: (signature) Date/Time: 11/6/23 1630
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

NELAC and AIHA-LAP, LLC Accredited

Other
☐ Chromatogram
☐ AIHA-LAP,LLC

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist
	Effective Date: 07/13/2023

Log In Back-Sheet

Client NobisGroup

Project St Johnsbury Armory

MCP/RCP Required N/A

Deliverable Package Requirement N/A

Location St. Johnsbury, VT

PWSID# (When Applicable) N/A

Arrival Method:

Courier ☒ Fed Ex ☐ Walk In ☐ Other ☐

Received By / Date / Time MEM 11/6/23 1630

Back-Sheet By / Date / Time STM 11/6/23 2256

Temperature Method Gun # 4

Temp ☒ < 6° C Actual Temperature 2.5, 2.9

Rush Samples: Yes (No) Notify

Short Hold: Yes (No) Notify

Notes regarding Samples/COC outside of SOP:

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy) Any False statement will be brought to the attention of the Client – True or False

	True	False
Received on Ice	☒	☐
Received in Cooler	☒	☐
Custody Seal: DATE TIME	☐	☒
COC Relinquished	☒	☐
COC/Samples Labels Agree	☒	☐
All Samples in Good Condition	☒	☐
Samples Received within Holding Time	☒	☐
Is there enough Volume	☒	☐
Proper Media/Container Used	☒	☐
Splitting Samples Required	☐	☒
MS/MSD	☒	☐
Trip Blanks	☐	☒
Lab to Filters	☐	☒
COC Legible	☒	☐

COC Included: (Check all included)

Client ☒ Analysis ☒ Sampler Name ☒

Project ☒ IDs ☒ Collection Date/Time ☒

All Samples Proper pH: (N/A) ☐ ☐

Additional Container Notes

Note: West Virginia requires all samples to have their temperature taken. Note any outliers.

Qualtrax ID: 120836

Sample			
16oz Amb/Clear	(Circle Amb/Clear)		Soils Jars
8oz Amb/Clear			
4oz Amb/Clear			
2oz Amb/Clear			
Unpreserved	1 Liter		Ambers
HCL			
Sulfuric			
Sulfuric	250mL		
Phosphoric			
HCl			
Unpreserved	100mL		
Unpreserved	1 Liter		Plastics
Sulfuric			
Unpreserved	500mL		
Sulfuric			
Unpreserved	250mL		
Trizma			
Sulfuric			
Nitric			
NaOH			
Ammonium Acetate			
NaOH/Zinc			
Unpreserved			VOA Vials
HCl			
MeOH			
D.I. Water			
BiSulfate			
Col/Bact			Other / Fill in

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
																	3		

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

November 13, 2023

Tim Andrews
Nobis Engineering
585 Middlesex Street
Lowell, MA 01851

Project Location: St. Johnsbury, VT
Client Job Number:
Project Number: S00001.017
Laboratory Work Order Number: 23K0805

Enclosed are results of analyses for samples as received by the laboratory on November 6, 2023. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Rebecca Faust
Project Manager

Table of Contents

Sample Summary 3

Case Narrative 4

Sample Results 5

23K0805-09 5

Sample Preparation Information 7

QC Data 8

Polychlorinated Biphenyls with 3540 Soxhlet Extraction 8

B357389 8

Dual Column RPD Report 9

Flag/Qualifier Summary 12

Certifications 13

Chain of Custody/Sample Receipt 14

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Nobis Engineering
585 Middlesex Street
Lowell, MA 01851
ATTN: Tim Andrews

REPORT DATE: 11/13/2023

PURCHASE ORDER NUMBER:

PROJECT NUMBER: S00001.017

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23K0805

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: St. Johnsbury, VT

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
P-320-Ex-02.503	23K0805-01	Soil		-	
P-320-Ex-0303.5	23K0805-02	Soil		-	
P-320-Ex-03.504	23K0805-03	Soil		-	
P-320-Ex-0404.5	23K0805-04	Soil		-	
P-320-Ex-04.505	23K0805-05	Soil		-	
P-320-Ex-0506	23K0805-06	Soil		-	
P-320-Ex-0607	23K0805-07	Soil		-	
P-320-Ex-0708	23K0805-08	Soil		-	
P-321-Ex-000.5	23K0805-09	Soil		SM 2540G	
				SW-846 8082A	
P-321-Ex-0.501	23K0805-10	Soil		-	
P-321-Ex-0101.5	23K0805-11	Soil		-	
P-321-Ex-01.502	23K0805-12	Soil		-	
P-321-Ex-02.02.5	23K0805-13	Soil		-	
P-321-Ex-02.503	23K0805-14	Soil		-	
P-321-Ex-0303.5	23K0805-15	Soil		-	
P-321-Ex-03.504	23K0805-16	Soil		-	
P-321-Ex-0404.5	23K0805-17	Soil		-	
P-321-Ex-04.505	23K0805-18	Soil		-	
P-321-Ex-0506	23K0805-19	Soil		-	
P-321-Ex-0607	23K0805-20	Soil		-	

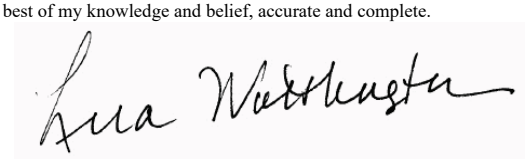
con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Lisa A. Worthington
Technical Representative

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K0805

Date Received: 11/6/2023

Field Sample #: P-321-Ex-000.5 | Sampled: 11/2/2023 08:50

Sample ID: 23K0805-09

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.080	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 23:48	SFM
Aroclor-1221 [1]	ND	0.080	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 23:48	SFM
Aroclor-1232 [1]	ND	0.080	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 23:48	SFM
Aroclor-1242 [1]	ND	0.080	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 23:48	SFM
Aroclor-1248 [1]	ND	0.080	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 23:48	SFM
Aroclor-1254 [2]	0.36	0.080	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 23:48	SFM
Aroclor-1260 [1]	ND	0.080	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 23:48	SFM
Aroclor-1262 [1]	ND	0.080	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 23:48	SFM
Aroclor-1268 [1]	ND	0.080	mg/Kg dry	4		SW-846 8082A	11/7/23	11/10/23 23:48	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	89.7	30-150		11/10/23 23:48
Decachlorobiphenyl [2]	93.6	30-150		11/10/23 23:48
Tetrachloro-m-xylene [1]	101	30-150		11/10/23 23:48
Tetrachloro-m-xylene [2]	96.3	30-150		11/10/23 23:48

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K0805

Date Received: 11/6/2023

Field Sample #: P-321-Ex-000.5 | Sampled: 11/2/2023 08:50

Sample ID: 23K0805-09

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	94.0		% Wt	1		SM 2540G	11/7/23	11/7/23 13:01	DV

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method:% Solids **Analytical Method:SM 2540G**

Lab Number [Field ID]	Batch	Date
23K0805-09 [P-321-Ex-000.5]	B357422	11/07/23

Prep Method:SW-846 3540C **Analytical Method:SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23K0805-09 [P-321-Ex-000.5]	B357389	10.6	10.0	11/07/23

con-test® A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B357389 - SW-846 3540C										
Blank (B357389-BLK1)				Prepared: 11/07/23 Analyzed: 11/10/23						
Aroclor-1016	ND	0.020	mg/Kg wet							
Aroclor-1016 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1221	ND	0.020	mg/Kg wet							
Aroclor-1221 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1232	ND	0.020	mg/Kg wet							
Aroclor-1232 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1242	ND	0.020	mg/Kg wet							
Aroclor-1242 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1248	ND	0.020	mg/Kg wet							
Aroclor-1248 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1254	ND	0.020	mg/Kg wet							
Aroclor-1254 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1260	ND	0.020	mg/Kg wet							
Aroclor-1260 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1262	ND	0.020	mg/Kg wet							
Aroclor-1262 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1268	ND	0.020	mg/Kg wet							
Aroclor-1268 [2C]	ND	0.020	mg/Kg wet							
Surrogate: Decachlorobiphenyl	*0.173*		mg/Kg wet	0.200		86.7	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.187*		mg/Kg wet	0.200		93.4	30-150			
Surrogate: Tetrachloro-m-xylene	*0.184*		mg/Kg wet	0.200		92.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.186*		mg/Kg wet	0.200		93.0	30-150			
LCS (B357389-BS1)				Prepared: 11/07/23 Analyzed: 11/10/23						
Aroclor-1016	0.15	0.020	mg/Kg wet	0.200		75.4	40-140			
Aroclor-1016 [2C]	0.17	0.020	mg/Kg wet	0.200		82.7	40-140			
Aroclor-1260	0.15	0.020	mg/Kg wet	0.200		76.2	40-140			
Aroclor-1260 [2C]	0.17	0.020	mg/Kg wet	0.200		82.8	40-140			
Surrogate: Decachlorobiphenyl	*0.175*		mg/Kg wet	0.200		87.7	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.189*		mg/Kg wet	0.200		94.5	30-150			
Surrogate: Tetrachloro-m-xylene	*0.186*		mg/Kg wet	0.200		93.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.186*		mg/Kg wet	0.200		93.0	30-150			
LCS Dup (B357389-BSD1)				Prepared: 11/07/23 Analyzed: 11/10/23						
Aroclor-1016	0.14	0.020	mg/Kg wet	0.200		72.0	40-140	4.70	30	
Aroclor-1016 [2C]	0.16	0.020	mg/Kg wet	0.200		78.8	40-140	4.84	30	
Aroclor-1260	0.15	0.020	mg/Kg wet	0.200		74.7	40-140	1.97	30	
Aroclor-1260 [2C]	0.16	0.020	mg/Kg wet	0.200		80.9	40-140	2.28	30	
Surrogate: Decachlorobiphenyl	*0.176*		mg/Kg wet	0.200		88.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.191*		mg/Kg wet	0.200		95.6	30-150			
Surrogate: Tetrachloro-m-xylene	*0.176*		mg/Kg wet	0.200		88.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.177*		mg/Kg wet	0.200		88.5	30-150			

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-321-Ex-000.5

Lab Sample ID: 23K0805-09

Date(s) Analyzed: 11/10/2023 11/10/2023

Instrument ID (1): ECD 9

Instrument ID (2): ECD 9

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	-0.030	0.030	0.34	
	2	0.000	-0.030	0.030	0.36	5.7

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B357389-BS1 Date(s) Analyzed: 11/10/2023 11/10/2023

Instrument ID (1): ECD 9 Instrument ID (2): ECD 9

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.17	12.5
Aroclor-1260	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.17	12.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B357389-BSD1 Date(s) Analyzed: 11/10/2023 11/10/2023

Instrument ID (1): ECD 9 Instrument ID (2): ECD 9

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.14	
	2	0.000	-0.030	0.030	0.16	13.3
Aroclor-1260	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.16	6.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level

Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.

No results have been blank subtracted unless specified in the case narrative section.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8082A in Soil	
Aroclor-1016	CT,NH,NY,ME,NC,VA,PA
Aroclor-1016 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1262	NY,NC,VA,PA
Aroclor-1262 [2C]	NY,NC,VA,PA
Aroclor-1268	NY,NC,VA,PA
Aroclor-1268 [2C]	NY,NC,VA,PA

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2024
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2024
NC	North Carolina Div. of Water Quality	652	12/31/2023
ME	State of Maine	MA00100	06/9/2025
VA	Commonwealth of Virginia	460217	12/14/2023
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2024

23K0805 RF

Pace Analytical®
Phone: 612-607-6400
Fax: 612-607-6344
https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction											[2] Preservation Code
1	P-320-Ex-02.503	11/2/2023	8:35			U		1				H											
2	P-320-Ex-0303.5	11/2/2023	8:36			U		1				H											
3	P-320-Ex-03.504	11/2/2023	8:37			U		1				H											
4	P-320-Ex-0404.5	11/2/2023	8:38			U		1				H											
5	P-320-Ex-04.505	11/2/2023	8:39			U		1				H											
6	P-320-Ex-0506	11/2/2023	8:40			U		1				H											
7	P-320-Ex-0607	11/2/2023	8:41			U		1				H											
8	P-320-Ex-0708	11/2/2023	8:42			U		1				H											
9	P-321-Ex-000.5	11/2/2023	8:50			U		1				X											
10	P-321-Ex-0.501	11/2/2023	8:51			U		1				H											

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N
*Pace Analytical is not responsible for missing samples from prepacked coolers

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Relinquished by: (signature)	Date/Time: 11/6/23 1157	Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.
Received by: (signature)	Date/Time: 11/6/23 1157	
Relinquished by: (signature)	Date/Time: 11/6/23 1630	
Received by: (signature) 40.29	Date/Time: 11/6/23 1630	
Relinquished by: (signature) 25	Date/Time:	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Pace Analytical®
Phone: 612-607-6400
Fax: 612-607-6344
https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1] Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction	[2] Preservation Code
11	P-321-Ex-0101.5	11/2/2023	8:52			U		1				H	
12	P-321-Ex-01.502	11/2/2023	8:53			U		1				H	
13	P-321-Ex-0202.5	11/2/2023	8:54			U		1				H	
14	P-321-Ex-02.503	11/2/2023	8:55			U		1				H	
15	P-321-Ex-0303.5	11/2/2023	8:56			U		1				H	
16	P-321-Ex-03.504	11/2/2023	8:57			U		1				H	
17	P-321-Ex-0404.5	11/2/2023	8:58			U		1				H	
18	P-321-Ex-04.505	11/2/2023	8:59			U		1				H	
19	P-321-Ex-0506	11/2/2023	9:00			U		1				H	
20	P-321-Ex-0607	11/2/2023	9:01			U		3				H	

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Relinquished by: (signature)	Date/Time:	11/6/23 1157
Received by: (signature)	Date/Time:	11/6/23 1157
Relinquished by: (signature)	Date/Time:	11/6/23 1630
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

NELAC and AIHA-LAP, LLC Accredited

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist
	Effective Date: 07/13/2023

Log In Back-Sheet

Client: Nobis

Project: St. Johnsbury Armory

MCP/RCP Required: no

Deliverable Package Requirement: none

Location: St. Johnsbury, VT

PWSID# (When Applicable): n/a

Arrival Method:

Courier ☑ Fed Ex ☐ Walk In ☐ Other ☐

Received By / Date / Time: MCM 11/6/23 1630

Back-Sheet By / Date / Time: MCM 11/6/23 2301

Temperature Method: Gun # 5

Temp < 6° C Actual Temperature: 2.5, 2.9, 4.0

Rush Samples: Yes / No Notify: No

Short Hold: Yes / No Notify: No

Notes regarding Samples/COC outside of SOP:

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy) Any False statement will be brought to the attention of the Client – True or False

	True	False
Received on Ice	☑	☐
Received in Cooler	☑	☐
Custody Seal: DATE TIME	☐	☑
COC Relinquished	☑	☐
COC/Samples Labels Agree	☑	☐
All Samples in Good Condition	☑	☐
Samples Received within Holding Time	☑	☐
Is there enough Volume	☑	☐
Proper Media/Container Used	☑	☐
Splitting Samples Required	☐	☑
MS/MSD	☑	☐
Trip Blanks	☐	☑
Lab to Filters	☐	☑
COC Legible	☑	☐

COC Included: (Check all included)

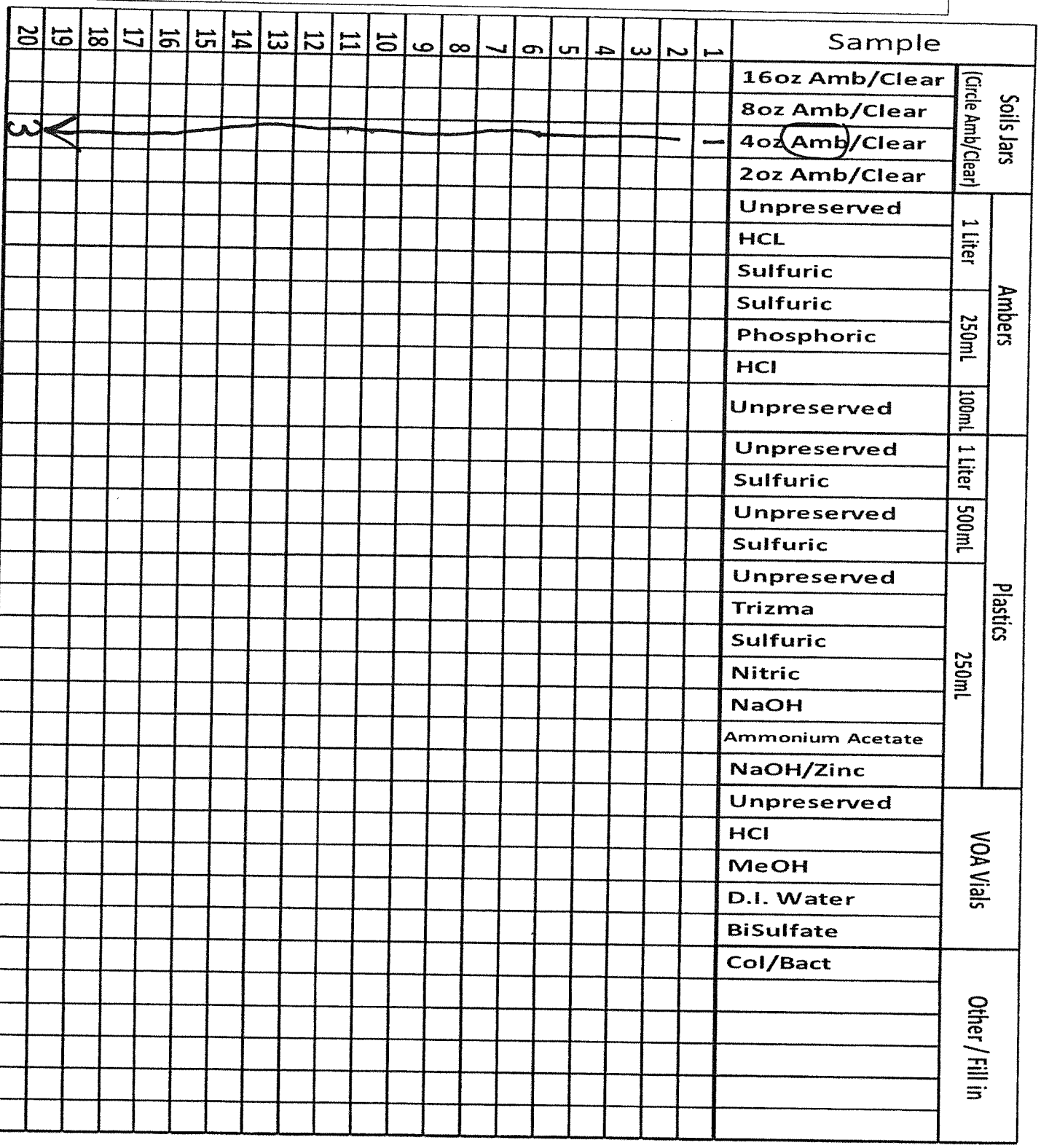
Client ☑ Analysis ☑ Sampler Name ☑

Project ☑ IDs ☑ Collection Date/Time ☑

All Samples Proper pH: (N/A) ☐ ☐

Additional Container Notes

Note: West Virginia requires all samples to have their temperature taken. Note any outliers.



Sample			
16oz Amb/Clear	(Circle Amb/Clear)	Soils Jars	
8oz Amb/Clear			
4oz Amb/Clear			
2oz Amb/Clear			
Unpreserved	1 Liter	Ambers	
HCL			
Sulfuric			
Sulfuric	250mL		
Phosphoric			
HCl			
Unpreserved	100mL		
Unpreserved	1 Liter	Plastics	
Sulfuric			
Unpreserved	500mL		
Sulfuric			
Unpreserved	250mL		
Trizma			
Sulfuric			
Nitric			
NaOH			
Ammonium Acetate			
NaOH/Zinc			
Unpreserved		VOA Vials	
HCl			
MeOH			
D.I. Water			
BiSulfate			
Col/Bact		Other / Fill in	

Qualtrax ID: 120836

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

November 13, 2023

Tim Andrews
Nobis Engineering
585 Middlesex Street
Lowell, MA 01851

Project Location: St. Johnsbury, VT
Client Job Number:
Project Number: S00001.017
Laboratory Work Order Number: 23K0806

Enclosed are results of analyses for samples as received by the laboratory on November 6, 2023. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Rebecca Faust
Project Manager

Table of Contents

Sample Summary 3

Case Narrative 4

Sample Results 5

23K0806-10 5

Sample Preparation Information 7

QC Data 8

Polychlorinated Biphenyls with 3540 Soxhlet Extraction 8

B357389 8

Dual Column RPD Report 9

Flag/Qualifier Summary 11

Certifications 12

Chain of Custody/Sample Receipt 13

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Nobis Engineering
585 Middlesex Street
Lowell, MA 01851
ATTN: Tim Andrews

REPORT DATE: 11/13/2023

PURCHASE ORDER NUMBER:

PROJECT NUMBER: S00001.017

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23K0806

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: St. Johnsbury, VT

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
P-317-Ex-0202.5	23K0806-01	Soil		-	
P-317-Ex-02.503	23K0806-02	Soil		-	
P-317-Ex-0303.5	23K0806-03	Soil		-	
P-317-Ex-03.504	23K0806-04	Soil		-	
P-317-Ex-0404.5	23K0806-05	Soil		-	
P-317-Ex-04.505	23K0806-06	Soil		-	
P-317-Ex-0506	23K0806-07	Soil		-	
P-317-Ex-0607	23K0806-08	Soil		-	
P-317-Ex-0708	23K0806-09	Soil		-	
P-318-Ex-000.5	23K0806-10	Soil		SM 2540G	
				SW-846 8082A	
P-318-Ex-0.501	23K0806-11	Soil		-	
P-318-Ex-0101.5	23K0806-12	Soil		-	
P-318-Ex-01.502	23K0806-13	Soil		-	
P-318-Ex-0203.5	23K0806-14	Soil		-	
P-318-Ex-02.503	23K0806-15	Soil		-	
P-318-Ex-0303.5	23K0806-16	Soil		-	
P-318-Ex-03.504	23K0806-17	Soil		-	
P-318-Ex-0404.5	23K0806-18	Soil		-	
P-318-Ex-04.505	23K0806-19	Soil		-	
P-318-Ex-0506	23K0806-20	Soil		-	

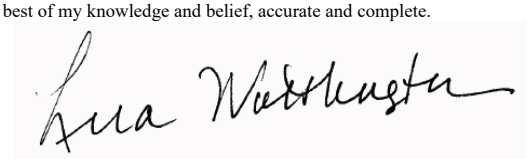
con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Lisa A. Worthington
Technical Representative

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K0806

Date Received: 11/6/2023

Field Sample #: P-318-Ex-000.5 | Sampled: 11/2/2023 08:00

Sample ID: 23K0806-10

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.089	mg/Kg dry	4		SW-846 8082A	11/7/23	11/11/23 0:05	SFM
Aroclor-1221 [1]	ND	0.089	mg/Kg dry	4		SW-846 8082A	11/7/23	11/11/23 0:05	SFM
Aroclor-1232 [1]	ND	0.089	mg/Kg dry	4		SW-846 8082A	11/7/23	11/11/23 0:05	SFM
Aroclor-1242 [1]	ND	0.089	mg/Kg dry	4		SW-846 8082A	11/7/23	11/11/23 0:05	SFM
Aroclor-1248 [1]	ND	0.089	mg/Kg dry	4		SW-846 8082A	11/7/23	11/11/23 0:05	SFM
Aroclor-1254 [1]	ND	0.089	mg/Kg dry	4		SW-846 8082A	11/7/23	11/11/23 0:05	SFM
Aroclor-1260 [1]	ND	0.089	mg/Kg dry	4		SW-846 8082A	11/7/23	11/11/23 0:05	SFM
Aroclor-1262 [1]	ND	0.089	mg/Kg dry	4		SW-846 8082A	11/7/23	11/11/23 0:05	SFM
Aroclor-1268 [1]	ND	0.089	mg/Kg dry	4		SW-846 8082A	11/7/23	11/11/23 0:05	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	87.8	30-150		11/11/23 0:05
Decachlorobiphenyl [2]	91.1	30-150		11/11/23 0:05
Tetrachloro-m-xylene [1]	99.1	30-150		11/11/23 0:05
Tetrachloro-m-xylene [2]	93.8	30-150		11/11/23 0:05

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K0806

Date Received: 11/6/2023

Field Sample #: P-318-Ex-000.5 | Sampled: 11/2/2023 08:00

Sample ID: 23K0806-10

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	89.3		% Wt	1		SM 2540G	11/7/23	11/7/23 9:05	DV

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method:% Solids **Analytical Method:SM 2540G**

Lab Number [Field ID]	Batch	Date
23K0806-10 [P-318-Ex-000.5]	B357371	11/07/23

Prep Method:SW-846 3540C **Analytical Method:SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23K0806-10 [P-318-Ex-000.5]	B357389	10.1	10.0	11/07/23

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B357389 - SW-846 3540C										
Blank (B357389-BLK1)				Prepared: 11/07/23 Analyzed: 11/10/23						
Aroclor-1016	ND	0.020	mg/Kg wet							
Aroclor-1016 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1221	ND	0.020	mg/Kg wet							
Aroclor-1221 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1232	ND	0.020	mg/Kg wet							
Aroclor-1232 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1242	ND	0.020	mg/Kg wet							
Aroclor-1242 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1248	ND	0.020	mg/Kg wet							
Aroclor-1248 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1254	ND	0.020	mg/Kg wet							
Aroclor-1254 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1260	ND	0.020	mg/Kg wet							
Aroclor-1260 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1262	ND	0.020	mg/Kg wet							
Aroclor-1262 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1268	ND	0.020	mg/Kg wet							
Aroclor-1268 [2C]	ND	0.020	mg/Kg wet							
Surrogate: Decachlorobiphenyl	*0.173*		mg/Kg wet	0.200		86.7	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.187*		mg/Kg wet	0.200		93.4	30-150			
Surrogate: Tetrachloro-m-xylene	*0.184*		mg/Kg wet	0.200		92.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.186*		mg/Kg wet	0.200		93.0	30-150			
LCS (B357389-BS1)				Prepared: 11/07/23 Analyzed: 11/10/23						
Aroclor-1016	0.15	0.020	mg/Kg wet	0.200		75.4	40-140			
Aroclor-1016 [2C]	0.17	0.020	mg/Kg wet	0.200		82.7	40-140			
Aroclor-1260	0.15	0.020	mg/Kg wet	0.200		76.2	40-140			
Aroclor-1260 [2C]	0.17	0.020	mg/Kg wet	0.200		82.8	40-140			
Surrogate: Decachlorobiphenyl	*0.175*		mg/Kg wet	0.200		87.7	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.189*		mg/Kg wet	0.200		94.5	30-150			
Surrogate: Tetrachloro-m-xylene	*0.186*		mg/Kg wet	0.200		93.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.186*		mg/Kg wet	0.200		93.0	30-150			
LCS Dup (B357389-BSD1)				Prepared: 11/07/23 Analyzed: 11/10/23						
Aroclor-1016	0.14	0.020	mg/Kg wet	0.200		72.0	40-140	4.70	30	
Aroclor-1016 [2C]	0.16	0.020	mg/Kg wet	0.200		78.8	40-140	4.84	30	
Aroclor-1260	0.15	0.020	mg/Kg wet	0.200		74.7	40-140	1.97	30	
Aroclor-1260 [2C]	0.16	0.020	mg/Kg wet	0.200		80.9	40-140	2.28	30	
Surrogate: Decachlorobiphenyl	*0.176*		mg/Kg wet	0.200		88.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.191*		mg/Kg wet	0.200		95.6	30-150			
Surrogate: Tetrachloro-m-xylene	*0.176*		mg/Kg wet	0.200		88.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.177*		mg/Kg wet	0.200		88.5	30-150			

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B357389-BS1

Date(s) Analyzed: 11/10/2023 11/10/2023

Instrument ID (1): ECD 9

Instrument ID (2): ECD 9

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.17	12.5
Aroclor-1260	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.17	12.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B357389-BSD1 Date(s) Analyzed: 11/10/2023 11/10/2023

Instrument ID (1): ECD 9 Instrument ID (2): ECD 9

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.14	
	2	0.000	-0.030	0.030	0.16	13.3
Aroclor-1260	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.16	6.5

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level

Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.

No results have been blank subtracted unless specified in the case narrative section.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8082A in Soil	
Aroclor-1016	CT,NH,NY,ME,NC,VA,PA
Aroclor-1016 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1262	NY,NC,VA,PA
Aroclor-1262 [2C]	NY,NC,VA,PA
Aroclor-1268	NY,NC,VA,PA
Aroclor-1268 [2C]	NY,NC,VA,PA

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2024
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2024
NC	North Carolina Div. of Water Quality	652	12/31/2023
ME	State of Maine	MA00100	06/9/2025
VA	Commonwealth of Virginia	460217	12/14/2023
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2024

23K0806 RF

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time

7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction	[2] Preservation Code
1	P-317-Ex-0202.5	11/1/2023	14:59			U		1				H	
2	P-317-Ex-02.503	11/1/2023	15:00			U		1				H	
3	P-317-Ex-0303.5	11/1/2023	15:01			U		1				H	
4	P-317-Ex-03.504	11/1/2023	15:02			U		1				H	
5	P-317-Ex-0404.5	11/1/2023	15:03			U		1				H	
6	P-317-Ex-04.505	11/1/2023	15:04			U		1				H	
7	P-317-Ex-0506	11/1/2023	15:05			U		1				H	
8	P-317-Ex-0607	11/1/2023	15:06			U		1				H	
9	P-317-Ex-0708	11/1/2023	15:07			U		1				H	
10	P-318-Ex-000.5	11/2/2023	8:00			U		1				X	

Courier Use Only

Total Number Of:

VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N

Glassware in freezer? Y / N

Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time: 11/6/23 15	
Received by: (signature)	Date/Time: 11/6/23 1512	
Relinquished by: (signature)	Date/Time: 11/6/23 1630	
Received by: (signature)	Date/Time: 11/6/23 1630	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Pace Analytical®
Phone: 612-607-6400
Fax: 612-607-6344
https://www.pacelabs.com/

CHAIN OF CUSTODY RECORD

Doc # 381 Rev 4_01/08/2020

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time

7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

ANALYSIS REQUESTED

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

PCBs 8082 Soxhlet Extraction

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	
11	P-318-Ex-0.501	11/2/2023	8:01			U		1				H
12	P-318-Ex-0101.5	11/2/2023	8:02			U		1				H
13	P-318-Ex-01.502	11/2/2023	8:03			U		1				H
14	P-318-Ex-0202.5	11/2/2023	8:04			U		1				H
15	P-318-Ex-02.503	11/2/2023	8:05			U		1				H
16	P-318-Ex-0303.5	11/2/2023	8:06			U		1				H
17	P-318-Ex-03.504	11/2/2023	8:07			U		1				H
18	P-318-Ex-0404.5	11/2/2023	8:08			U		1				H
19	P-318-Ex-04.505	11/2/2023	8:09			U		1				H
20	P-318-Ex-0506	11/2/2023	8:10			U		3				H

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Relinquished by: (signature)		Date/Time: 11/6/23 1157
Received by: (signature)		Date/Time: 11/6/23 1157
Relinquished by: (signature)		Date/Time: 11/6/23 1630
Received by: (signature)		Date/Time:
Relinquished by: (signature)		Date/Time:
Received by: (signature)		Date/Time:
Relinquished by: (signature)		Date/Time:
Received by: (signature)		Date/Time:

Lab Comments:

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y N
Prepackaged Cooler? Y N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist
	Effective Date: 07/13/2023

Log In Back-Sheet

Client: Nobis

Project: St. Johnsbury Armory

MCP/RCP Required: no

Deliverable Package Requirement: none

Location: St. Johnsbury, VT

PWSID# (When Applicable): n/a

Arrival Method:

Courier ☑ Fed Ex ☐ Walk In ☐ Other ☐

Received By / Date / Time: Mcm 11/6/23 1630

Back-Sheet By / Date / Time: Mcm 11/6/23 2313

Temperature Method: Gun # 5

Temp < 6° C Actual Temperature: 2.9, 4.0

Rush Samples: Yes / No Notify: No

Short Hold: Yes / No Notify: No

Notes regarding Samples/COC outside of SOP:

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy) Any False statement will be brought to the attention of the Client – True or False

	True	False
Received on Ice	☑	☐
Received in Cooler	☑	☐
Custody Seal: DATE TIME	☐	☑
COC Relinquished	☑	☐
COC/Samples Labels Agree	☑	☐
All Samples in Good Condition	☑	☐
Samples Received within Holding Time	☑	☐
Is there enough Volume	☑	☐
Proper Media/Container Used	☑	☐
Splitting Samples Required	☐	☑
MS/MSD	☑	☐
Trip Blanks	☐	☑
Lab to Filters	☐	☑
COC Legible	☑	☐

COC Included: (Check all included)

Client ☑ Analysis ☑ Sampler Name ☑

Project ☑ IDs ☑ Collection Date/Time ☑

All Samples Proper pH: (N/A) ☐ ☐

Additional Container Notes

Note: West Virginia requires all samples to have their temperature taken. Note any outliers.

Qualtrax ID: 120836

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist
	Effective Date: 07/13/2023

Sample																				
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Soils Jars (Circle Amb/Clear)	16oz Amb/Clear																				
	8oz Amb/Clear																				
	4oz Amb/Clear	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3
	2oz Amb/Clear																				
Ambers	Unpreserved 1 Liter																				
	HCL 1 Liter																				
	Sulfuric 1 Liter																				
	Sulfuric 250mL																				
	Phosphoric 250mL																				
	HCl 250mL																				
	Unpreserved 100mL																				
Plastics	Unpreserved 1 Liter																				
	Sulfuric 1 Liter																				
	Unpreserved 500mL																				
	Sulfuric 500mL																				
	Unpreserved 250mL																				
	Trizma 250mL																				
	Sulfuric 250mL																				
	Nitric 250mL																				
	NaOH 250mL																				
	Ammonium Acetate 250mL																				
	NaOH/Zinc 250mL																				
VOA Vials	Unpreserved																				
	HCl																				
	MeOH																				
	D.I. Water																				
	BiSulfate																				
Other / Fill in	Col/Bact																				

Qualtrax ID: 120836

Table of Contents

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

November 13, 2023

Tim Andrews
Nobis Engineering
585 Middlesex Street
Lowell, MA 01851

Project Location: St. Johnsbury, VT
Client Job Number:
Project Number: S00001.017
Laboratory Work Order Number: 23K0807

Enclosed are results of analyses for samples as received by the laboratory on November 6, 2023. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Rebecca Faust
Project Manager

Table of Contents

Sample Summary 3

Case Narrative 4

Sample Results 5

23K0807-04 5

23K0807-17 7

Sample Preparation Information 9

QC Data 10

Polychlorinated Biphenyls with 3540 Soxhlet Extraction 10

B357389 10

Dual Column RPD Report 11

Flag/Qualifier Summary 14

Certifications 15

Chain of Custody/Sample Receipt 16

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Nobis Engineering
585 Middlesex Street
Lowell, MA 01851
ATTN: Tim Andrews

REPORT DATE: 11/13/2023

PURCHASE ORDER NUMBER:

PROJECT NUMBER: S00001.017

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23K0807

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: St. Johnsbury, VT

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
P-315-Ex-0506	23K0807-01	Soil		-	
P-315-Ex-0607	23K0807-02	Soil		-	
P-315-Ex-0708	23K0807-03	Soil		-	
P-316-Ex-000.5	23K0807-04	Soil		SM 2540G	
				SW-846 8082A	
P-316-Ex-0.501	23K0807-05	Soil		-	
P-316-Ex-0101.5	23K0807-06	Soil		-	
P-316-Ex-1.502	23K0807-07	Soil		-	
P-316-Ex-0202.5	23K0807-08	Soil		-	
P-316-Ex-2.503	23K0807-09	Soil		-	
P-316-Ex-0303.5	23K0807-10	Soil		-	
P-316-Ex-3.504	23K0807-11	Soil		-	
P-316-Ex-0404.5	23K0807-12	Soil		-	
P-316-Ex-4.505	23K0807-13	Soil		-	
P-316-Ex-0506	23K0807-14	Soil		-	
P-316-Ex-0607	23K0807-15	Soil		-	
P-316-Ex-0708	23K0807-16	Soil		-	
P-317-Ex-000.5	23K0807-17	Soil		SM 2540G	
				SW-846 8082A	
P-317-Ex-0.501	23K0807-18	Soil		-	
P-317-Ex-0101.5	23K0807-19	Soil		-	
P-317-Ex-01.502	23K0807-20	Soil		-	

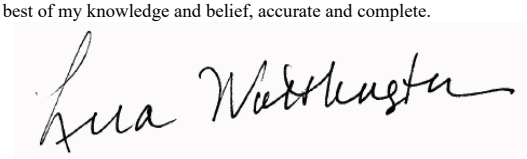
con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Lisa A. Worthington
Technical Representative

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K0807

Date Received: 11/6/2023

Field Sample #: P-316-Ex-000.5 | Sampled: 11/1/2023 14:40

Sample ID: 23K0807-04

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.090	mg/Kg dry	4		SW-846 8082A	11/7/23	11/11/23 0:22	SFM
Aroclor-1221 [1]	ND	0.090	mg/Kg dry	4		SW-846 8082A	11/7/23	11/11/23 0:22	SFM
Aroclor-1232 [1]	ND	0.090	mg/Kg dry	4		SW-846 8082A	11/7/23	11/11/23 0:22	SFM
Aroclor-1242 [1]	ND	0.090	mg/Kg dry	4		SW-846 8082A	11/7/23	11/11/23 0:22	SFM
Aroclor-1248 [1]	ND	0.090	mg/Kg dry	4		SW-846 8082A	11/7/23	11/11/23 0:22	SFM
Aroclor-1254 [1]	0.32	0.090	mg/Kg dry	4		SW-846 8082A	11/7/23	11/11/23 0:22	SFM
Aroclor-1260 [1]	ND	0.090	mg/Kg dry	4		SW-846 8082A	11/7/23	11/11/23 0:22	SFM
Aroclor-1262 [1]	ND	0.090	mg/Kg dry	4		SW-846 8082A	11/7/23	11/11/23 0:22	SFM
Aroclor-1268 [1]	ND	0.090	mg/Kg dry	4		SW-846 8082A	11/7/23	11/11/23 0:22	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	95.4	30-150		11/11/23 0:22
Decachlorobiphenyl [2]	101	30-150		11/11/23 0:22
Tetrachloro-m-xylene [1]	104	30-150		11/11/23 0:22
Tetrachloro-m-xylene [2]	98.8	30-150		11/11/23 0:22

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K0807

Date Received: 11/6/2023

Field Sample #: P-316-Ex-000.5 | Sampled: 11/1/2023 14:40

Sample ID: 23K0807-04

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	85.4		% Wt	1		SM 2540G	11/7/23	11/7/23 9:05	DV

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K0807

Date Received: 11/6/2023

Field Sample #: P-317-Ex-000.5 | Sampled: 11/1/2023 14:55

Sample ID: 23K0807-17

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	11/7/23	11/11/23 0:39	SFM
Aroclor-1221 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	11/7/23	11/11/23 0:39	SFM
Aroclor-1232 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	11/7/23	11/11/23 0:39	SFM
Aroclor-1242 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	11/7/23	11/11/23 0:39	SFM
Aroclor-1248 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	11/7/23	11/11/23 0:39	SFM
Aroclor-1254 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	11/7/23	11/11/23 0:39	SFM
Aroclor-1260 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	11/7/23	11/11/23 0:39	SFM
Aroclor-1262 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	11/7/23	11/11/23 0:39	SFM
Aroclor-1268 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	11/7/23	11/11/23 0:39	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	91.7	30-150		11/11/23 0:39
Decachlorobiphenyl [2]	114	30-150		11/11/23 0:39
Tetrachloro-m-xylene [1]	102	30-150		11/11/23 0:39
Tetrachloro-m-xylene [2]	94.7	30-150		11/11/23 0:39

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K0807

Date Received: 11/6/2023

Field Sample #: P-317-Ex-000.5 | Sampled: 11/1/2023 14:55

Sample ID: 23K0807-17

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	95.4		% Wt	1		SM 2540G	11/7/23	11/7/23 9:05	DV

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method:% Solids **Analytical Method:SM 2540G**

Lab Number [Field ID]	Batch	Date
23K0807-04 [P-316-Ex-000.5]	B357371	11/07/23
23K0807-17 [P-317-Ex-000.5]	B357371	11/07/23

Prep Method:SW-846 3540C **Analytical Method:SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23K0807-04 [P-316-Ex-000.5]	B357389	10.4	10.0	11/07/23
23K0807-17 [P-317-Ex-000.5]	B357389	10.1	10.0	11/07/23

con-test® A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B357389 - SW-846 3540C										
Blank (B357389-BLK1)				Prepared: 11/07/23 Analyzed: 11/10/23						
Aroclor-1016	ND	0.020	mg/Kg wet							
Aroclor-1016 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1221	ND	0.020	mg/Kg wet							
Aroclor-1221 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1232	ND	0.020	mg/Kg wet							
Aroclor-1232 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1242	ND	0.020	mg/Kg wet							
Aroclor-1242 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1248	ND	0.020	mg/Kg wet							
Aroclor-1248 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1254	ND	0.020	mg/Kg wet							
Aroclor-1254 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1260	ND	0.020	mg/Kg wet							
Aroclor-1260 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1262	ND	0.020	mg/Kg wet							
Aroclor-1262 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1268	ND	0.020	mg/Kg wet							
Aroclor-1268 [2C]	ND	0.020	mg/Kg wet							
Surrogate: Decachlorobiphenyl	*0.173*		mg/Kg wet	0.200		86.7	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.187*		mg/Kg wet	0.200		93.4	30-150			
Surrogate: Tetrachloro-m-xylene	*0.184*		mg/Kg wet	0.200		92.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.186*		mg/Kg wet	0.200		93.0	30-150			
LCS (B357389-BS1)				Prepared: 11/07/23 Analyzed: 11/10/23						
Aroclor-1016	0.15	0.020	mg/Kg wet	0.200		75.4	40-140			
Aroclor-1016 [2C]	0.17	0.020	mg/Kg wet	0.200		82.7	40-140			
Aroclor-1260	0.15	0.020	mg/Kg wet	0.200		76.2	40-140			
Aroclor-1260 [2C]	0.17	0.020	mg/Kg wet	0.200		82.8	40-140			
Surrogate: Decachlorobiphenyl	*0.175*		mg/Kg wet	0.200		87.7	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.189*		mg/Kg wet	0.200		94.5	30-150			
Surrogate: Tetrachloro-m-xylene	*0.186*		mg/Kg wet	0.200		93.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.186*		mg/Kg wet	0.200		93.0	30-150			
LCS Dup (B357389-BSD1)				Prepared: 11/07/23 Analyzed: 11/10/23						
Aroclor-1016	0.14	0.020	mg/Kg wet	0.200		72.0	40-140	4.70	30	
Aroclor-1016 [2C]	0.16	0.020	mg/Kg wet	0.200		78.8	40-140	4.84	30	
Aroclor-1260	0.15	0.020	mg/Kg wet	0.200		74.7	40-140	1.97	30	
Aroclor-1260 [2C]	0.16	0.020	mg/Kg wet	0.200		80.9	40-140	2.28	30	
Surrogate: Decachlorobiphenyl	*0.176*		mg/Kg wet	0.200		88.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.191*		mg/Kg wet	0.200		95.6	30-150			
Surrogate: Tetrachloro-m-xylene	*0.176*		mg/Kg wet	0.200		88.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.177*		mg/Kg wet	0.200		88.5	30-150			

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-316-Ex-000.5

Lab Sample ID: 23K0807-04

Date(s) Analyzed: 11/11/2023 11/11/2023

Instrument ID (1): ECD 9

Instrument ID (2): ECD 9

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	-0.030	0.030	0.32	
	2	0.000	-0.030	0.030	0.28	13.3

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B357389-BS1 Date(s) Analyzed: 11/10/2023 11/10/2023

Instrument ID (1): ECD 9 Instrument ID (2): ECD 9

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.17	12.5
Aroclor-1260	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.17	12.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B357389-BSD1 Date(s) Analyzed: 11/10/2023 11/10/2023

Instrument ID (1): ECD 9 Instrument ID (2): ECD 9

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.14	
	2	0.000	-0.030	0.030	0.16	13.3
Aroclor-1260	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.16	6.5

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level

Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.

No results have been blank subtracted unless specified in the case narrative section.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8082A in Soil	
Aroclor-1016	CT,NH,NY,ME,NC,VA,PA
Aroclor-1016 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1262	NY,NC,VA,PA
Aroclor-1262 [2C]	NY,NC,VA,PA
Aroclor-1268	NY,NC,VA,PA
Aroclor-1268 [2C]	NY,NC,VA,PA

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2024
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2024
NC	North Carolina Div. of Water Quality	652	12/31/2023
ME	State of Maine	MA00100	06/9/2025
VA	Commonwealth of Virginia	460217	12/14/2023
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2024

23K0807 KF

Pace Analytical

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time

7-Day ☐ 10-Day ☒
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery

Format: PDF ☒ EXCEL ☒
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

PCB ONLY

SOXHLET ☒
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
1	P-315-Ex-0506	11/1/2023	14:35			U		1				H
2	P-315-Ex-0607	11/1/2023	14:36			U		1				H
3	P-315-Ex-0708	11/1/2023	14:37			U		1				H
4	P-316-Ex-000.5	11/1/2023	14:40			U		1				X
5	P-316-Ex-0.501	11/1/2023	14:41			U		1				H
6	P-316-Ex-0101.5	11/1/2023	14:42			U		1				H
7	P-316-Ex-01.502	11/1/2023	14:43			U		1				H
8	P-316-Ex-0202.5	11/1/2023	14:44			U		1				H
9	P-316-Ex-02.503	11/1/2023	14:45			U		1				H
10	P-316-Ex-0303.5	11/1/2023	14:46			U		1				H

[2] Preservation Code

Courier Use Only

Total Number Of:

VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? (Y) / N

Glassware in freezer? Y (N)

Prepackaged Cooler? (Y) / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time:	11/6/23 1157
Received by: (signature)	Date/Time:	11/6/23 1157
Relinquished by: (signature)	Date/Time:	11/6/23 1630
Received by: (signature)	Date/Time:	11/6/23 1630
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ AIHA-LAP,LLC

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

23K0807-RF

Pace Analytical

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time

7-Day ☐ 10-Day ☒
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery

Format: PDF ☒ EXCEL ☒
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

PCB ONLY

SOXHLET ☒
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	*Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction												[2] Preservation Code
11	P-316-Ex-03.504	11/1/2023	14:47			U		1				H												
12	P-316-Ex-0404.5	11/1/2023	14:48			U		1				H												
13	P-316-Ex-04.505	11/1/2023	14:49			U		1				H												
14	P-316-Ex-0506	11/1/2023	14:50			U		1				H												
15	P-316-Ex-0607	11/1/2023	14:51			U		1				H												
16	P-316-Ex-0708	11/1/2023	14:52			U		3				H												
17	P-317-Ex-000.5	11/1/2023	14:55			U		1				X												
18	P-317-Ex-0.501	11/1/2023	14:56			U		1				H												
19	P-317-Ex-0101.5	11/1/2023	14:57			U		1				H												
20	P-317-Ex-01.502	11/1/2023	14:58			U		1				H												

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Relinquished by: (signature)		Date/Time: 11/6/23 1157
Received by: (signature)		Date/Time: 11/6/23 1157
Relinquished by: (signature)		Date/Time: 11/6/23 1630
Received by: (signature)		Date/Time:
Relinquished by: (signature)		Date/Time:
Received by: (signature)		Date/Time:
Relinquished by: (signature)		Date/Time:
Received by: (signature)		Date/Time:

Lab Comments:

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Other

☐ Chromatogram
☐ *AIHA-LAP,LLC*

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
! = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist
	Effective Date: 07/13/2023

Log In Back-Sheet

Client NobisGroup

Project St Johnsbury Armory

MCP/RCP Required N/A

Deliverable Package Requirement N/A

Location St. Johnsbury, VT

PWSID# (When Applicable) N/A

Arrival Method:

Courier ☒ Fed Ex ☐ Walk In ☐ Other ☐

Received By / Date / Time MEM 11/6/23 1630

Back-Sheet By / Date / Time STM 11/6/23 2338

Temperature Method Gun # 4

Temp X < 6° C Actual Temperature 2.5, 2.9, 4.0

Rush Samples: Yes (No) Notify

Short Hold: Yes (No) Notify

Notes regarding Samples/COC outside of SOP:

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy) Any False statement will be brought to the attention of the Client – True or False

	True	False
Received on Ice	☒	☐
Received in Cooler	☒	☐
Custody Seal: DATE TIME	☐	☒
COC Relinquished	☒	☐
COC/Samples Labels Agree	☒	☐
All Samples in Good Condition	☒	☐
Samples Received within Holding Time	☒	☐
Is there enough Volume	☒	☐
Proper Media/Container Used	☒	☐
Splitting Samples Required	☐	☒
MS/MSD	☒	☐
Trip Blanks	☐	☒
Lab to Filters	☐	☒
COC Legible	☒	☐

COC Included: (Check all included)

Client ☒ Analysis ☒ Sampler Name ☒

Project ☒ IDs ☒ Collection Date/Time ☒

All Samples Proper pH: (N/A) ☐ ☐

Additional Container Notes

Note: West Virginia requires all samples to have their temperature taken. Note any outliers.

Qualtrax ID: 120836

Pace Analytical Services

DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist

Effective Date: 07/13/2023

Sample	Soils Jars (Circle Amb/Clear)			Ambers						Plastics													VOA Vials					Other / Fill in			
	16oz Amb/Clear	8oz Amb/Clear	4oz Amb/Clear	2oz Amb/Clear	1 Liter	Unpreserved	HCL	Sulfuric	250mL	Sulfuric	Phosphoric	HCl	100mL	Unpreserved	1 Liter	Unpreserved	Sulfuric	500mL	Unpreserved	Sulfuric	250mL	Unpreserved	Trizma	Sulfuric	Nitric	NaOH	Ammonium Acetate	NaOH/Zinc	Unpreserved	HCl	MeOH	D.I. Water	Bisulfate	Col/Bact					
1																																					
2			—																																		
3			—																																		
4			—																																		
5			—																																		
6			—																																		
7			—																																		
8			—																																		
9			—																																		
10			—																																		
11			—																																		
12			—																																		
13			—																																		
14			—																																		
15			—																																		
16			—																																		
17			—																																		
18			—																																		
19			—																																		
20			—																																		

Qualtrax ID: 120836

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

November 13, 2023

Tim Andrews
Nobis Engineering
585 Middlesex Street
Lowell, MA 01851

Project Location: St. Johnsbury, VT
Client Job Number:
Project Number: S00001.017
Laboratory Work Order Number: 23K0808

Enclosed are results of analyses for samples as received by the laboratory on November 6, 2023. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Rebecca Faust
Project Manager

Table of Contents

Sample Summary 3

Case Narrative 4

Sample Results 5

23K0808-03 5

23K0808-16 7

Sample Preparation Information 9

QC Data 10

Polychlorinated Biphenyls with 3540 Soxhlet Extraction 10

B357389 10

Dual Column RPD Report 11

Flag/Qualifier Summary 13

Certifications 14

Chain of Custody/Sample Receipt 15

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Nobis Engineering
585 Middlesex Street
Lowell, MA 01851
ATTN: Tim Andrews

REPORT DATE: 11/13/2023

PURCHASE ORDER NUMBER:

PROJECT NUMBER: S00001.017

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23K0808

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: St. Johnsbury, VT

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
P-318-Ex-0607	23K0808-01	Soil		-	
P-318-Ex-0708	23K0808-02	Soil		-	
P-319-Ex-000.5	23K0808-03	Soil		SM 2540G	
				SW-846 8082A	
P-319-Ex-0.501	23K0808-04	Soil		-	
P-319-Ex-0101.5	23K0808-05	Soil		-	
P-319-Ex-01.502	23K0808-06	Soil		-	
P-319-Ex-0202.5	23K0808-07	Soil		-	
P-319-Ex-02.503	23K0808-08	Soil		-	
P-319-Ex-0303.5	23K0808-09	Soil		-	
P-319-Ex-03.504	23K0808-10	Soil		-	
P-319-Ex-0404.5	23K0808-11	Soil		-	
P-319-Ex-04.505	23K0808-12	Soil		-	
P-319-Ex-0506	23K0808-13	Soil		-	
P-319-Ex-0607	23K0808-14	Soil		-	
P-319-Ex-0708	23K0808-15	Soil		-	
P-320-Ex-000.5	23K0808-16	Soil		SM 2540G	
				SW-846 8082A	
P-320-Ex-0.501	23K0808-17	Soil		-	
P-320-Ex-0101.5	23K0808-18	Soil		-	
P-320-Ex-01.502	23K0808-19	Soil		-	
P-320-Ex-0202.5	23K0808-20	Soil		-	

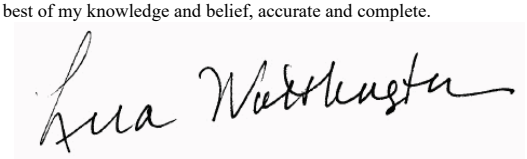
con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Lisa A. Worthington
Technical Representative

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K0808

Date Received: 11/6/2023

Field Sample #: P-319-Ex-000.5 | Sampled: 11/2/2023 08:15

Sample ID: 23K0808-03

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.089	mg/Kg dry	4		SW-846 8082A	11/7/23	11/11/23 0:56	SFM
Aroclor-1221 [1]	ND	0.089	mg/Kg dry	4		SW-846 8082A	11/7/23	11/11/23 0:56	SFM
Aroclor-1232 [1]	ND	0.089	mg/Kg dry	4		SW-846 8082A	11/7/23	11/11/23 0:56	SFM
Aroclor-1242 [1]	ND	0.089	mg/Kg dry	4		SW-846 8082A	11/7/23	11/11/23 0:56	SFM
Aroclor-1248 [1]	ND	0.089	mg/Kg dry	4		SW-846 8082A	11/7/23	11/11/23 0:56	SFM
Aroclor-1254 [2]	ND	0.089	mg/Kg dry	4		SW-846 8082A	11/7/23	11/11/23 0:56	SFM
Aroclor-1260 [2]	ND	0.089	mg/Kg dry	4		SW-846 8082A	11/7/23	11/11/23 0:56	SFM
Aroclor-1262 [1]	ND	0.089	mg/Kg dry	4		SW-846 8082A	11/7/23	11/11/23 0:56	SFM
Aroclor-1268 [1]	ND	0.089	mg/Kg dry	4		SW-846 8082A	11/7/23	11/11/23 0:56	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	86.8	30-150		11/11/23 0:56
Decachlorobiphenyl [2]	92.0	30-150		11/11/23 0:56
Tetrachloro-m-xylene [1]	84.0	30-150		11/11/23 0:56
Tetrachloro-m-xylene [2]	79.1	30-150		11/11/23 0:56

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K0808

Date Received: 11/6/2023

Field Sample #: P-319-Ex-000.5 | Sampled: 11/2/2023 08:15

Sample ID: 23K0808-03

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	87.4		% Wt	1		SM 2540G	11/7/23	11/7/23 9:05	DV

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K0808

Date Received: 11/6/2023

Field Sample #: P-320-Ex-000.5 | Sampled: 11/2/2023 08:30

Sample ID: 23K0808-16

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.086	mg/Kg dry	4		SW-846 8082A	11/7/23	11/11/23 1:13	SFM
Aroclor-1221 [1]	ND	0.086	mg/Kg dry	4		SW-846 8082A	11/7/23	11/11/23 1:13	SFM
Aroclor-1232 [1]	ND	0.086	mg/Kg dry	4		SW-846 8082A	11/7/23	11/11/23 1:13	SFM
Aroclor-1242 [1]	ND	0.086	mg/Kg dry	4		SW-846 8082A	11/7/23	11/11/23 1:13	SFM
Aroclor-1248 [1]	ND	0.086	mg/Kg dry	4		SW-846 8082A	11/7/23	11/11/23 1:13	SFM
Aroclor-1254 [1]	ND	0.086	mg/Kg dry	4		SW-846 8082A	11/7/23	11/11/23 1:13	SFM
Aroclor-1260 [1]	ND	0.086	mg/Kg dry	4		SW-846 8082A	11/7/23	11/11/23 1:13	SFM
Aroclor-1262 [1]	ND	0.086	mg/Kg dry	4		SW-846 8082A	11/7/23	11/11/23 1:13	SFM
Aroclor-1268 [1]	ND	0.086	mg/Kg dry	4		SW-846 8082A	11/7/23	11/11/23 1:13	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual		
Decachlorobiphenyl [1]	92.9	30-150		11/11/23	1:13
Decachlorobiphenyl [2]	95.2	30-150		11/11/23	1:13
Tetrachloro-m-xylene [1]	101	30-150		11/11/23	1:13
Tetrachloro-m-xylene [2]	95.6	30-150		11/11/23	1:13

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K0808

Date Received: 11/6/2023

Field Sample #: P-320-Ex-000.5 | Sampled: 11/2/2023 08:30

Sample ID: 23K0808-16

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	90.1		% Wt	1		SM 2540G	11/7/23	11/7/23 9:05	DV

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method:% Solids **Analytical Method:SM 2540G**

Lab Number [Field ID]	Batch	Date
23K0808-03 [P-319-Ex-000.5]	B357371	11/07/23
23K0808-16 [P-320-Ex-000.5]	B357371	11/07/23

Prep Method:SW-846 3540C **Analytical Method:SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23K0808-03 [P-319-Ex-000.5]	B357389	10.3	10.0	11/07/23
23K0808-16 [P-320-Ex-000.5]	B357389	10.3	10.0	11/07/23

con-test® A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B357389 - SW-846 3540C										
Blank (B357389-BLK1)				Prepared: 11/07/23 Analyzed: 11/10/23						
Aroclor-1016	ND	0.020	mg/Kg wet							
Aroclor-1016 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1221	ND	0.020	mg/Kg wet							
Aroclor-1221 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1232	ND	0.020	mg/Kg wet							
Aroclor-1232 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1242	ND	0.020	mg/Kg wet							
Aroclor-1242 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1248	ND	0.020	mg/Kg wet							
Aroclor-1248 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1254	ND	0.020	mg/Kg wet							
Aroclor-1254 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1260	ND	0.020	mg/Kg wet							
Aroclor-1260 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1262	ND	0.020	mg/Kg wet							
Aroclor-1262 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1268	ND	0.020	mg/Kg wet							
Aroclor-1268 [2C]	ND	0.020	mg/Kg wet							
Surrogate: Decachlorobiphenyl	*0.173*		mg/Kg wet	0.200		86.7	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.187*		mg/Kg wet	0.200		93.4	30-150			
Surrogate: Tetrachloro-m-xylene	*0.184*		mg/Kg wet	0.200		92.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.186*		mg/Kg wet	0.200		93.0	30-150			
LCS (B357389-BS1)				Prepared: 11/07/23 Analyzed: 11/10/23						
Aroclor-1016	0.15	0.020	mg/Kg wet	0.200		75.4	40-140			
Aroclor-1016 [2C]	0.17	0.020	mg/Kg wet	0.200		82.7	40-140			
Aroclor-1260	0.15	0.020	mg/Kg wet	0.200		76.2	40-140			
Aroclor-1260 [2C]	0.17	0.020	mg/Kg wet	0.200		82.8	40-140			
Surrogate: Decachlorobiphenyl	*0.175*		mg/Kg wet	0.200		87.7	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.189*		mg/Kg wet	0.200		94.5	30-150			
Surrogate: Tetrachloro-m-xylene	*0.186*		mg/Kg wet	0.200		93.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.186*		mg/Kg wet	0.200		93.0	30-150			
LCS Dup (B357389-BSD1)				Prepared: 11/07/23 Analyzed: 11/10/23						
Aroclor-1016	0.14	0.020	mg/Kg wet	0.200		72.0	40-140	4.70	30	
Aroclor-1016 [2C]	0.16	0.020	mg/Kg wet	0.200		78.8	40-140	4.84	30	
Aroclor-1260	0.15	0.020	mg/Kg wet	0.200		74.7	40-140	1.97	30	
Aroclor-1260 [2C]	0.16	0.020	mg/Kg wet	0.200		80.9	40-140	2.28	30	
Surrogate: Decachlorobiphenyl	*0.176*		mg/Kg wet	0.200		88.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.191*		mg/Kg wet	0.200		95.6	30-150			
Surrogate: Tetrachloro-m-xylene	*0.176*		mg/Kg wet	0.200		88.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.177*		mg/Kg wet	0.200		88.5	30-150			

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B357389-BS1

Date(s) Analyzed: 11/10/2023 11/10/2023

Instrument ID (1): ECD 9

Instrument ID (2): ECD 9

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.17	12.5
Aroclor-1260	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.17	12.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B357389-BSD1 Date(s) Analyzed: 11/10/2023 11/10/2023

Instrument ID (1): ECD 9 Instrument ID (2): ECD 9

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.14	
	2	0.000	-0.030	0.030	0.16	13.3
Aroclor-1260	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.16	6.5

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level

Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.

No results have been blank subtracted unless specified in the case narrative section.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8082A in Soil	
Aroclor-1016	CT,NH,NY,ME,NC,VA,PA
Aroclor-1016 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1262	NY,NC,VA,PA
Aroclor-1262 [2C]	NY,NC,VA,PA
Aroclor-1268	NY,NC,VA,PA
Aroclor-1268 [2C]	NY,NC,VA,PA

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2024
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2024
NC	North Carolina Div. of Water Quality	652	12/31/2023
ME	State of Maine	MA00100	06/9/2025
VA	Commonwealth of Virginia	460217	12/14/2023
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2024

23K0808 KF

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time

7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction											
1	P-318-Ex-0607	11/2/2023	8:11			U		1				H											
2	P-318-Ex-0708	11/2/2023	8:12			U		1				H											
3	P-319-Ex-000.5	11/2/2023	8:15			U		1				X											
4	P-319-Ex-0.501	11/2/2023	8:16			U		1				H											
5	P-319-Ex-0101.5	11/2/2023	8:17			U		1				H											
6	P-319-Ex-01.502	11/2/2023	8:18			U		1				H											
7	P-319-Ex-0202.5	11/2/2023	8:19			U		1				H											
8	P-319-Ex-02.503	11/2/2023	8:20			U		1				H											
9	P-319-Ex-0303.5	11/2/2023	8:21			U		1				H											
10	P-319-Ex-03.504	11/2/2023	8:22			U		3				H											

[2] Preservation Code

Courier Use Only

Total Number Of:

VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N

Glassware in freezer? Y / N

Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)		Date/Time: 11/6/23 1157
Received by: (signature)		Date/Time: 11/6/23 1157
Relinquished by: (signature)		Date/Time: 11/6/23 1630
Received by: (signature)		Date/Time: 11/6/23 1630
Relinquished by: (signature)		Date/Time:
Received by: (signature)		Date/Time:
Relinquished by: (signature)		Date/Time:
Received by: (signature)		Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Pace Analytical®
Phone: 612-607-6400
Fax: 612-607-6344
https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction	I
11	P-319-Ex-0404.5	11/2/2023	8:23			U		1				H	
12	P-319-Ex-04.505	11/2/2023	8:24			U		1				H	
13	P-319-Ex-0506	11/2/2023	8:25			U		1				H	
14	P-319-Ex-0607	11/2/2023	8:26			U		1				H	
15	P-319-Ex-0708	11/2/2023	8:27			U		1				H	
16	P-320-Ex-000.5	11/2/2023	8:30			U		1				X	
17	P-320-Ex-0.501	11/2/2023	8:31			U		1				H	
18	P-320-Ex-0101.5	11/2/2023	8:32			U		1				H	
19	P-320-Ex-01.502	11/2/2023	8:33			U		1				H	
20	P-320-Ex-0202.5	11/2/2023	8:34			U		1				H	

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? (Y) N
Glassware in freezer? Y (N)
Prepackaged Cooler? (Y) N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time:	11/6/23 1152
Received by: (signature)	Date/Time:	11/6/23 1157
Relinquished by: (signature)	Date/Time:	11/6/23 1630
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

NELAC and AIHA-LAP, LLC Accredited

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist
	Effective Date: 07/13/2023

Log In Back-Sheet

Client: Nobis

Project: St. Johnsbury Armory

MCP/RCP Required: no

Deliverable Package Requirement: none

Location: St. Johnsbury, VT

PWSID# (When Applicable): n/a

Arrival Method:

Courier ☑ Fed Ex ☐ Walk In ☐ Other ☐

Received By / Date / Time: Mcm 11/6/23 1630

Back-Sheet By / Date / Time: Mcm 11/6/23 2305

Temperature Method: Gun # 5

Temp < 6° C Actual Temperature: 25.29

Rush Samples: Yes / No Notify: No

Short Hold: Yes / No Notify: No

Notes regarding Samples/COC outside of SOP:

Login Sample Receipt Checklist – (Rejection Criteria Listing – Using Acceptance Policy) Any False statement will be brought to the attention of the Client – True or False

	True	False
Received on Ice	☑	☐
Received in Cooler	☑	☐
Custody Seal: DATE TIME	☐	☑
COC Relinquished	☑	☐
COC/Samples Labels Agree	☑	☐
All Samples in Good Condition	☑	☐
Samples Received within Holding Time	☑	☐
Is there enough Volume	☑	☐
Proper Media/Container Used	☑	☐
Splitting Samples Required	☐	☑
MS/MSD	☑	☐
Trip Blanks	☐	☑
Lab to Filters	☐	☑
COC Legible	☑	☐

COC Included: (Check all included)

Client ☑ Analysis ☑ Sampler Name ☑

Project ☑ IDs ☑ Collection Date/Time ☑

All Samples Proper pH: (N/A) ☐ ☐

Additional Container Notes

Note: West Virginia requires all samples to have their temperature taken. Note any outliers.

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ELON-0001 v07_Sample Receiving Checklist
	Effective Date: 07/13/2023

Sample			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
16oz Amb/Clear	Soils Jars (Circle Amb/Clear)																					
8oz Amb/Clear																						
4oz Amb/Clear			1	1							↓	3	1	←								
2oz Amb/Clear																						
Unpreserved	Ambers	1 Liter																				
HCL																						
Sulfuric																						
Sulfuric		250mL																				
Phosphoric																						
HCl																						
Unpreserved		100mL																				
Unpreserved	Plastics	1 Liter																				
Sulfuric																						
Unpreserved		500mL																				
Sulfuric																						
Unpreserved		250mL																				
Trizma																						
Sulfuric																						
Nitric																						
NaOH																						
Ammonium Acetate																						
NaOH/Zinc																						
Unpreserved	VOA Vials																					
HCl																						
MeOH																						
D.I. Water																						
BiSulfate																						
Col/Bact	Other / Fill in																					

Qualtrax ID: 120836

Table of Contents

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

December 4, 2023

Tim Andrews
Nobis Engineering
585 Middlesex Street
Lowell, MA 01851

Project Location: St. Johnsbury, VT
Client Job Number:
Project Number: S00001.017
Laboratory Work Order Number: 23K2921

Enclosed are results of analyses for samples as received by the laboratory on November 21, 2023. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Rebecca Faust
Project Manager

Table of Contents

Sample Summary 3

Case Narrative 4

Sample Results 5

23K2921-01 5

23K2921-02 7

23K2921-03 9

23K2921-04 11

23K2921-05 13

23K2921-06 15

23K2921-07 17

23K2921-08 19

23K2921-09 21

Sample Preparation Information 23

QC Data 24

Polychlorinated Biphenyls with 3540 Soxhlet Extraction 24

B359128 24

Dual Column RPD Report 25

Flag/Qualifier Summary 32

Certifications 33

Chain of Custody/Sample Receipt 34

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Nobis Engineering
585 Middlesex Street
Lowell, MA 01851
ATTN: Tim Andrews

REPORT DATE: 12/4/2023

PURCHASE ORDER NUMBER:

PROJECT NUMBER: S00001.017

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 23K2921

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: St. Johnsbury, VT

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
P-308-Ex-0.501	23K2921-01	Soil		SM 2540G	
				SW-846 8082A	
P-313-Ex-0.501	23K2921-02	Soil		SM 2540G	
				SW-846 8082A	
P-314-Ex-0.501	23K2921-03	Soil		SM 2540G	
				SW-846 8082A	
P-315-Ex-0.501	23K2921-04	Soil		SM 2540G	
				SW-846 8082A	
P-315-Ex-0101.5	23K2921-05	Soil		SM 2540G	
				SW-846 8082A	
P-316-Ex-0.501	23K2921-06	Soil		SM 2540G	
				SW-846 8082A	
P-321-Ex-0.501	23K2921-07	Soil		SM 2540G	
				SW-846 8082A	
P-323-Ex-0.501	23K2921-08	Soil		SM 2540G	
				SW-846 8082A	
P-326-Ex-0.501	23K2921-09	Soil		SM 2540G	
				SW-846 8082A	

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

SM 2540G

Qualifications:

H-06

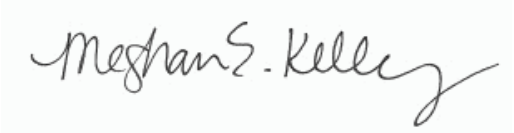
Sample was extracted past the recommended holding time.

Analyte & Samples(s) Qualified:

% Solids

23K2921-01[P-308-Ex-0.501], 23K2921-02[P-313-Ex-0.501], 23K2921-03[P-314-Ex-0.501], 23K2921-04[P-315-Ex-0.501], 23K2921-05[P-315-Ex-0101.5], 23K2921-06[P-316-Ex-0.501], 23K2921-07[P-321-Ex-0.501], 23K2921-08[P-323-Ex-0.501], 23K2921-09[P-326-Ex-0.501]

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Meghan E. Kelley
Reporting Specialist

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K2921

Date Received: 11/21/2023

Field Sample #: P-308-Ex-0.501 | Sampled: 11/1/2023 11:01

Sample ID: 23K2921-01

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 14:24	SFM
Aroclor-1221 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 14:24	SFM
Aroclor-1232 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 14:24	SFM
Aroclor-1242 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 14:24	SFM
Aroclor-1248 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 14:24	SFM
Aroclor-1254 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 14:24	SFM
Aroclor-1260 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 14:24	SFM
Aroclor-1262 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 14:24	SFM
Aroclor-1268 [1]	ND	0.084	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 14:24	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	86.9	30-150		11/30/23 14:24
Decachlorobiphenyl [2]	89.6	30-150		11/30/23 14:24
Tetrachloro-m-xylene [1]	103	30-150		11/30/23 14:24
Tetrachloro-m-xylene [2]	93.8	30-150		11/30/23 14:24

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K2921

Date Received: 11/21/2023

Field Sample #: P-308-Ex-0.501 | Sampled: 11/1/2023 11:01

Sample ID: 23K2921-01

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	91.5		% Wt	1	H-06	SM 2540G	11/22/23	11/22/23 9:31	DV

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K2921

Date Received: 11/21/2023

Field Sample #: P-313-Ex-0.501 | Sampled: 11/1/2023 13:56

Sample ID: 23K2921-02

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 14:41	SFM
Aroclor-1221 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 14:41	SFM
Aroclor-1232 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 14:41	SFM
Aroclor-1242 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 14:41	SFM
Aroclor-1248 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 14:41	SFM
Aroclor-1254 [1]	0.15	0.083	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 14:41	SFM
Aroclor-1260 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 14:41	SFM
Aroclor-1262 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 14:41	SFM
Aroclor-1268 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 14:41	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	92.4	30-150		11/30/23 14:41
Decachlorobiphenyl [2]	91.4	30-150		11/30/23 14:41
Tetrachloro-m-xylene [1]	95.2	30-150		11/30/23 14:41
Tetrachloro-m-xylene [2]	86.4	30-150		11/30/23 14:41

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K2921

Date Received: 11/21/2023

Field Sample #: P-313-Ex-0.501 | Sampled: 11/1/2023 13:56

Sample ID: 23K2921-02

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	91.3		% Wt	1	H-06	SM 2540G	11/22/23	11/22/23 9:31	DV

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K2921

Date Received: 11/21/2023

Field Sample #: P-314-Ex-0.501 | Sampled: 11/1/2023 14:11

Sample ID: 23K2921-03

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.087	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 14:58	SFM
Aroclor-1221 [1]	ND	0.087	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 14:58	SFM
Aroclor-1232 [1]	ND	0.087	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 14:58	SFM
Aroclor-1242 [1]	ND	0.087	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 14:58	SFM
Aroclor-1248 [1]	ND	0.087	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 14:58	SFM
Aroclor-1254 [1]	0.10	0.087	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 14:58	SFM
Aroclor-1260 [1]	ND	0.087	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 14:58	SFM
Aroclor-1262 [1]	ND	0.087	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 14:58	SFM
Aroclor-1268 [1]	ND	0.087	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 14:58	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	97.1	30-150		11/30/23 14:58
Decachlorobiphenyl [2]	95.5	30-150		11/30/23 14:58
Tetrachloro-m-xylene [1]	99.2	30-150		11/30/23 14:58
Tetrachloro-m-xylene [2]	90.4	30-150		11/30/23 14:58

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K2921

Date Received: 11/21/2023

Field Sample #: P-314-Ex-0.501 | Sampled: 11/1/2023 14:11

Sample ID: 23K2921-03

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	89.7		% Wt	1	H-06	SM 2540G	11/22/23	11/22/23 9:31	DV

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K2921

Date Received: 11/21/2023

Field Sample #: P-315-Ex-0.501 | Sampled: 11/1/2023 14:26

Sample ID: 23K2921-04

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.085	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 15:14	SFM
Aroclor-1221 [1]	ND	0.085	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 15:14	SFM
Aroclor-1232 [1]	ND	0.085	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 15:14	SFM
Aroclor-1242 [1]	ND	0.085	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 15:14	SFM
Aroclor-1248 [1]	ND	0.085	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 15:14	SFM
Aroclor-1254 [1]	ND	0.085	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 15:14	SFM
Aroclor-1260 [2]	1.3	0.085	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 15:14	SFM
Aroclor-1262 [1]	ND	0.085	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 15:14	SFM
Aroclor-1268 [1]	ND	0.085	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 15:14	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	103	30-150		11/30/23 15:14
Decachlorobiphenyl [2]	109	30-150		11/30/23 15:14
Tetrachloro-m-xylene [1]	108	30-150		11/30/23 15:14
Tetrachloro-m-xylene [2]	98.4	30-150		11/30/23 15:14

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K2921

Date Received: 11/21/2023

Field Sample #: P-315-Ex-0.501 | Sampled: 11/1/2023 14:26

Sample ID: 23K2921-04

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	90.2		% Wt	1	H-06	SM 2540G	11/22/23	11/22/23 9:31	DV

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K2921

Date Received: 11/21/2023

Field Sample #: P-315-Ex-0101.5 | Sampled: 11/1/2023 14:27

Sample ID: 23K2921-05

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.087	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 15:31	SFM
Aroclor-1221 [1]	ND	0.087	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 15:31	SFM
Aroclor-1232 [1]	ND	0.087	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 15:31	SFM
Aroclor-1242 [1]	ND	0.087	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 15:31	SFM
Aroclor-1248 [1]	ND	0.087	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 15:31	SFM
Aroclor-1254 [1]	ND	0.087	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 15:31	SFM
Aroclor-1260 [1]	0.097	0.087	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 15:31	SFM
Aroclor-1262 [1]	ND	0.087	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 15:31	SFM
Aroclor-1268 [1]	ND	0.087	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 15:31	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	81.6	30-150		11/30/23 15:31
Decachlorobiphenyl [2]	81.6	30-150		11/30/23 15:31
Tetrachloro-m-xylene [1]	88.1	30-150		11/30/23 15:31
Tetrachloro-m-xylene [2]	79.2	30-150		11/30/23 15:31

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K2921

Date Received: 11/21/2023

Field Sample #: P-315-Ex-0101.5 | Sampled: 11/1/2023 14:27

Sample ID: 23K2921-05

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	90.0		% Wt	1	H-06	SM 2540G	11/22/23	11/22/23 9:31	DV

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K2921

Date Received: 11/21/2023

Field Sample #: P-316-Ex-0.501 | Sampled: 11/1/2023 14:41

Sample ID: 23K2921-06

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.086	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 15:48	SFM
Aroclor-1221 [1]	ND	0.086	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 15:48	SFM
Aroclor-1232 [1]	ND	0.086	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 15:48	SFM
Aroclor-1242 [1]	ND	0.086	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 15:48	SFM
Aroclor-1248 [1]	ND	0.086	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 15:48	SFM
Aroclor-1254 [1]	0.11	0.086	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 15:48	SFM
Aroclor-1260 [1]	ND	0.086	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 15:48	SFM
Aroclor-1262 [1]	ND	0.086	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 15:48	SFM
Aroclor-1268 [1]	ND	0.086	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 15:48	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	92.6	30-150		11/30/23 15:48
Decachlorobiphenyl [2]	94.6	30-150		11/30/23 15:48
Tetrachloro-m-xylene [1]	101	30-150		11/30/23 15:48
Tetrachloro-m-xylene [2]	92.0	30-150		11/30/23 15:48

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K2921

Date Received: 11/21/2023

Field Sample #: P-316-Ex-0.501 | Sampled: 11/1/2023 14:41

Sample ID: 23K2921-06

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	88.6		% Wt	1	H-06	SM 2540G	11/22/23	11/22/23 9:31	DV

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K2921

Date Received: 11/21/2023

Field Sample #: P-321-Ex-0.501 | Sampled: 11/2/2023 08:51

Sample ID: 23K2921-07

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 16:05	SFM
Aroclor-1221 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 16:05	SFM
Aroclor-1232 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 16:05	SFM
Aroclor-1242 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 16:05	SFM
Aroclor-1248 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 16:05	SFM
Aroclor-1254 [2]	0.20	0.083	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 16:05	SFM
Aroclor-1260 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 16:05	SFM
Aroclor-1262 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 16:05	SFM
Aroclor-1268 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 16:05	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	91.8	30-150		11/30/23 16:05
Decachlorobiphenyl [2]	91.5	30-150		11/30/23 16:05
Tetrachloro-m-xylene [1]	96.9	30-150		11/30/23 16:05
Tetrachloro-m-xylene [2]	88.3	30-150		11/30/23 16:05

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K2921

Date Received: 11/21/2023

Field Sample #: P-321-Ex-0.501 | Sampled: 11/2/2023 08:51

Sample ID: 23K2921-07

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	93.0		% Wt	1	H-06	SM 2540G	11/22/23	11/22/23 9:31	DV

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K2921

Date Received: 11/21/2023

Field Sample #: P-323-Ex-0.501 | Sampled: 11/2/2023 09:31

Sample ID: 23K2921-08

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 16:22	SFM
Aroclor-1221 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 16:22	SFM
Aroclor-1232 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 16:22	SFM
Aroclor-1242 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 16:22	SFM
Aroclor-1248 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 16:22	SFM
Aroclor-1254 [2]	0.23	0.083	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 16:22	SFM
Aroclor-1260 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 16:22	SFM
Aroclor-1262 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 16:22	SFM
Aroclor-1268 [1]	ND	0.083	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 16:22	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	91.5	30-150		11/30/23 16:22
Decachlorobiphenyl [2]	90.8	30-150		11/30/23 16:22
Tetrachloro-m-xylene [1]	94.2	30-150		11/30/23 16:22
Tetrachloro-m-xylene [2]	85.7	30-150		11/30/23 16:22

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K2921

Date Received: 11/21/2023

Field Sample #: P-323-Ex-0.501 | Sampled: 11/2/2023 09:31

Sample ID: 23K2921-08

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	93.1		% Wt	1	H-06	SM 2540G	11/22/23	11/22/23 9:31	DV

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K2921

Date Received: 11/21/2023

Field Sample #: P-326-Ex-0.501 | Sampled: 11/2/2023 10:31

Sample ID: 23K2921-09

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.082	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 16:38	SFM
Aroclor-1221 [1]	ND	0.082	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 16:38	SFM
Aroclor-1232 [1]	ND	0.082	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 16:38	SFM
Aroclor-1242 [1]	ND	0.082	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 16:38	SFM
Aroclor-1248 [1]	ND	0.082	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 16:38	SFM
Aroclor-1254 [1]	ND	0.082	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 16:38	SFM
Aroclor-1260 [1]	ND	0.082	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 16:38	SFM
Aroclor-1262 [1]	ND	0.082	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 16:38	SFM
Aroclor-1268 [1]	ND	0.082	mg/Kg dry	4		SW-846 8082A	11/28/23	11/30/23 16:38	SFM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	95.2	30-150		11/30/23 16:38
Decachlorobiphenyl [2]	93.7	30-150		11/30/23 16:38
Tetrachloro-m-xylene [1]	99.6	30-150		11/30/23 16:38
Tetrachloro-m-xylene [2]	88.1	30-150		11/30/23 16:38

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: St. Johnsbury, VT | Sample Description: | Work Order: 23K2921

Date Received: 11/21/2023

Field Sample #: P-326-Ex-0.501 | Sampled: 11/2/2023 10:31

Sample ID: 23K2921-09

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	93.3		% Wt	1	H-06	SM 2540G	11/22/23	11/22/23 9:31	DV

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method:% Solids **Analytical Method:SM 2540G**

Lab Number [Field ID]	Batch	Date
23K2921-01 [P-308-Ex-0.501]	B358861	11/22/23
23K2921-02 [P-313-Ex-0.501]	B358861	11/22/23
23K2921-03 [P-314-Ex-0.501]	B358861	11/22/23
23K2921-04 [P-315-Ex-0.501]	B358861	11/22/23
23K2921-05 [P-315-Ex-0101.5]	B358861	11/22/23
23K2921-06 [P-316-Ex-0.501]	B358861	11/22/23
23K2921-07 [P-321-Ex-0.501]	B358861	11/22/23
23K2921-08 [P-323-Ex-0.501]	B358861	11/22/23
23K2921-09 [P-326-Ex-0.501]	B358861	11/22/23

Prep Method:SW-846 3540C **Analytical Method:SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
23K2921-01 [P-308-Ex-0.501]	B359128	10.4	10.0	11/28/23
23K2921-02 [P-313-Ex-0.501]	B359128	10.6	10.0	11/28/23
23K2921-03 [P-314-Ex-0.501]	B359128	10.3	10.0	11/28/23
23K2921-04 [P-315-Ex-0.501]	B359128	10.4	10.0	11/28/23
23K2921-05 [P-315-Ex-0101.5]	B359128	10.2	10.0	11/28/23
23K2921-06 [P-316-Ex-0.501]	B359128	10.5	10.0	11/28/23
23K2921-07 [P-321-Ex-0.501]	B359128	10.4	10.0	11/28/23
23K2921-08 [P-323-Ex-0.501]	B359128	10.4	10.0	11/28/23
23K2921-09 [P-326-Ex-0.501]	B359128	10.5	10.0	11/28/23

con-test® A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B359128 - SW-846 3540C										
Blank (B359128-BLK1)				Prepared: 11/28/23 Analyzed: 11/30/23						
Aroclor-1016	ND	0.019	mg/Kg wet							
Aroclor-1016 [2C]	ND	0.019	mg/Kg wet							
Aroclor-1221	ND	0.019	mg/Kg wet							
Aroclor-1221 [2C]	ND	0.019	mg/Kg wet							
Aroclor-1232	ND	0.019	mg/Kg wet							
Aroclor-1232 [2C]	ND	0.019	mg/Kg wet							
Aroclor-1242	ND	0.019	mg/Kg wet							
Aroclor-1242 [2C]	ND	0.019	mg/Kg wet							
Aroclor-1248	ND	0.019	mg/Kg wet							
Aroclor-1248 [2C]	ND	0.019	mg/Kg wet							
Aroclor-1254	ND	0.019	mg/Kg wet							
Aroclor-1254 [2C]	ND	0.019	mg/Kg wet							
Aroclor-1260	ND	0.019	mg/Kg wet							
Aroclor-1260 [2C]	ND	0.019	mg/Kg wet							
Aroclor-1262	ND	0.019	mg/Kg wet							
Aroclor-1262 [2C]	ND	0.019	mg/Kg wet							
Aroclor-1268	ND	0.019	mg/Kg wet							
Aroclor-1268 [2C]	ND	0.019	mg/Kg wet							
Surrogate: Decachlorobiphenyl	*0.178*		mg/Kg wet	0.187		95.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.187*		mg/Kg wet	0.187		100	30-150			
Surrogate: Tetrachloro-m-xylene	*0.177*		mg/Kg wet	0.187		94.8	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.171*		mg/Kg wet	0.187		91.5	30-150			
LCS (B359128-BS1)				Prepared: 11/28/23 Analyzed: 11/30/23						
Aroclor-1016	0.16	0.019	mg/Kg wet	0.187		84.5	40-140			
Aroclor-1016 [2C]	0.16	0.019	mg/Kg wet	0.187		85.4	40-140			
Aroclor-1260	0.17	0.019	mg/Kg wet	0.187		90.8	40-140			
Aroclor-1260 [2C]	0.17	0.019	mg/Kg wet	0.187		91.7	40-140			
Surrogate: Decachlorobiphenyl	*0.175*		mg/Kg wet	0.187		93.8	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.183*		mg/Kg wet	0.187		98.1	30-150			
Surrogate: Tetrachloro-m-xylene	*0.172*		mg/Kg wet	0.187		91.8	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.164*		mg/Kg wet	0.187		88.0	30-150			
LCS Dup (B359128-BSD1)				Prepared: 11/28/23 Analyzed: 11/30/23						
Aroclor-1016	0.16	0.019	mg/Kg wet	0.194		80.0	40-140	1.65	30	
Aroclor-1016 [2C]	0.16	0.019	mg/Kg wet	0.194		80.0	40-140	2.63	30	
Aroclor-1260	0.17	0.019	mg/Kg wet	0.194		86.4	40-140	1.15	30	
Aroclor-1260 [2C]	0.17	0.019	mg/Kg wet	0.194		87.5	40-140	0.918	30	
Surrogate: Decachlorobiphenyl	*0.180*		mg/Kg wet	0.194		92.7	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.189*		mg/Kg wet	0.194		97.5	30-150			
Surrogate: Tetrachloro-m-xylene	*0.170*		mg/Kg wet	0.194		87.4	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.162*		mg/Kg wet	0.194		83.6	30-150			

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-313-Ex-0.501

Lab Sample ID: 23K2921-02

Date(s) Analyzed: 11/30/2023 11/30/2023

Instrument ID (1): ECD 9

Instrument ID (2): ECD 9

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	-0.030	0.030	0.15	
	2	0.000	-0.030	0.030	0.13	14.3

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-315-Ex-0.501

Lab Sample ID: 23K2921-04

Date(s) Analyzed: 11/30/2023 11/30/2023

Instrument ID (1): ECD 9

Instrument ID (2): ECD 9

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1260	1	0.000	-0.030	0.030	1.2	
	2	0.000	-0.030	0.030	1.3	8.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-315-Ex-0101.5

Lab Sample ID: 23K2921-05

Date(s) Analyzed: 11/30/2023 11/30/2023

Instrument ID (1): ECD 9

Instrument ID (2): ECD 9

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1260	1	0.000	-0.030	0.030	0.097	
	2	0.000	-0.030	0.030	0.096	1.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-321-Ex-0.501

Lab Sample ID: 23K2921-07

Date(s) Analyzed: 11/30/2023 11/30/2023

Instrument ID (1): ECD 9

Instrument ID (2): ECD 9

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	-0.030	0.030	0.19	
	2	0.000	-0.030	0.030	0.20	5.1

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

P-323-Ex-0.501

Lab Sample ID: 23K2921-08

Date(s) Analyzed: 11/30/2023 11/30/2023

Instrument ID (1): ECD 9

Instrument ID (2): ECD 9

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1254	1	0.000	-0.030	0.030	0.22	
	2	0.000	-0.030	0.030	0.23	4.4

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B359128-BS1 Date(s) Analyzed: 11/30/2023 11/30/2023

Instrument ID (1): ECD 9 Instrument ID (2): ECD 9

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.16	
	2	0.000	-0.030	0.030	0.16	0.0
Aroclor-1260	1	0.000	-0.030	0.030	0.17	
	2	0.000	-0.030	0.030	0.17	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B359128-BSD1 Date(s) Analyzed: 11/30/2023 11/30/2023

Instrument ID (1): ECD 9 Instrument ID (2): ECD 9

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.16	
	2	0.000	-0.030	0.030	0.16	0.0
Aroclor-1260	1	0.000	-0.030	0.030	0.17	
	2	0.000	-0.030	0.030	0.17	0.0

con-test®
A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
H-06	Sample was extracted past the recommended holding time.

con-test® A Pace Analytical® Laboratory

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8082A in Soil	
Aroclor-1016	CT,NH,NY,ME,NC,VA,PA
Aroclor-1016 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221	CT,NH,NY,ME,NC,VA,PA
Aroclor-1221 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232	CT,NH,NY,ME,NC,VA,PA
Aroclor-1232 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242	CT,NH,NY,ME,NC,VA,PA
Aroclor-1242 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248	CT,NH,NY,ME,NC,VA,PA
Aroclor-1248 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254	CT,NH,NY,ME,NC,VA,PA
Aroclor-1254 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260	CT,NH,NY,ME,NC,VA,PA
Aroclor-1260 [2C]	CT,NH,NY,ME,NC,VA,PA
Aroclor-1262	NY,NC,VA,PA
Aroclor-1262 [2C]	NY,NC,VA,PA
Aroclor-1268	NY,NC,VA,PA
Aroclor-1268 [2C]	NY,NC,VA,PA

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
CT	Connecticut Department of Public Health	PH-0821	12/31/2024
NY	New York State Department of Health	10899 NELAP	04/1/2024
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2024
NC	North Carolina Div. of Water Quality	652	12/31/2023
ME	State of Maine	MA00100	06/9/2025
VA	Commonwealth of Virginia	460217	12/14/2023
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2024

William Scott

From: Bridget Fortier <bfortier@nobis-group.com>
Sent: Monday, November 20, 2023 2:06 PM
To: ELONProjectManagers
Subject: S00001.017 St Johnsbury Armory - Additional Samples on Hold for Analysis
Attachments: 2023-11-3 Contest Chain.pdf

CAUTION: This email originated from outside Pace Analytical. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hello,

Im looking to have some samples from an older project on hold analyzed. Can you please have the following samples analyzed from the group you received on November 6th (Chain of Custody included for reference);

- P-308-Ex-0.501
- P-313-Ex-0.501
- P-314-Ex-0.501
- P-315-Ex-0.501
- P-315-Ex-0101.5
- P-316-Ex-0.501
- P-321-Ex-0.501
- P-323-Ex-0.501
- P-326-Ex-0.501

Let me know if you have any questions, thanks,

Bridget Fortier, EIT *(she/her/hers)*
Project Engineer

Nobis Group®
100% Employee-Owned
585 Middlesex Street, Lowell, MA 01851
p (978) 291-6995 **| c** (978) 399-9651

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction											
	P-305-Ex-000.5	11/1/2023	9:00			U		1				X											
	P-305-Ex-0.501	11/1/2023	9:01			U		1				H											
	P-305-Ex-0101.5	11/1/2023	9:02			U		1				H											
	P-305-Ex-01.502	11/1/2023	9:03			U		1				H											
	P-305-Ex-0202.5	11/1/2023	9:04			U		1				H											
	P-305-Ex-02.503	11/1/2023	9:05			U		1				H											
	P-305-Ex-0303.5	11/1/2023	9:06			U		1				H											
	P-305-Ex-03.504	11/1/2023	9:07			U		1				H											
	P-305-Ex-0404.5	11/1/2023	9:08			U		1				H											
	P-305-Ex-04.505	11/1/2023	9:09			U		1				H											

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; **M** - Medium; **L** - Low; **C** - Clean; **U** - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

Pace Analytical®
Phone: 612-607-6400
Fax: 612-607-6344
https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction										
	P-305-Ex-0506	11/1/2023	9:10			U		1				H										
	P-305-Ex-0607	11/1/2023	9:11			U		1				H										
	P-305-Ex-0708	11/1/2023	9:12			U		1				H										
	P-306-Ex-000.5	11/1/2023	9:30			U		1				X										
	P-306-Ex-0.501	11/1/2023	9:31			U		1				H										
	P-306-Ex-0101.5	11/1/2023	9:32			U		1				H										
	P-306-Ex-01.502	11/1/2023	9:33			U		1				H										
	P-306-Ex-0202.5	11/1/2023	9:34			U		1				H										
	P-306-Ex-02.503	11/1/2023	9:35			U		1				H										
	P-306-Ex-0303.5	11/1/2023	9:36			U		3				H										

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; **M** - Medium; **L** - Low; **C** - Clean; **U** - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

Pace Analytical®
Phone: 612-607-6400
Fax: 612-607-6344
https://www.pacelabs.com/

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction										
	P-306-Ex-03.504	11/1/2023	9:37			U		1				H										
	P-306-Ex-0404.5	11/1/2023	9:38			U		1				H										
	P-306-Ex-04.505	11/1/2023	9:39			U		1				H										
	P-306-Ex-0506	11/1/2023	9:40			U		3				H										
	P-306-Ex-0607	11/1/2023	9:41			U		1				H										
	P-306-Ex-0708	11/1/2023	9:42			U		1				H										
	P-307-Ex-000.5	11/1/2023	10:20			U		1				X										
	P-307-Ex-0.501	11/1/2023	10:21			U		1				H										
	P-307-Ex-0101.5	11/1/2023	10:22			U		1				H										
	P-307-Ex-01.502	11/1/2023	10:23			U		1				H										

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; **M** - Medium; **L** - Low; **C** - Clean; **U** - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

[2] Preservation Code

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time

7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction										
	P-307-Ex-0202.5	11/1/2023	10:24			U		1				H										
	P-307-Ex-02.503	11/1/2023	10:25			U		1				H										
	P-307-Ex-0303.5	11/1/2023	10:26			U		1				H										
	P-307-Ex-03.504	11/1/2023	10:27			U		1				H										
	P-307-Ex-0404.5	11/1/2023	10:28			U		1				H										
	P-307-Ex-04.505	11/1/2023	10:29			U		1				H										
	P-307-Ex-0506	11/1/2023	10:30			U		1				H										
	P-307-Ex-0607	11/1/2023	10:31			U		1				H										
	P-307-Ex-0708	11/1/2023	10:32			U		1				H										
	P-308-Ex-000.5	11/1/2023	11:00			U		1				X										

[2] Preservation Code

Courier Use Only

Total Number Of:

VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N

Glassware in freezer? Y / N

Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; **M** - Medium; **L** - Low; **C** - Clean; **U** - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other

☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

Pace Analytical®
Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction										
	P-308-Ex-0.501	11/1/2023	11:01			U		1				H										
	P-308-Ex-0101.5	11/1/2023	11:02			U		1				H										
	P-308-Ex-01.502	11/1/2023	11:03			U		1				H										
	P-308-Ex-0202.5	11/1/2023	11:04			U		1				H										
	P-308-Ex-02.503	11/1/2023	11:05			U		1				H										
	P-308-Ex-0303.5	11/1/2023	11:06			U		1				H										
	P-308-Ex-03.504	11/1/2023	11:07			U		1				H										
	P-308-Ex-0404.5	11/1/2023	11:08			U		1				H										
	P-308-Ex-04.505	11/1/2023	11:09			U		1				H										
	P-308-Ex-0506	11/1/2023	11:10			U		1				H										

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; **M** - Medium; **L** - Low; **C** - Clean; **U** - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction										
	P-308-Ex-0607	11/1/2023	11:11			U		1				H										
	P-308-Ex-0708	11/1/2023	11:12			U		1				H										
	P-309-Ex-000.5	11/1/2023	11:50			U		1				X										
	P-309-Ex-0.501	11/1/2023	11:51			U		1				H										
	P-309-Ex-0101.5	11/1/2023	11:52			U		1				H										
	P-309-Ex-01.502	11/1/2023	11:53			U		1				H										
	P-309-Ex-0202.5	11/1/2023	11:54			U		1				H										
	P-309-Ex-02.503	11/1/2023	11:55			U		1				H										
	P-309-Ex-0303.5	11/1/2023	11:56			U		1				H										
	P-309-Ex-03.504	11/1/2023	11:57			U		3				H										

Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; **M** - Medium; **L** - Low; **C** - Clean; **U** - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

Pace Analytical®
Phone: 612-607-6400
Fax: 612-607-6344
https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction										
	P-309-Ex-0404.5	11/1/2023	11:58			U		1				H										
	P-309-Ex-04.505	11/1/2023	11:59			U		1				H										
	P-309-Ex-0506	11/1/2023	12:00			U		1				H										
	P-309-Ex-0607	11/1/2023	12:01			U		1				H										
	P-309-Ex-0708	11/1/2023	12:02			U		1				H										
	P-310-Ex-000.5	11/1/2023	12:40			U		1				X										
	P-310-Ex-0.501	11/1/2023	12:41			U		1				H										
	P-310-Ex-0101.5	11/1/2023	12:42			U		1				H										
	P-310-Ex-01.502	11/1/2023	12:43			U		1				H										
	P-310-Ex-0202.5	11/1/2023	12:44			U		1				H										

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; **M** - Medium; **L** - Low; **C** - Clean; **U** - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

Pace Analytical®
Phone: 612-607-6400
Fax: 612-607-6344
https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction										
	P-310-Ex-02.503	11/1/2023	12:45			U		1				H										
	P-310-Ex-0303.5	11/1/2023	12:46			U		1				H										
	P-310-Ex-03.504	11/1/2023	12:47			U		1				H										
	P-310-Ex-0404.5	11/1/2023	12:48			U		1				H										
	P-310-Ex-04.505	11/1/2023	12:49			U		1				H										
	P-310-Ex-0506	11/1/2023	12:50			U		3				H										
	P-310-Ex-0607	11/1/2023	12:51			U		1				H										
	P-310-Ex-0708	11/1/2023	12:52			U		1				H										
	P-311-Ex-000.5	11/1/2023	13:20			U		1				X										
	P-311-Ex-0.501	11/1/2023	13:21			U		1				H										

Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; **M** - Medium; **L** - Low; **C** - Clean; **U** - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction										
	P-311-Ex-0101.5	11/1/2023	13:22			U		1				H										
	P-311-Ex-01.502	11/1/2023	13:23			U		1				H										
	P-311-Ex-0202.5	11/1/2023	13:24			U		1				H										
	P-311-Ex-02.503	11/1/2023	13:25			U		1				H										
	P-311-Ex-0303.5	11/1/2023	13:26			U		1				H										
	P-311-Ex-03.504	11/1/2023	13:27			U		1				H										
	P-311-Ex-0404.5	11/1/2023	13:28			U		1				H										
	P-311-Ex-04.505	11/1/2023	13:29			U		1				H										
	P-311-Ex-0506	11/1/2023	13:30			U		3				H										
	P-311-Ex-0607	11/1/2023	13:31			U		1				H										

Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; **M** - Medium; **L** - Low; **C** - Clean; **U** - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction										
	P-311-Ex-0708	11/1/2023	13:32			U		1				H										
	P-312-Ex-000.5	11/1/2023	13:40			U		1				X										
	P-312-Ex-0.501	11/1/2023	13:41			U		1				H										
	P-312-Ex-0101.5	11/1/2023	13:42			U		1				H										
	P-312-Ex-01.502	11/1/2023	13:43			U		1				H										
	P-312-Ex-0202.5	11/1/2023	13:44			U		1				H										
	P-312-Ex-02.503	11/1/2023	13:45			U		1				H										
	P-312-Ex-0303.5	11/1/2023	13:46			U		1				H										
	P-312-Ex-03.504	11/1/2023	13:47			U		1				H										
	P-312-Ex-0404.5	11/1/2023	13:48			U		1				H										

Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; **M** - Medium; **L** - Low; **C** - Clean; **U** - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction										
	P-312-Ex-04.505	11/1/2023	13:49			U		1				H										
	P-312-Ex-0506	11/1/2023	13:50			U		1				H										
	P-312-Ex-0607	11/1/2023	13:51			U		1				H										
	P-312-Ex-0708	11/1/2023	13:52			U		1				H										
	P-313-Ex-000.5	11/1/2023	13:55			U		3				X										
	P-313-Ex-0.501	11/1/2023	13:56			U		1				H										
	P-313-Ex-0101.5	11/1/2023	13:57			U		1				H										
	P-313-Ex-01.502	11/1/2023	13:58			U		1				H										
	P-313-Ex-0202.5	11/1/2023	13:59			U		1				H										
	P-313-Ex-02.503	11/1/2023	14:00			U		1				H										

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; **M** - Medium; **L** - Low; **C** - Clean; **U** - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

ab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time

7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction										
	P-313-Ex-0303.5	11/1/2023	14:01			U		1				H										
	P-313-Ex-03.504	11/1/2023	14:02			U		1				H										
	P-313-Ex-0404.5	11/1/2023	14:03			U		1				H										
	P-313-Ex-04.505	11/1/2023	14:04			U		1				H										
	P-313-Ex-0506	11/1/2023	14:05			U		1				H										
	P-313-Ex-0607	11/1/2023	14:06			U		1				H										
	P-313-Ex-0708	11/1/2023	14:07			U		1				H										
	P-314-Ex-000.5	11/1/2023	14:10			U		1				X										
	P-314-Ex-0.501	11/1/2023	14:11			U		1				H										
	P-314-Ex-0101.5	11/1/2023	14:12			U		1				H										

[2] Preservation Code

Courier Use Only

Total Number Of:

VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N

Glassware in freezer? Y / N

Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature) Date/Time:

Received by: (signature) Date/Time:

Relinquished by: (signature) Date/Time:

Received by: (signature) Date/Time:

Relinquished by: (signature) Date/Time:

Received by: (signature) Date/Time:

Relinquished by: (signature) Date/Time:

Received by: (signature) Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; **M** - Medium; **L** - Low; **C** - Clean; **U** - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other

☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

ab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

Pace Analytical®
Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction										
	P-314-Ex-01.502	11/1/2023	14:13			U		1				H										
	P-314-Ex-0202.5	11/1/2023	14:14			U		1				H										
	P-314-Ex-02.503	11/1/2023	14:15			U		1				H										
	P-314-Ex-0303.5	11/1/2023	14:16			U		1				H										
	P-314-Ex-03.504	11/1/2023	14:17			U		1				H										
	P-314-Ex-0404.5	11/1/2023	14:18			U		1				H										
	P-314-Ex-04.505	11/1/2023	14:19			U		1				H										
	P-314-Ex-0506	11/1/2023	14:20			U		1				H										
	P-314-Ex-0607	11/1/2023	14:21			U		1				H										
	P-314-Ex-0708	11/1/2023	14:22			U		1				H										

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; **M** - Medium; **L** - Low; **C** - Clean; **U** - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

ab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

Pace Analytical®
Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction										
	P-315-Ex-000.5	11/1/2023	14:25			U		1				X										
	P-315-Ex-0.501	11/1/2023	14:26			U		1				H										
	P-315-Ex-0101.5	11/1/2023	14:27			U		1				H										
	P-315-Ex-01.502	11/1/2023	14:28			U		1				H										
	P-315-Ex-0202.5	11/1/2023	14:29			U		1				H										
	P-315-Ex-02.503	11/1/2023	14:30			U		1				H										
	P-315-Ex-0303.5	11/1/2023	14:31			U		1				H										
	P-315-Ex-03.504	11/1/2023	14:32			U		1				H										
	P-315-Ex-0404.5	11/1/2023	14:33			U		1				H										
	P-315-Ex-04.505	11/1/2023	14:34			U		3				H										

Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; **M** - Medium; **L** - Low; **C** - Clean; **U** - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

Pace Analytical®
Phone: 612-607-6400
Fax: 612-607-6344
https://www.pacelabs.com/

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction										
	P-315-Ex-0506	11/1/2023	14:35			U		1				H										
	P-315-Ex-0607	11/1/2023	14:36			U		1				H										
	P-315-Ex-0708	11/1/2023	14:37			U		1				H										
	P-316-Ex-000.5	11/1/2023	14:40			U		1				X										
	P-316-Ex-0.501	11/1/2023	14:41			U		1				H										
	P-316-Ex-0101.5	11/1/2023	14:42			U		1				H										
	P-316-Ex-01.502	11/1/2023	14:43			U		1				H										
	P-316-Ex-0202.5	11/1/2023	14:44			U		1				H										
	P-316-Ex-02.503	11/1/2023	14:45			U		1				H										
	P-316-Ex-0303.5	11/1/2023	14:46			U		1				H										

Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; **M** - Medium; **L** - Low; **C** - Clean; **U** - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

Pace Analytical®
Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction										
	P-316-Ex-03.504	11/1/2023	14:47			U		1				H										
	P-316-Ex-0404.5	11/1/2023	14:48			U		1				H										
	P-316-Ex-04.505	11/1/2023	14:49			U		1				H										
	P-316-Ex-0506	11/1/2023	14:50			U		1				H										
	P-316-Ex-0607	11/1/2023	14:51			U		1				H										
	P-316-Ex-0708	11/1/2023	14:52			U		3				H										
	P-317-Ex-000.5	11/1/2023	14:55			U		1				X										
	P-317-Ex-0.501	11/1/2023	14:56			U		1				H										
	P-317-Ex-0101.5	11/1/2023	14:57			U		1				H										
	P-317-Ex-01.502	11/1/2023	14:58			U		1				H										

Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; **M** - Medium; **L** - Low; **C** - Clean; **U** - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction										
	P-317-Ex-0202.5	11/1/2023	14:59			U		1				H										
	P-317-Ex-02.503	11/1/2023	15:00			U		1				H										
	P-317-Ex-0303.5	11/1/2023	15:01			U		1				H										
	P-317-Ex-03.504	11/1/2023	15:02			U		1				H										
	P-317-Ex-0404.5	11/1/2023	15:03			U		1				H										
	P-317-Ex-04.505	11/1/2023	15:04			U		1				H										
	P-317-Ex-0506	11/1/2023	15:05			U		1				H										
	P-317-Ex-0607	11/1/2023	15:06			U		1				H										
	P-317-Ex-0708	11/1/2023	15:07			U		1				H										
	P-318-Ex-000.5	11/2/2023	8:00			U		1				X										

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; **M** - Medium; **L** - Low; **C** - Clean; **U** - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[2] Preservation Code

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

Pace Analytical®
Phone: 612-607-6400
Fax: 612-607-6344
https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction										
	P-318-Ex-0.501	11/2/2023	8:01			U		1				H										
	P-318-Ex-0101.5	11/2/2023	8:02			U		1				H										
	P-318-Ex-01.502	11/2/2023	8:03			U		1				H										
	P-318-Ex-0202.5	11/2/2023	8:04			U		1				H										
	P-318-Ex-02.503	11/2/2023	8:05			U		1				H										
	P-318-Ex-0303.5	11/2/2023	8:06			U		1				H										
	P-318-Ex-03.504	11/2/2023	8:07			U		1				H										
	P-318-Ex-0404.5	11/2/2023	8:08			U		1				H										
	P-318-Ex-04.505	11/2/2023	8:09			U		1				H										
	P-318-Ex-0506	11/2/2023	8:10			U		3				H										

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; **M** - Medium; **L** - Low; **C** - Clean; **U** - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

ab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction										
	P-318-Ex-0607	11/2/2023	8:11			U		1				H										
	P-318-Ex-0708	11/2/2023	8:12			U		1				H										
	P-319-Ex-000.5	11/2/2023	8:15			U		1				X										
	P-319-Ex-0.501	11/2/2023	8:16			U		1				H										
	P-319-Ex-0101.5	11/2/2023	8:17			U		1				H										
	P-319-Ex-01.502	11/2/2023	8:18			U		1				H										
	P-319-Ex-0202.5	11/2/2023	8:19			U		1				H										
	P-319-Ex-02.503	11/2/2023	8:20			U		1				H										
	P-319-Ex-0303.5	11/2/2023	8:21			U		1				H										
	P-319-Ex-03.504	11/2/2023	8:22			U		3				H										

Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; **M** - Medium; **L** - Low; **C** - Clean; **U** - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction										
	P-319-Ex-0404.5	11/2/2023	8:23			U		1				H										
	P-319-Ex-04.505	11/2/2023	8:24			U		1				H										
	P-319-Ex-0506	11/2/2023	8:25			U		1				H										
	P-319-Ex-0607	11/2/2023	8:26			U		1				H										
	P-319-Ex-0708	11/2/2023	8:27			U		1				H										
	P-320-Ex-000.5	11/2/2023	8:30			U		1				X										
	P-320-Ex-0.501	11/2/2023	8:31			U		1				H										
	P-320-Ex-0101.5	11/2/2023	8:32			U		1				H										
	P-320-Ex-01.502	11/2/2023	8:33			U		1				H										
	P-320-Ex-0202.5	11/2/2023	8:34			U		1				H										

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; **M** - Medium; **L** - Low; **C** - Clean; **U** - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

Pace Analytical®
Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction										
	P-320-Ex-02.503	11/2/2023	8:35			U		1				H										
	P-320-Ex-0303.5	11/2/2023	8:36			U		1				H										
	P-320-Ex-03.504	11/2/2023	8:37			U		1				H										
	P-320-Ex-0404.5	11/2/2023	8:38			U		1				H										
	P-320-Ex-04.505	11/2/2023	8:39			U		1				H										
	P-320-Ex-0506	11/2/2023	8:40			U		1				H										
	P-320-Ex-0607	11/2/2023	8:41			U		1				H										
	P-320-Ex-0708	11/2/2023	8:42			U		1				H										
	P-321-Ex-000.5	11/2/2023	8:50			U		1				X										
	P-321-Ex-0.501	11/2/2023	8:51			U		1				H										

Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; **M** - Medium; **L** - Low; **C** - Clean; **U** - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction										
	P-321-Ex-0101.5	11/2/2023	8:52			U		1				H										
	P-321-Ex-01.502	11/2/2023	8:53			U		1				H										
	P-321-Ex-0202.5	11/2/2023	8:54			U		1				H										
	P-321-Ex-02.503	11/2/2023	8:55			U		1				H										
	P-321-Ex-0303.5	11/2/2023	8:56			U		1				H										
	P-321-Ex-03.504	11/2/2023	8:57			U		1				H										
	P-321-Ex-0404.5	11/2/2023	8:58			U		1				H										
	P-321-Ex-04.505	11/2/2023	8:59			U		1				H										
	P-321-Ex-0506	11/2/2023	9:00			U		1				H										
	P-321-Ex-0607	11/2/2023	9:01			U		3				H										

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; **M** - Medium; **L** - Low; **C** - Clean; **U** - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

Pace Analytical®
Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction										
	P-321-Ex-0708	11/2/2023	9:02			U		1				H										
	P-322-Ex-000.5	11/2/2023	9:10			U		1				X										
	P-322-Ex-0.501	11/2/2023	9:11			U		1				H										
	P-322-Ex-0101.5	11/2/2023	9:12			U		1				H										
	P-322-Ex-01.502	11/2/2023	9:13			U		1				H										
	P-322-Ex-0202.5	11/2/2023	9:14			U		1				H										
	P-322-Ex-02.503	11/2/2023	9:15			U		1				H										
	P-322-Ex-0303.5	11/2/2023	9:16			U		1				H										
	P-322-Ex-03.504	11/2/2023	9:17			U		1				H										
	P-322-Ex-0404.5	11/2/2023	9:18			U		1				H										

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; **M** - Medium; **L** - Low; **C** - Clean; **U** - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

ab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction										
	P-322-Ex-04.505	11/2/2023	9:19			U		3				H										
	P-322-Ex-0506	11/2/2023	9:20			U		1				H										
	P-322-Ex-0607	11/2/2023	9:21			U		1				H										
	P-322-Ex-0708	11/2/2023	9:22			U		1				H										
	P-323-Ex-000.5	11/2/2023	9:30			U		1				X										
	P-323-Ex-0.501	11/2/2023	9:31			U		1				H										
	P-323-Ex-0101.5	11/2/2023	9:32			U		1				H										
	P-323-Ex-01.502	11/2/2023	9:33			U		1				H										
	P-323-Ex-0202.5	11/2/2023	9:34			U		1				H										
	P-323-Ex-02.503	11/2/2023	9:35			U		1				H										

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; **M** - Medium; **L** - Low; **C** - Clean; **U** - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

ab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction										
	P-323-Ex-0303.5	11/2/2023	9:36			U		1				H										
	P-323-Ex-03.504	11/2/2023	9:37			U		1				H										
	P-323-Ex-0404.5	11/2/2023	9:38			U		1				H										
	P-323-Ex-04.505	11/2/2023	9:39			U		1				H										
	P-323-Ex-0506	11/2/2023	9:40			U		1				H										
	P-323-Ex-0607	11/2/2023	9:41			U		3				H										
	P-323-Ex-0708	11/2/2023	9:42			U		1				H										
	P-324-Ex-000.5	11/2/2023	9:50			U		1				X										
	P-324-Ex-0.501	11/2/2023	9:52			U		1				H										
	P-324-Ex-0101.5	11/2/2023	9:53			U		1				H										

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N

Glassware in freezer? Y / N

Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; **M** - Medium; **L** - Low; **C** - Clean; **U** - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

ab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

Pace Analytical®
Phone: 612-607-6400
Fax: 612-607-6344
https://www.pacelabs.com/

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction										
	P-324-Ex-01.502	11/2/2023	9:53			U		1				H										
	P-324-Ex-0202.5	11/2/2023	9:54			U		1				H										
	P-324-Ex-02.503	11/2/2023	9:55			U		1				H										
	P-324-Ex-0303.5	11/2/2023	9:56			U		1				H										
	P-324-Ex-03.504	11/2/2023	9:57			U		1				H										
	P-324-Ex-0404.5	11/2/2023	9:58			U		1				H										
	P-324-Ex-04.505	11/2/2023	9:59			U		1				H										
	P-324-Ex-0506	11/2/2023	10:00			U		1				H										
	P-324-Ex-0607	11/2/2023	10:01			U		1				H										
	P-324-Ex-0708	11/2/2023	10:02			U		1				H										

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; **M** - Medium; **L** - Low; **C** - Clean; **U** - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

Pace Analytical®
Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction										
	P-325-Ex-000.5	11/2/2023	10:10			U		3				X										
	P-325-Ex-0.501	11/2/2023	10:11			U		1				H										
	P-325-Ex-0101.5	11/2/2023	10:12			U		1				H										
	P-325-Ex-01.502	11/2/2023	10:13			U		1				H										
	P-325-Ex-0202.5	11/2/2023	10:14			U		1				H										
	P-325-Ex-02.503	11/2/2023	10:15			U		1				H										
	P-325-Ex-0303.5	11/2/2023	10:16			U		1				H										
	P-325-Ex-03.504	11/2/2023	10:17			U		1				H										
	P-325-Ex-0404.5	11/2/2023	10:18			U		1				H										
	P-325-Ex-04.505	11/2/2023	10:19			U		1				H										

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; **M** - Medium; **L** - Low; **C** - Clean; **U** - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction										
	P-325-Ex-0506	11/2/2023	10:20			U		1				H										
	P-325-Ex-0607	11/2/2023	10:21			U		1				H										
	P-325-Ex-0708	11/2/2023	10:22			U		1				H										
	P-326-Ex-000.5	11/2/2023	10:30			U		3				X										
	P-326-Ex-0.501	11/2/2023	10:31			U		1				H										
	P-326-Ex-0101.5	11/2/2023	10:32			U		1				H										
	P-326-Ex-01.502	11/2/2023	10:33			U		1				H										
	P-326-Ex-0202.5	11/2/2023	10:34			U		1				H										
	P-326-Ex-02.503	11/2/2023	10:35			U		1				H										
	P-326-Ex-0303.5	11/2/2023	10:36			U		1				H										

Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; **M** - Medium; **L** - Low; **C** - Clean; **U** - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction										
	P-326-Ex-03.504	11/2/2023	10:37			U		1				H										
	P-326-Ex-0404.5	11/2/2023	10:38			U		1				H										
	P-326-Ex-04.505	11/2/2023	10:39			U		1				H										
	P-326-Ex-0506	11/2/2023	10:40			U		1				H										
	P-326-Ex-0607	11/2/2023	10:41			U		1				H										
	P-326-Ex-0708	11/2/2023	10:42			U		1				H										
	P-327-Ex-000.5	11/2/2023	10:45			U		1				X										
	P-327-Ex-0.501	11/2/2023	10:46			U		1				H										
	P-327-Ex-0101.5	11/2/2023	10:47			U		1				H										
	P-327-Ex-01.502	11/2/2023	10:48			U		1				H										

Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; **M** - Medium; **L** - Low; **C** - Clean; **U** - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

Pace Analytical®
Phone: 612-607-6400
Fax: 612-607-6344
https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction										
	P-327-Ex-0202.5	11/2/2023	10:49			U		1				H										
	P-327-Ex-02.503	11/2/2023	10:50			U		1				H										
	P-327-Ex-0303.5	11/2/2023	10:51			U		1				H										
	P-327-Ex-03.504	11/2/2023	10:52			U		1				H										
	P-327-Ex-0404.5	11/2/2023	10:53			U		1				H										
	P-327-Ex-04.505	11/2/2023	10:54			U		1				H										
	P-327-Ex-0506	11/2/2023	10:55			U		1				H										
	P-327-Ex-0607	11/2/2023	10:56			U		1				H										
	P-327-Ex-0708	11/2/2023	10:57			U		1				H										
	P-328-Ex-0606.5	11/2/2023	10:58			U		1				X										

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; **M** - Medium; **L** - Low; **C** - Clean; **U** - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

ab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction										
	P-328-Ex-06.507	11/2/2023	10:58			U		1				H										
	P-328-Ex-0707.5	11/2/2023	10:59			U		1				H										
	P-328-Ex-07.508	11/2/2023	11:00			U		1				H										
	P-328-Ex-0808.5	11/2/2023	11:01			U		1				H										
	P-328-Ex-08.509	11/2/2023	11:02			U		1				H										
	P-328-Ex-0909.5	11/2/2023	11:03			U		1				H										
	P-328-Ex-09.510	11/2/2023	11:04			U		1				H										
	P-328-Ex-1010.5	11/2/2023	11:05			U		1				H										
	P-328-Ex-10.511	11/2/2023	11:06			U		1				H										
	P-328-Ex-1112	11/2/2023	11:07			U		3				H										

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; **M** - Medium; **L** - Low; **C** - Clean; **U** - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction										
	P-329-Ex	11/2/2023	11:09			U		1				H										
	P-330-Ex	11/2/2023	11::10			U		1				H										
	P-331-Ex	11/2/2023	11:11			U		1				H										
	P-FD019	11/1/2023	8:00			U		1				H										
	P-FD020	11/1/2023	8:01			U		1				H										
	P-FD021	11/1/2023	8:02			U		1				H										
	P-FD022	11/1/2023	8:03			U		1				H										
	P-FD023	11/1/2023	8:04			U		1				H										
	P-FD024	11/1/2023	8:05			U		1				X										
	P-FD025	11/1/2023	8:06			U		1				H										

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; **M** - Medium; **L** - Low; **C** - Clean; **U** - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

Pace Analytical®
Phone: 612-607-6400
Fax: 612-607-6344
https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction											[2] Preservation Code
	P-FD026	11/1/2023	8:07			U		1				H											I
	P-FD027	11/2/2023	16:00			U		1				H											
	P-FD028	11/2/2023	16:01			U		1				X											
	P-FD029	11/2/2023	16:02			U		1				X											
	P-FD030	11/2/2023	16:03			U		1				H											
	P-FD031	11/2/2023	16:04			U		1				H											
	P-FD032	11/2/2023	16:05			U		1				H											
	P-FD033	11/2/2023	16:06			U		1				H											
	P-FD034	11/2/2023	16:07			U		1				H											

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; **M** - Medium; **L** - Low; **C** - Clean; **U** - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

APPENDIX C

BORING LOG

nobis

Project: St. Johnsbury Armory

Location: St. Johnsbury, VT

Nobis Project No.: S00001.017

Boring No.: **P-305-Ex**

Boring Location:

Checked by:

Date Start: November 1, 2023

Date Finish: November 1, 2023

Contractor: Drilex Environmental, Inc.

Driller: D. Steinhart

Nobis Rep.: B. Fortier

Rig Type / Model: Geoprobe Handheld Large Bore Sampler

Hammer Type: N/A

Hammer Hoist: N/A

Ground Surface Elev.:

Datum:

	Drilling Method	Sampler
Type	N/A	Macro-Core Liners
Size ID (in.)	N/A	1x24
Advancement	Direct Push	N/A

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
	S-1	16	0-2				/ 0.1 ASPHALT SAND / 0.5	S-1A (1"): Light brown, fine to coarse SAND, some fine Gravel, few asphalt fragments. Dry. S-1B (1"): Dark brown, fine SAND, some Silt. Dry. S-1C (4"): Tan, fine SAND. Dry. S-1D (10"): Light brown, fine SAND, some Clay, trace Silt. Dry.	
1							CLAYEY SAND		
2							/ 2.0		
	S-2	20	2-4					S-2A (20"): Tan, fine to medium SAND. Dry.	
3									
4									
	S-3	21	4-6					S-3A (3"): Brown, fine to medium SAND. Dry. S-3B (17"): Light gray, fine to medium SAND. Dry.	
5							SAND		
6									
	S-4	23	6-8					S-4A (3"): Dark brown, fine to medium SAND. Dry. S-4B (15"): Light tan, fine to medium SAND, trace Silt. Dry.	
7							/ 7.5		
8							SILT / 8.0	S-4C (5"): Light tan, SILT and fine Sand. Dry.	
								Boring terminated at 8 feet.	
9									

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) P-305-EX-0000.5, P-305-EX-00.501, P-305-EX-0101.5, P-305-EX-01.502, P-305-EX-0202.5, P-305-EX-02.5-03, P-305-EX-0303.5, P-305-EX-03.504, P-305-EX-0404.5, P-305-EX-04.505, P-305-EX-0506, P-305-EX-0607, P-305-EX-0708.

2) Sample collection began at 09:00 and concluded at 09:12. Sample P-305-EX-0506 associated with FD-19.

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

BOREHOLE LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 1/9/24 14:47 - J:\S00001.000-START 2022 CONTRACT - TO 01 - TBAS\S00001.017_ST JOHNSBURY ARMORY\TECHNICAL DATA\GINT\ST. JOHNSBURY ARMORY.GPJ

BORING LOG

Project: St. Johnsbury Armory

Location: St. Johnsbury, VT

Nobis Project No.: S00001.017

Boring No.: **P-306-Ex**

Boring Location:

Checked by:

Date Start: November 1, 2023

Date Finish: November 1, 2023

Contractor: Drilex Environmental, Inc.

Driller: D. Steinhart

Nobis Rep.: B. Fortier

Rig Type / Model: Geoprobe Handheld Large Bore Sampler

Hammer Type: N/A

Hammer Hoist: N/A

Ground Surface Elev.:

Datum:

	Drilling Method	Sampler
Type	N/A	Macro-Core Liners
Size ID (in.)	N/A	1x24
Advancement	Direct Push	N/A

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time

Depth (ft.)	Sample Info: Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	Sample Description and Remarks (Classification System: Modified Burmister)	Notes
1	S-1	21	0-2				ASPHALT / 0.3	S-1A (3"): Black, asphalt. Dry.	
							CLAYEY SAND / 0.9	S-1B (8"): Tan, fine to coarse SAND, some Clay. Dry.	
2							SILTY SAND / 2.0	S-1C (10"): Dark brown, fine to coarse SAND, some Silt. Dry.	
3	S-2	24	2-4				SAND	S-2A (24"): Light gray, fine SAND. Dry.	
4							/ 4.0		
5	S-3	24	4-6				SILTY SAND / 4.4	S-3A (5"): Dark brown, fine SAND, some Silt. Dry.	
							SAND	S-3B (19"): Light brown, fine to coarse SAND. Dry.	
6							/ 6.0		
7	S-4	24	6-8				SILTY SAND	S-4A (5"): Light brown, fine to medium SAND, some Silt. Dry. S-4B (5"): Tan, fine to coarse SAND, some Silt. Dry. S-4C (14"): Tan, fine SAND and Silt. Wet.	
8							/ 8.0		
9								Boring terminated at 8 feet.	

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) P-306-EX-0000.5, P-306-EX-00.501, P-306-EX-0101.5, P-306-EX-01.502, P-306-EX-0202.5, P-306-EX-02.5-03, P-306-EX-0303.5, P-306-EX-03.504, P-306-EX-0404.5, P-306-EX-04.505, P-306-EX-0506, P-306-EX-0607, P-306-EX-0708.

2) Sample collection began at 09:30 and concluded at 09:42.

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

BOREHOLE LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 1/9/24 14:47 - J:\S00001.000-START 2022 CONTRACT - TO 01 - TBAS\S00001.017_ST JOHNSBURY ARMORY\TECHNICAL DATA\GINT\ST. JOHNSBURY ARMORY.GPJ

BORING LOG

Project: St. Johnsbury Armory

Location: St. Johnsbury, VT

Nobis Project No.: S00001.017

Boring No.: **P-307-Ex**

Boring Location:

Checked by:

Date Start: November 1, 2023

Date Finish: November 1, 2023

Contractor: Drilex Environmental, Inc.

Driller: D. Steinhart

Nobis Rep.: B. Fortier

Rig Type / Model: Geoprobe Handheld Large Bore Sampler

Hammer Type: N/A

Hammer Hoist: N/A

Ground Surface Elev.:

Datum:

	Drilling Method	Sampler
Type	N/A	Macro-Core Liners
Size ID (in.)	N/A	1x24
Advancement	Direct Push	N/A

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time

Depth (ft.)	SAMPLE INFORMATION Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	LITHOLOGY Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
1	S-1	20	0-2				FILL / 1.0	S-1A (12"): Brown, fine SAND, and brick fragments. Dry.	
2							SAND / 2.0	S-1B (8"): Brown, fine to medium SAND. Dry.	
3	S-2	23	2-4				SILTY SAND	S-2A (23"): Tan, fine to medium SAND, some Silt. Dry.	
4							/ 4.0		
5	S-3	22	4-6				SAND	S-3A (19"): Tan, fine to coarse SAND. Dry.	
6							/ 6.0	S-3B (3"): Dark brown, fine to coarse SAND. Dry.	
7	S-4	24	6-8				SILTY SAND	S-4A (24"): Tan, fine SAND, some Silt. Dry.	
8							/ 8.0		
9								Boring terminated at 8 feet.	

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) P-307-EX-0000.5, P-307-EX-00.501, P-307-EX-0101.5, P-307-EX-01.502, P-307-EX-0202.5, P-307-EX-02.5-03, P-307-EX-0303.5, P-307-EX-03.504, P-307-EX-0404.5, P-307-EX-04.505, P-307-EX-0506, P-307-EX-0607, P-307-EX-0708.

2) Sample collection began at 10:20 and concluded at 10:32. Sample P-307-EX-0506 associated with FD-20.

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

BOREHOLE LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 1/9/24 14:47 - J:\S00001.000-START 2022 CONTRACT - TO 01 - TBAS\S00001.017_ST JOHNSBURY ARMORY\TECHNICAL DATA\GINT\ST. JOHNSBURY ARMORY.GPJ

BORING LOG

Project: St. Johnsbury Armory

Location: St. Johnsbury, VT

Nobis Project No.: S00001.017

Boring No.: **P-308-Ex**

Boring Location:

Checked by:

Date Start: November 1, 2023

Date Finish: November 1, 2023

Contractor: Drilex Environmental, Inc.

Driller: D. Steinhart

Nobis Rep.: B. Fortier

Rig Type / Model: Geoprobe Handheld Large Bore Sampler

Hammer Type: N/A

Hammer Hoist: N/A

Ground Surface Elev.:

Datum:

	Drilling Method	Sampler
Type	N/A	Macro-Core Liners
Size ID (in.)	N/A	1x24
Advancement	Direct Push	N/A

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time

Depth (ft.)	Sample Info: Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	Sample Description and Remarks (Classification System: Modified Burmister)	Notes
1	S-1	18	0-2				FILL	S-1A (8"): Light gray/brown, fine SAND, some fine to coarse Gravel. Dry. S-1B (10"): Red-brown, fine SAND, several wood and concrete fragments. Dry.	
2							/ 2.0		
3	S-2	22	2-4				SAND	S-2A (22"): Tan, fine to coarse SAND. Dry.	
4							/ 4.0		
5	S-3	20	4-6				SILTY SAND	S-3A (20"): Tan, fine SAND, some Silt. Dry.	
6									
7	S-4	24	6-8					S-4A (24"): Tan, fine SAND, some Silt. Dry.	
8							/ 8.0		
9								Boring terminated at 8 feet.	

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) P-308-EX-0000.5, P-308-EX-00.501, P-308-EX-0101.5, P-308-EX-01.502, P-308-EX-0202.5, P-308-EX-02.5-03, P-308-EX-0303.5, P-308-EX-03.504, P-308-EX-0404.5, P-308-EX-04.505, P-308-EX-0506, P-308-EX-0607, P-308-EX-0708.

2) Sample collection began at 10:00 and concluded at 11:12. Sample P-308-EX-0607 associated with FD-21.

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

BOREHOLE LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 1/9/24 14:47 - J:\S00001.000-START 2022 CONTRACT - TO 01 - TBAS\S00001.017_ST JOHNSBURY ARMORY\TECHNICAL DATA\GINT\ST. JOHNSBURY ARMORY.GPJ

BORING LOG

Project: St. Johnsbury Armory

Location: St. Johnsbury, VT

Nobis Project No.: S00001.017

Boring No.: **P-309-Ex**

Boring Location:

Checked by:

Date Start: November 1, 2023

Date Finish: November 1, 2023

Contractor: Drilex Environmental, Inc.

Driller: D. Steinhart

Nobis Rep.: B. Fortier

Rig Type / Model: Geoprobe Handheld Large Bore Sampler

Hammer Type: N/A

Hammer Hoist: N/A

Ground Surface Elev.:

Datum:

	Drilling Method	Sampler
Type	N/A	Macro-Core Liners
Size ID (in.)	N/A	1x24
Advancement	Direct Push	N/A

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time

Depth (ft.)	Sample Info: Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	Sample Description and Remarks (Classification System: Modified Burmister)	Notes
1	S-1	19	0-2				FILL	S-1A (6"): Gray, asphalt. Dry. S-1B (13"): Brown, fine to medium SAND, numerous brick fragments. Dry.	
2							/ 2.0		
3	S-2	24	2-4				SILTY SAND	S-2A (24"): Tan, fine to medium SAND, some Silt. Dry.	
4									
5	S-3	24	4-6					S-3A (24"): Tan, fine to medium SAND, some Silt. Dry.	
6									
7	S-4	24	6-8					S-4A (24"): Tan, fine to medium SAND, some Silt. Dry.	
8							/ 8.0		
9								Boring terminated at 8 feet.	

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) P-309-EX-0000.5, P-309-EX-00.501, P-309-EX-0101.5, P-309-EX-01.502, P-309-EX-0202.5, P-309-EX-02.5-03, P-309-EX-0303.5, P-309-EX-03.504, P-309-EX-0404.5, P-309-EX-04.505, P-309-EX-0506, P-309-EX-0607, P-309-EX-0708.

2) Sample collection began at 11:50 and concluded at 12:02.

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

BOREHOLE LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 1/9/24 14:47 - J:\S00001.000-START 2022 CONTRACT - TO 01 - TBAS\S00001.017_ST JOHNSBURY ARMORY\TECHNICAL DATA\GINT\ST. JOHNSBURY ARMORY.GPJ

BORING LOG

Project: St. Johnsbury Armory

Location: St. Johnsbury, VT

Nobis Project No.: S00001.017

Boring No.: **P-310-Ex**

Boring Location:

Checked by:

Date Start: November 1, 2023

Date Finish: November 1, 2023

Contractor: Drilex Environmental, Inc.

Driller: D. Steinhart

Nobis Rep.: B. Fortier

Rig Type / Model: Geoprobe Handheld Large Bore Sampler

Hammer Type: N/A

Hammer Hoist: N/A

Ground Surface Elev.:

Datum:

	Drilling Method	Sampler
Type	N/A	Macro-Core Liners
Size ID (in.)	N/A	1x24
Advancement	Direct Push	N/A

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time

Depth (ft.)	SAMPLE INFORMATION Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	LITHOLOGY Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
	S-1	14	0-2				ASPHALT / 0.4	S-1A (5"): Gray, asphalt. Dry.	
1								S-1B (9"): Tan, fine to medium SAND, some Silt. Dry.	
2									
	S-2	24	2-4					S-2A (24"): Tan, fine to medium SAND, some Silt. Dry.	
3									
4							SILTY SAND		
	S-3	24	4-6					S-3A (24"): Tan, fine to medium SAND, some Silt. Dry.	
5									
6									
	S-4	24	6-8				/ 6.5	S-4A (6"): Tan, fine to coarse SAND, some Silt. Dry.	
7							CLAYEY SAND / 7.3	S-4B (10"): Tan, fine to coarse SAND and Clay, some Silt. Wet.	
8							SILTY SAND / 8.0	S-4C (8"): Tan, fine to medium SAND, some Silt. Wet.	
9								Boring terminated at 8 feet.	

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) P-310-EX-0000.5, P-310-EX-00.501, P-310-EX-0101.5, P-310-EX-01.502, P-310-EX-0202.5, P-310-EX-02.5-03, P-310-EX-0303.5, P-310-EX-03.504, P-310-EX-0404.5, P-310-EX-04.505, P-310-EX-0506, P-310-EX-0607, P-310-EX-0708.

2) Sample collection began at 12:40 and concluded at 12:52. Sample P-310-EX-0303.5 associated with FD-22.

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

BOREHOLE LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 1/9/24 14:47 - J:\S00001.000-START 2022 CONTRACT - TO 01 - TBAS\S00001.017_ST JOHNSBURY ARMORY\TECHNICAL DATA\GINT\ST. JOHNSBURY ARMORY.GPJ

BORING LOG

Project: St. Johnsbury Armory

Location: St. Johnsbury, VT

Nobis Project No.: S00001.017

Boring No.: **P-311-Ex**

Boring Location:

Checked by:

Date Start: November 1, 2023

Date Finish: November 1, 2023

Contractor: Drilex Environmental, Inc.

Driller: D. Steinhart

Nobis Rep.: B. Fortier

Rig Type / Model: Geoprobe Handheld Large Bore Sampler

Hammer Type: N/A

Hammer Hoist: N/A

Ground Surface Elev.:

Datum:

	Drilling Method	Sampler
Type	N/A	Macro-Core Liners
Size ID (in.)	N/A	1x24
Advancement	Direct Push	N/A

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time

Depth (ft.)	Sample Info: Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	Sample Description and Remarks (Classification System: Modified Burmister)	Notes
1	S-1	14	0-2				ASPHALT / 0.3	S-1A (4"): Gray, asphalt. Dry.	
								S-1B (10"): Tan, fine to medium SAND, some Silt. Dry.	
2									
3	S-2	21	2-4					S-2A (21"): Tan, fine to medium SAND, some Silt. Dry.	
4									
5	S-3	24	4-6				SILTY SAND	S-3A (24"): Tan, fine SAND, some Silt. Dry.	
6									
7	S-4	24	6-8					S-4A (24"): Tan, fine SAND, some Silt. Dry.	
8							/ 8.0		
9								Boring terminated at 8 feet.	

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) P-311-EX-0000.5, P-311-EX-00.501, P-311-EX-0101.5, P-311-EX-01.502, P-311-EX-0202.5, P-311-EX-02.5-03, P-311-EX-0303.5, P-311-EX-03.504, P-311-EX-0404.5, P-311-EX-04.505, P-311-EX-0506, P-311-EX-0607, P-311-EX-0708.

2) Sample collection began at 13:20 and concluded at 13:32.

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

BOREHOLE LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 1/9/24 14:47 - J:\S00001.000-START 2022 CONTRACT - TO 01 - TBAS\S00001.017_ST JOHNSBURY ARMORY\TECHNICAL DATA\GINT\ST. JOHNSBURY ARMORY.GPJ

BORING LOG

Project: St. Johnsbury Armory

Location: St. Johnsbury, VT

Nobis Project No.: S00001.017

Boring No.: **P-312-Ex**

Boring Location:

Checked by:

Date Start: November 1, 2023

Date Finish: November 1, 2023

Contractor: Drilex Environmental, Inc.

Driller: D. Steinhart

Nobis Rep.: B. Fortier

Rig Type / Model: Geoprobe Handheld Large Bore Sampler

Hammer Type: N/A

Hammer Hoist: N/A

Ground Surface Elev.:

Datum:

	Drilling Method	Sampler
Type	N/A	Macro-Core Liners
Size ID (in.)	N/A	1x24
Advancement	Direct Push	N/A

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time

Depth (ft.)	Sample Info: Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	Sample Description and Remarks (Classification System: Modified Burmister)	Notes
1	S-1	17	0-2				ASPHALT / 0.3	S-1A (4"): Black, asphalt. Dry. S-1B (13"): Tan, fine to medium SAND, some Silt. Dry.	
2									
3	S-2	22	2-4					S-2A (22"): Gray/tan, fine SAND, some Silt. Dry.	
4									
5	S-3	22	4-6				SILTY SAND	S-3A (22"): Tan, fine to medium SAND, some Silt. Dry.	
6									
7	S-4	23	6-8					S-4A (23"): Tan, fine to medium SAND, some Silt. Dry.	
8							/ 8.0		
9								Boring terminated at 8 feet.	

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) P-312-EX-0000.5, P-312-EX-00.501, P-312-EX-0101.5, P-312-EX-01.502, P-312-EX-0202.5, P-312-EX-02.5-03, P-312-EX-0303.5, P-312-EX-03.504, P-312-EX-0404.5, P-312-EX-04.505, P-312-EX-0506, P-312-EX-0607, P-312-EX-0708.

2) Sample collection began at 13:40 and concluded at 13:52. Sample P-312-EX-0404.5 associated with FD-23.

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

BOREHOLE LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 1/9/24 14:47 - J:\S00001.000-START 2022 CONTRACT - TO 01 - TBAS\S00001.017_ST JOHNSBURY ARMORY\TECHNICAL DATA\GINT\ST. JOHNSBURY ARMORY.GPJ

BORING LOG

Project: St. Johnsbury Armory

Location: St. Johnsbury, VT

Nobis Project No.: S00001.017

Boring No.: **P-313-Ex**

Boring Location:

Checked by:

Date Start: November 1, 2023

Date Finish: November 1, 2023

Contractor: Drilex Environmental, Inc.

Driller: D. Steinhart

Nobis Rep.: B. Fortier

Rig Type / Model: Geoprobe Handheld Large Bore Sampler

Hammer Type: N/A

Hammer Hoist: N/A

Ground Surface Elev.:

Datum:

	Drilling Method	Sampler
Type	N/A	Macro-Core Liners
Size ID (in.)	N/A	1x24
Advancement	Direct Push	N/A

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time

Depth (ft.)	Sample Info: Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	Sample Description and Remarks (Classification System: Modified Burmister)	Notes
1	S-1	19	0-2					S-1A (19"): Dark brown, fine to medium SAND. Dry.	
2									
3	S-2	18	2-4				SAND	S-2A (18"): Dark brown, fine to medium SAND. Dry.	
4							/ 4.0		
5	S-3	24	4-6					S-3A (24"): Light brown, fine to medium SAND, some Silt. Dry.	
6									
7	S-4	24	6-8				SILTY SAND	S-4A (24"): Light brown, fine to medium SAND, some Silt. Dry.	
8							/ 8.0		
9								Boring terminated at 8 feet.	

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) P-313-EX-0000.5, P-313-EX-00.501, P-313-EX-0101.5, P-313-EX-01.502, P-313-EX-0202.5, P-313-EX-02.5-03, P-313-EX-0303.5, P-313-EX-03.504, P-313-EX-0404.5, P-313-EX-04.505, P-313-EX-0506, P-313-EX-0607, P-313-EX-0708.

2) Sample collection began at 13:55 and concluded at 14:07.

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

BOREHOLE LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 1/9/24 14:47 - J:\S00001.000-START 2022 CONTRACT - TO 01 - TBAS\S00001.017_ST JOHNSBURY ARMORY\TECHNICAL DATA\GINT\ST. JOHNSBURY ARMORY.GPJ

BORING LOG

Project: St. Johnsbury Armory

Location: St. Johnsbury, VT

Nobis Project No.: S00001.017

Boring No.: **P-314-Ex**

Boring Location:

Checked by:

Date Start: November 1, 2023

Date Finish: November 1, 2023

Contractor: Drilex Environmental, Inc.

Driller: D. Steinhart

Nobis Rep.: B. Fortier

Rig Type / Model: Geoprobe Handheld Large Bore Sampler

Hammer Type: N/A

Hammer Hoist: N/A

Ground Surface Elev.:

Datum:

	Drilling Method	Sampler
Type	N/A	Macro-Core Liners
Size ID (in.)	N/A	1x24
Advancement	Direct Push	N/A

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time

Depth (ft.)	SAMPLE INFORMATION Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	LITHOLOGY Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
1	S-1	18	0-2				SAND / 0.7	S-1A (8"): Dark brown, fine to medium SAND. Dry.	
2								S-1B (10"): Brown, fine to medium SAND, trace Silt. Dry.	
3	S-2	18	2-4					S-2A (18"): Brown, fine to medium SAND, trace Silt. Dry.	
4									
5	S-3	20	4-6				SILTY SAND	S-3A (20"): Brown, fine to medium SAND, trace Silt. Dry.	
6									
7	S-4	24	6-8					S-4A (24"): Tan, fine to medium SAND, trace Silt. Dry.	
8							/ 8.0		
9								Boring terminated at 8 feet.	

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) P-314-EX-0000.5, P-314-EX-00.501, P-314-EX-0101.5, P-314-EX-01.502, P-314-EX-0202.5, P-314-EX-02.5-03, P-314-EX-0303.5, P-314-EX-03.504, P-314-EX-0404.5, P-314-EX-04.505, P-314-EX-0506, P-314-EX-0607, P-314-EX-0708.

2) Sample collection began at 14:10 and concluded at 14:22. Sample P-314-EX-000.5 associated with FD-24.

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

BOREHOLE LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 1/9/24 14:48 - J:\S00001.000-START 2022 CONTRACT - TO 01 - TBAS\S00001.017_ST JOHNSBURY ARMORY\TECHNICAL DATA\GINT\ST. JOHNSBURY ARMORY.GPJ

BORING LOG

Project: St. Johnsbury Armory

Location: St. Johnsbury, VT

Nobis Project No.: S00001.017

Boring No.: **P-315-Ex**

Boring Location:

Checked by:

Date Start: November 1, 2023

Date Finish: November 1, 2023

Contractor: Drilex Environmental, Inc.

Driller: D. Steinhart

Nobis Rep.: B. Fortier

Rig Type / Model: Geoprobe Handheld Large Bore Sampler

Hammer Type: N/A

Hammer Hoist: N/A

Ground Surface Elev.:

Datum:

	Drilling Method	Sampler
Type	N/A	Macro-Core Liners
Size ID (in.)	N/A	1x24
Advancement	Direct Push	N/A

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time

Depth (ft.)	SAMPLE INFORMATION Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	LITHOLOGY Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
1	S-1	20	0-2					S-1A (20"): Brown, fine to medium SAND, trace Silt. Dry.	
2									
3	S-2	18	2-4					S-2A (18"): Brown, fine to medium SAND, trace Silt. Dry.	
4									
5	S-3	22	4-6				SILTY SAND	S-3A (22"): Brown, fine to medium SAND, trace Silt. Dry.	
6									
7	S-4	22	6-8					S-4A (22"): Brown, fine to medium SAND, trace Silt. Dry.	
8							/ 8.0		
9								Boring terminated at 8 feet.	

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) P-315-EX-0000.5, P-315-EX-00.501, P-315-EX-0101.5, P-315-EX-01.502, P-315-EX-0202.5, P-315-EX-02.5-03, P-315-EX-0303.5, P-315-EX-03.504, P-315-EX-0404.5, P-315-EX-04.505, P-315-EX-0506, P-315-EX-0607, P-315-EX-0708.

2) Sample collection began at 14:25 and concluded at 14:37. Sample P-315-EX-0202.5 associated with FD-25.

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

BOREHOLE LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 1/9/24 14:48 - J:\S00001.000-START 2022 CONTRACT - TO 01 - TBAS\S00001.017_ST JOHNSBURY ARMORY\TECHNICAL DATA\GINT\ST. JOHNSBURY ARMORY.GPJ

BORING LOG

Project: St. Johnsbury Armory

Location: St. Johnsbury, VT

Nobis Project No.: S00001.017

Boring No.: **P-316-Ex**

Boring Location:

Checked by:

Date Start: November 1, 2023

Date Finish: November 1, 2023

Contractor: Drilex Environmental, Inc.

Driller: D. Steinhart

Nobis Rep.: B. Fortier

Rig Type / Model: Geoprobe Handheld Large Bore Sampler

Hammer Type: N/A

Hammer Hoist: N/A

Ground Surface Elev.:

Datum:

	Drilling Method	Sampler
Type	N/A	Macro-Core Liners
Size ID (in.)	N/A	1x24
Advancement	Direct Push	N/A

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time

Depth (ft.)	Sample Info: Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	Sample Description and Remarks (Classification System: Modified Burmister)	Notes
1	S-1	19	0-2				SILTY SAND / 0.5	S-1A (6"): Dark brown, fine to medium SAND, trace Silt. Dry.	
								S-1B (13"): Brown, fine to medium SAND. Dry.	
2							SAND / 2.0		
3	S-2	22	2-4					S-2A (22"): Brown, fine to medium SAND, trace Silt. Dry.	
4									
5	S-3	22	4-6				SILTY SAND	S-3A (22"): Tan, fine to medium SAND, trace Silt. Dry.	
6									
7	S-4	24	6-8					S-4A (24"): Tan, fine to medium SAND, trace Silt. Dry.	
8							/ 8.0		
9								Boring terminated at 8 feet.	

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) P-316-EX-0000.5, P-316-EX-00.501, P-316-EX-0101.5, P-316-EX-01.502, P-316-EX-0202.5, P-316-EX-02.5-03, P-316-EX-0303.5, P-316-EX-03.504, P-316-EX-0404.5, P-316-EX-04.505, P-316-EX-0506, P-316-EX-0607, P-316-EX-0708.

2) Sample collection began at 14:40 and concluded at 14:52. Sample P-316-EX-03.504 associated with FD-26.

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

BOREHOLE LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 1/9/24 14:48 - J:\S00001.000-START 2022 CONTRACT - TO 01 - TBAS\S00001.017_ST JOHNSBURY ARMORY\TECHNICAL DATA\GINT\ST. JOHNSBURY ARMORY.GPJ

BORING LOG

Project: St. Johnsbury Armory

Location: St. Johnsbury, VT

Nobis Project No.: S00001.017

Boring No.: **P-317-Ex**

Boring Location:

Checked by:

Date Start: November 1, 2023

Date Finish: November 1, 2023

Contractor: Drilex Environmental, Inc.

Driller: D. Steinhart

Nobis Rep.: B. Fortier

Rig Type / Model: Geoprobe Handheld Large Bore Sampler

Hammer Type: N/A

Hammer Hoist: N/A

Ground Surface Elev.:

Datum:

	Drilling Method	Sampler
Type	N/A	Macro-Core Liners
Size ID (in.)	N/A	1x24
Advancement	Direct Push	N/A

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time

Depth (ft.)	Sample Info: Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	Sample Description and Remarks (Classification System: Modified Burmister)	Notes
1	S-1	17	0-2				ASPHALT / 0.2	S-1A (2"): Gray, asphalt. Dry. S-1B (15"): Tan, fine to medium SAND. Dry.	
2									
3	S-2	23	2-4				SAND	S-2A (23"): Tan, fine to medium SAND. Dry.	
4							/ 4.0		
5	S-3	24	4-6					S-3A (24"): Tan, fine to medium SAND, trace Silt. Dry.	
6									
7	S-4	24	6-8				SILTY SAND	S-4A (24"): Tan, fine to medium SAND, trace Silt. Dry.	
8							/ 8.0		
9								Boring terminated at 8 feet.	

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) P-317-EX-0000.5, P-317-EX-00.501, P-317-EX-0101.5, P-317-EX-01.502, P-317-EX-0202.5, P-317-EX-02.5-03, P-317-EX-0303.5, P-317-EX-03.504, P-317-EX-0404.5, P-317-EX-04.505, P-317-EX-0506, P-317-EX-0607, P-317-EX-0708.

2) Sample collection began at 14:55 and concluded at 15:07.

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

BOREHOLE LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 1/9/24 14:48 - J:\S00001.000-START 2022 CONTRACT - TO 01 - TBAS\S00001.017_ST JOHNSBURY ARMORY\TECHNICAL DATA\GINT\ST. JOHNSBURY ARMORY.GPJ

BORING LOG

Project: St. Johnsbury Armory

Location: St. Johnsbury, VT

Nobis Project No.: S00001.017

Boring No.: **P-318-Ex**

Boring Location:

Checked by:

Date Start: November 2, 2023

Date Finish: November 2, 2023

Contractor: Drilex Environmental, Inc.

Driller: D. Steinhart

Nobis Rep.: B. Fortier

Rig Type / Model: Geoprobe Handheld Large Bore Sampler

Hammer Type: N/A

Hammer Hoist: N/A

Ground Surface Elev.:

Datum:

	Drilling Method	Sampler
Type	N/A	Macro-Core Liners
Size ID (in.)	N/A	1x24
Advancement	Direct Push	N/A

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time

Depth (ft.)	SAMPLE INFORMATION Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	LITHOLOGY Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
1	S-1	22	0-2					S-1A (12"): Brown, fine to medium SAND, trace Silt. Dry.	
2								S-1B (10"): Brown, fine to medium SAND, trace Silt & Clay. Dry.	
3	S-2	23	2-4					S-2A (23"): Tan, fine to medium SAND, trace Silt. Dry.	
4									
5	S-3	24	4-6				SILTY SAND	S-3A (24"): Tan, fine to medium SAND, trace Silt. Dry.	
6									
7	S-4	23	6-8					S-4A (23"): Tan, fine to medium SAND, trace Silt. Dry.	
8							/ 8.0		
9								Boring terminated at 8 feet.	

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) P-318-EX-0000.5, P-318-EX-00.501, P-318-EX-0101.5, P-318-EX-01.502, P-318-EX-0202.5, P-318-EX-02.5-03, P-318-EX-0303.5, P-318-EX-03.504, P-318-EX-0404.5, P-318-EX-04.505, P-318-EX-0506, P-318-EX-0607, P-318-EX-0708.

2) Sample collection began at 08:00 and concluded at 08:12. Sample P-318-EX-0404.5 associated with FD-27.

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

BOREHOLE LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 1/9/24 14:48 - J:\S00001.000-START 2022 CONTRACT - TO 01 - TBAS\S00001.017_ST JOHNSBURY ARMORY\TECHNICAL DATA\GINT\ST. JOHNSBURY ARMORY.GPJ

BORING LOG

nobis

Project: St. Johnsbury Armory

Location: St. Johnsbury, VT

Nobis Project No.: S00001.017

Boring No.: **P-319-Ex**

Boring Location:

Checked by:

Date Start: November 2, 2023

Date Finish: November 2, 2023

Contractor: Drilex Environmental, Inc.

Driller: D. Steinhart

Nobis Rep.: B. Fortier

Rig Type / Model: Geoprobe Handheld Large Bore Sampler

Hammer Type: N/A

Hammer Hoist: N/A

Ground Surface Elev.:

Datum:

	Drilling Method	Sampler
Type	N/A	Macro-Core Liners
Size ID (in.)	N/A	1x24
Advancement	Direct Push	N/A

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time

Depth (ft.)	SAMPLE INFORMATION Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	LITHOLOGY Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
1	S-1	22	0-2					S-1A (10"): Brown, fine to medium SAND, trace Silt. Dry.	
								S-1B (2"): Brown, fine to coarse GRAVEL, trace Silt. Dry.	
2								S-1C (10"): Brown, fine to medium SAND, trace Silt. Dry.	
3	S-2	22	2-4					S-2A (22"): Tan, fine to medium SAND, trace Silt. Dry.	
4									
5	S-3	24	4-6				SAND	S-3A (24"): Tan, fine to medium SAND, trace Silt. Dry.	
6									
7	S-4	24	6-8					S-4A: Tan, fine to medium SAND, trace Silt. Dry.	
8							/ 8.0		
9								Boring terminated at 8 feet.	

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) P-319-EX-0000.5, P-319-EX-00.501, P-319-EX-0101.5, P-319-EX-01.502, P-319-EX-0202.5, P-319-EX-02.5-03, P-319-EX-0303.5, P-319-EX-03.504, P-319-EX-0404.5, P-319-EX-04.505, P-319-EX-0506, P-319-EX-0607, P-319-EX-0708.

2) Sample collection began at 08:15 and concluded at 08:27. Sample P-319-EX-0000.5 associated with FD-28.

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

BOREHOLE LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 1/9/24 14:48 - J:\S00001.000-START 2022 CONTRACT - TO 01 - TBAS\S00001.017_ST JOHNSBURY ARMORY\TECHNICAL DATA\GINT\ST. JOHNSBURY ARMORY.GPJ

BORING LOG

Project: St. Johnsbury Armory

Location: St. Johnsbury, VT

Nobis Project No.: S00001.017

Boring No.: **P-320-Ex**

Boring Location:

Checked by:

Date Start: November 2, 2023

Date Finish: November 2, 2023

Contractor: Drilex Environmental, Inc.

Driller: D. Steinhart

Nobis Rep.: B. Fortier

Rig Type / Model: Geoprobe Handheld Large Bore Sampler

Hammer Type: N/A

Hammer Hoist: N/A

Ground Surface Elev.:

Datum:

	Drilling Method	Sampler
Type	N/A	Macro-Core Liners
Size ID (in.)	N/A	1x24
Advancement	Direct Push	N/A

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time

Depth (ft.)	SAMPLE INFORMATION Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	LITHOLOGY Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
1	S-1	12	0-2				GRAVELLY SAND	S-1A (12"): Tan, fine to medium SAND, trace fine Gravel, trace Silt.	
2							/ 2.0		
3	S-2	22	2-4					S-2A (22"): Tan, fine to medium SAND, trace Silt.	
4									
5	S-3	24	4-6				SILTY SAND	S-3A (24"): Tan, fine to medium SAND, trace Silt.	
6									
7	S-4	24	6-8					S-4A (24"): Tan, fine to medium SAND, trace Silt.	
8							/ 8.0		
9								Boring terminated at 8 feet.	

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) P-320-EX-0000.5, P-320-EX-00.501, P-320-EX-0101.5, P-320-EX-01.502, P-320-EX-0202.5, P-320-EX-02.5-03, P-320-EX-0303.5, P-320-EX-03.504, P-320-EX-0404.5, P-320-EX-04.505, P-320-EX-0506, P-320-EX-0607, P-320-EX-0708.

2) Sample collection began at 08:30 and concluded at 08:42.

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

BOREHOLE LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 1/9/24 14:48 - J:\S00001.000-START 2022 CONTRACT - TO 01 - TBAS\S00001.017_ST JOHNSBURY ARMORY\TECHNICAL DATA\GINT\ST. JOHNSBURY ARMORY.GPJ

BORING LOG

nobis

Project: St. Johnsbury Armory

Location: St. Johnsbury, VT

Nobis Project No.: S00001.017

Boring No.: **P-321-Ex**

Boring Location:

Checked by:

Date Start: November 2, 2023

Date Finish: November 2, 2023

Contractor: Drilex Environmental, Inc.

Driller: D. Steinhart

Nobis Rep.: B. Fortier

Rig Type / Model: Geoprobe Handheld Large Bore Sampler

Hammer Type: N/A

Hammer Hoist: N/A

Ground Surface Elev.:

Datum:

	Drilling Method	Sampler
Type	N/A	Macro-Core Liners
Size ID (in.)	N/A	1x24
Advancement	Direct Push	N/A

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time

Depth (ft.)	Sample Info: Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
1	S-1	18	0-2				SAND / 1.3	S-1A (15"): Tan, fine to medium SAND, trace Silt. Dry.	
2							CLAYEY SAND / 2.0	S-1B (3"): Brown, fine to medium SAND, trace Silt & Clay. Dry.	
3	S-2	20	2-4					S-2A (20"): Tan, fine to medium SAND, trace Silt. Dry.	
4									
5	S-3	22	4-6				SAND	S-3A (22"): Tan, fine to medium SAND, trace Silt. Dry.	
6									
7	S-4	22	6-8					S-4A (22"): Tan, fine to medium SAND, trace Silt. Dry.	
8							/ 8.0		
9								Boring terminated at 8 feet.	

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) P-321-EX-0000.5, P-321-EX-00.501, P-321-EX-0101.5, P-321-EX-01.502, P-321-EX-0202.5, P-321-EX-02.5-03, P-321-EX-0303.5, P-321-EX-03.504, P-321-EX-0404.5, P-321-EX-04.505, P-321-EX-0506, P-321-EX-0607, P-321-EX-0708.

2) Sample collection began at 08:50 and concluded at 09:02. Sample P-321-EX-0000.5 associated with FD-29.

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

BOREHOLE LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 1/9/24 14:48 - J:\S00001.000-START 2022 CONTRACT - TO 01 - TBAS\S00001.017_ST JOHNSBURY ARMORY\TECHNICAL DATA\GINT\ST. JOHNSBURY ARMORY.GPJ

BORING LOG

Project: St. Johnsbury Armory

Location: St. Johnsbury, VT

Nobis Project No.: S00001.017

Boring No.: **P-322-Ex**

Boring Location:

Checked by:

Date Start: November 2, 2023

Date Finish: November 2, 2023

Contractor: Drilex Environmental, Inc.

Driller: D. Steinhart

Nobis Rep.: B. Fortier

Rig Type / Model: Geoprobe Handheld Large Bore Sampler

Hammer Type: N/A

Hammer Hoist: N/A

Ground Surface Elev.:

Datum:

	Drilling Method	Sampler
Type	N/A	Macro-Core Liners
Size ID (in.)	N/A	1x24
Advancement	Direct Push	N/A

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time

Depth (ft.)	Sample Info: Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	Lithology: Graphic	Stratum Elev. / Depth (ft.)	Sample Description and Remarks (Classification System: Modified Burmister)	Notes
1	S-1	21	0-2					S-1A (2"): Brown, fine SAND, trace Silt. Dry. S-1B (19"): Tan, fine to medium SAND, trace Silt. Dry.	
2									
3	S-2	22	2-4					S-2A (22"): Tan, fine to medium SAND, trace Silt. Dry.	
4									
5	S-3	23	4-6				SAND	S-3A (23"): Tan, fine to medium SAND, trace Silt. Dry.	
6									
7	S-4	23	6-8					S-4A (8"): Tan, fine to medium SAND, trace Silt. Dry. S-4B (15"): Tan, fine SAND, trace Silt. Dry.	
8							/ 8.0		
9								Boring terminated at 8 feet.	

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) P-322-EX-0000.5, P-322-EX-00.501, P-322-EX-0101.5, P-322-EX-01.502, P-322-EX-0202.5, P-322-EX-02.5-03, P-322-EX-0303.5, P-322-EX-03.504, P-322-EX-0404.5, P-322-EX-04.505, P-322-EX-0506, P-322-EX-0607, P-322-EX-0708.

2) Sample collection began at 09:10 and concluded at 09:22. Sample P-322-EX-03.504 associated with FD-30.

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

BOREHOLE LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 1/9/24 14:48 - J:\S00001.000-START 2022 CONTRACT - TO 01 - TBAS\S00001.017_ST JOHNSBURY ARMORY\TECHNICAL DATA\GINT\ST. JOHNSBURY ARMORY.GPJ

BORING LOG

Project: St. Johnsbury Armory

Location: St. Johnsbury, VT

Nobis Project No.: S00001.017

Boring No.: **P-323-Ex**

Boring Location:

Checked by:

Date Start: November 2, 2023

Date Finish: November 2, 2023

Contractor: Drilex Environmental, Inc.

Driller: D. Steinhart

Nobis Rep.: B. Fortier

Rig Type / Model: Geoprobe Handheld Large Bore Sampler

Hammer Type: N/A

Hammer Hoist: N/A

Ground Surface Elev.:

Datum:

	Drilling Method	Sampler
Type	N/A	Macro-Core Liners
Size ID (in.)	N/A	1x24
Advancement	Direct Push	N/A

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time

Depth (ft.)	SAMPLE INFORMATION Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	LITHOLOGY Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
1	S-1	20	0-2					S-1A (20"): Tan, fine to medium SAND, trace Silt.	
2									
3	S-2	20	2-4					S-2A (20"): Tan, fine to medium SAND, trace Silt.	
4									
5	S-3	18	4-6				SAND	S-3A (18"): Tan, fine to coarse SAND, trace Silt.	
6									
7	S-4	24	6-8					S-4A (2"): Brown, fine to medium SAND, trace Silt. S-4B (22"): Tan, fine to medium SAND, trace Silt.	
8							/ 8.0		
9								Boring terminated at 8 feet.	

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) P-323-EX-0000.5, P-323-EX-00.501, P-323-EX-0101.5, P-323-EX-01.502, P-323-EX-0202.5, P-323-EX-02.5-03, P-323-EX-0303.5, P-323-EX-03.504, P-323-EX-0404.5, P-323-EX-04.505, P-323-EX-0506, P-323-EX-0607, P-323-EX-0708.

2) Sample collection began at 09:30 and concluded at 09:42. Sample P-323-EX-03.504 associated with FD-31.

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

BOREHOLE LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 1/9/24 14:48 - J:\S00001.000-START 2022 CONTRACT - TO 01 - TBAS\S00001.017_ST JOHNSBURY ARMORY\TECHNICAL DATA\GINT\ST. JOHNSBURY ARMORY.GPJ

BORING LOG

Project: St. Johnsbury Armory

Location: St. Johnsbury, VT

Nobis Project No.: S00001.017

Boring No.: **P-324-Ex**

Boring Location:

Checked by:

Date Start: November 2, 2023

Date Finish: November 2, 2023

Contractor: Drilex Environmental, Inc.

Driller: D. Steinhart

Nobis Rep.: B. Fortier

Rig Type / Model: Geoprobe Handheld Large Bore Sampler

Hammer Type: N/A

Hammer Hoist: N/A

Ground Surface Elev.:

Datum:

	Drilling Method	Sampler
Type	N/A	Macro-Core Liners
Size ID (in.)	N/A	1x24
Advancement	Direct Push	N/A

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time

Depth (ft.)	SAMPLE INFORMATION Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	LITHOLOGY Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
1	S-1	23	0-2					S-1A (23"): Brown, fine to medium SAND, some Clay, trace Silt. Dry.	
2							CLAYEY SAND / 2.0		
3	S-2	23	2-4					S-2A (23"): Brown, fine to medium SAND, trace Silt. Dry.	
4									
5	S-3	20	4-6					S-3A (20"): Tan, fine to medium SAND, trace Silt. Dry.	
6							SAND		
7	S-4	24	6-8					S-4A (24"): Tan, fine to medium SAND, trace Silt. Dry.	
8							/ 8.0		
9								Boring terminated at 8 feet.	

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) P-324-EX-0000.5, P-324-EX-00.501, P-324-EX-0101.5, P-324-EX-01.502, P-324-EX-0202.5, P-324-EX-02.5-03, P-324-EX-0303.5, P-324-EX-03.504, P-324-EX-0404.5, P-324-EX-04.505, P-324-EX-0506, P-324-EX-0607, P-324-EX-0708.

2) Sample collection began at 09:50 and concluded at 10:02.

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

BOREHOLE LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 1/9/24 14:48 - J:\S00001.000-START 2022 CONTRACT - TO 01 - TBAS\S00001.017_ST JOHNSBURY ARMORY\TECHNICAL DATA\GINT\ST. JOHNSBURY ARMORY.GPJ

BORING LOG

nobis

Project: St. Johnsbury Armory

Location: St. Johnsbury, VT

Nobis Project No.: S00001.017

Boring No.: **P-325-Ex**

Boring Location:

Checked by:

Date Start: November 2, 2023

Date Finish: November 2, 2023

Contractor: Drilex Environmental, Inc.

Driller: D. Steinhart

Nobis Rep.: B. Fortier

Rig Type / Model: Geoprobe Handheld Large Bore Sampler

Hammer Type: N/A

Hammer Hoist: N/A

Ground Surface Elev.:

Datum:

	Drilling Method	Sampler
Type	N/A	Macro-Core Liners
Size ID (in.)	N/A	1x24
Advancement	Direct Push	N/A

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time

Depth (ft.)	Sample Info: Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	Sample Description and Remarks (Classification System: Modified Burmister)	Notes
1	S-1	20	0-2				CLAYEY SAND / 2.0	S-1A (20"): Tan, fine SAND, some Clay. Dry.	
2									
3	S-2	23	2-4				GRAVELLY SAND / 4.0	S-2A (23"): Tan, fine to coarse SAND, some fine Gravel. Dry.	
4									
5	S-3	23	4-6				SILTY SAND / 8.0	S-3A (23"): Tan, fine to coarse SAND, some Silt. Dry.	
6									
7	S-4	23	6-8					S-4A (23"): Tan, fine to medium SAND, some Silt. Dry.	
8									
9								Boring terminated at 8 feet.	

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) P-325-EX-0000.5, P-325-EX-00.501, P-325-EX-0101.5, P-325-EX-01.502, P-325-EX-0202.5, P-325-EX-02.5-03, P-325-EX-0303.5, P-325-EX-03.504, P-325-EX-0404.5, P-325-EX-04.505, P-325-EX-0506, P-325-EX-0607, P-325-EX-0708.

2) Sample collection began at 10:10 and concluded at 10:22.

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

BOREHOLE LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 1/9/24 14:48 - J:\S00001.000-START 2022 CONTRACT - TO 01 - TBAS\S00001.017_ST JOHNSBURY ARMORY\TECHNICAL DATA\GINT\ST. JOHNSBURY ARMORY.GPJ

BORING LOG

Project: St. Johnsbury Armory

Location: St. Johnsbury, VT

Nobis Project No.: S00001.017

Boring No.: **P-326-Ex**

Boring Location:

Checked by:

Date Start: November 2, 2023

Date Finish: November 2, 2023

Contractor: Drilex Environmental, Inc.

Driller: D. Steinhart

Nobis Rep.: B. Fortier

Rig Type / Model: Geoprobe Handheld Large Bore Sampler

Hammer Type: N/A

Hammer Hoist: N/A

Ground Surface Elev.:

Datum:

	Drilling Method	Sampler
Type	N/A	Macro-Core Liners
Size ID (in.)	N/A	1x24
Advancement	Direct Push	N/A

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time

Depth (ft.)	Sample Info: Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	Sample Description and Remarks (Classification System: Modified Burmister)	Notes
1	S-1	23	0-2					S-1A (23"): Orange brown, fine to medium SAND, some Silt. Dry.	
2									
3	S-2	23	2-4				SILTY SAND	S-2A (23"): Tan, fine to medium SAND, some Silt. Dry.	
4							/ 4.0		
5	S-3	23	4-6					S-3A (23"): Tan, fine to medium SAND, some fine Gravel. Dry.	
6									
7	S-4	24	6-8				GRAVELLY SAND	S-4A (24"): Tan, fine to medium SAND, some fine Gravel. Dry.	
8							/ 8.0		
9								Boring terminated at 8 feet.	

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) P-326-EX-0000.5, P-326-EX-00.501, P-326-EX-0101.5, P-326-EX-01.502, P-326-EX-0202.5, P-326-EX-02.5-03, P-326-EX-0303.5, P-326-EX-03.504, P-326-EX-0404.5, P-326-EX-04.505, P-326-EX-0506, P-326-EX-0607, P-326-EX-0708.

2) Sample P-326-EX-04.505 associated with FD-33 and sample P-326-EX-0607 associated with FD-32.

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

BOREHOLE LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 1/9/24 14:48 - J:\S00001.000-START 2022 CONTRACT - TO 01 - TBAS\S00001.017_ST JOHNSBURY ARMORY\TECHNICAL DATA\GINT\ST. JOHNSBURY ARMORY.GPJ

BORING LOG

Project: St. Johnsbury Armory

Location: St. Johnsbury, VT

Nobis Project No.: S00001.017

Boring No.: **P-327-Ex**

Boring Location:

Checked by:

Date Start: November 2, 2023

Date Finish: November 2, 2023

Contractor: Drilex Environmental, Inc.

Driller: D. Steinhart

Nobis Rep.: B. Fortier

Rig Type / Model: Geoprobe Handheld Large Bore Sampler

Hammer Type: N/A

Hammer Hoist: N/A

Ground Surface Elev.:

Datum:

	Drilling Method	Sampler
Type	N/A	Macro-Core Liners
Size ID (in.)	N/A	1x24
Advancement	Direct Push	N/A

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time

Depth (ft.)	SAMPLE INFORMATION Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	LITHOLOGY Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
1	S-1	15	0-2					S-1A (15"): Gray, fine SAND. Dry.	
2							SAND / 2.0		
3	S-2	16	2-4					S-2A (16"): Gray, fine to medium SAND, some Silt. Dry.	
4									
5	S-3	22	4-6				SILTY SAND	S-3A (22"): Gray, fine to medium SAND, some Silt. Dry.	
6									
7	S-4	24	6-8					S-4A (24"): Gray, fine to medium SAND, some Silt. Dry.	
8							/ 8.0		
9								Boring terminated at 8 feet.	

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) P-327-EX-0000.5, P-327-EX-00.501, P-327-EX-0101.5, P-327-EX-01.502, P-327-EX-0202.5, P-327-EX-02.5-03, P-327-EX-0303.5, P-327-EX-03.504, P-327-EX-0404.5, P-327-EX-04.505, P-327-EX-0506, P-327-EX-0607, P-327-EX-0708.

2) Sample collection began at 10:45 and concluded at 10:57.

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

BOREHOLE LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 1/9/24 14:48 - J:\S00001.000-START 2022 CONTRACT - TO 01 - TBAS\S00001.017_ST JOHNSBURY ARMORY\TECHNICAL DATA\GINT\ST. JOHNSBURY ARMORY.GPJ

BORING LOG

Project: St. Johnsbury Armory

Location: St. Johnsbury, VT

Nobis Project No.: S00001.017

Boring No.: **P-328-Ex**

Boring Location:

Checked by:

Date Start: November 2, 2023

Date Finish: November 2, 2023

Contractor: Drilex Environmental, Inc.

Driller: D. Steinhart

Nobis Rep.: B. Fortier

Rig Type / Model: Geoprobe Handheld Large Bore Sampler

Hammer Type: N/A

Hammer Hoist: N/A

Ground Surface Elev.:

Datum:

	Drilling Method	Sampler
Type	N/A	Macro-Core Liners
Size ID (in.)	N/A	1x24
Advancement	Direct Push	N/A

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time

Depth (ft.)	SAMPLE INFORMATION Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	LITHOLOGY Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
1								6 foot void underneath the steps.	
2									
3									
4									
5									
6									
7	S-1	14	6-8					S-1A (14"): Tan, fine to coarse SAND, some Silt. Dry.	
8									
9	S-2	24	8-10					S-2A (24"): Tan, fine to coarse SAND, some Silt. Dry.	
10							SILTY SAND		
11	S-3	24	10-12					S-3A (24"): Tan, fine to coarse SAND, some Silt. Dry.	
12							/ 12.0		
13								Boring terminated at 12 feet.	

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) P-328-EX-0607, P-328-EX-06.507, P-328-EX-0707.5, P-328-EX-07.508, P-328-EX-0808.5, P-328-EX-08.509, P-328-EX-0909.5, P-328-EX-09.510, P-328-EX-1010.5, P-328-EX-10.511, P-328-EX-1112.

2) Sample collection began at 10:58 and concluded at 11:08. Sample P-328-EX-09.510 associated with FD-34.

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

BOREHOLE LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 1/9/24 14:48 - J:\S00001.000-START 2022 CONTRACT - TO 01 - TBAS\S00001.017_ST JOHNSBURY ARMORY\TECHNICAL DATA\GINT\ST. JOHNSBURY ARMORY.GPJ

APPENDIX D

November 6, 2023
Nobis File No. S00001.017

Ms. Christine Beling
USEPA - Region I
Land, Chemicals, and Redevelopment Division
5 Post Office Square, Suite 100
Boston, MA 02109-3912

Re: USEPA Contract No. 68HE0122D0001
USEPA Task Order No. 68HE0122F0044
Targeted Brownfield Assessment (TBA) Site
St. Johnsbury Armory Site
St. Johnsbury, Vermont
Sample Delivery Group (SDG) No. 23H3248
Pace Analytical (formerly Con-test), East Longmeadow, MA

Tier 1 Stage 2A Organic Data Review

Polychlorinated Biphenyls (PCBs by 8082A):

20/Building Material Samples: P-001-R03E, P-002-R03S, P-003-R03W, P-004-R03C, P-005-R03WT, P-006-R03D, P-007-R04E, P-008-R04S, P-009-R04W, P-010-R04WT, P-011-R04D, P-012-RO5E, P-013-R05S, P-014-R05W, P-015-R05C, P-016-R05F, P-017-R05WT, P-018-R06E, P-019-R06S, P-020-R06C
3/Field Duplicate Pairs: P-018-R06E / P-FD-01 (located in SDG 23H3268), P-003-R03W / P-FD-12 (located in SDG 23H3270), P-009-R04W / P-FD-13 (located in SDG 23H3270)

Dear Ms. Beling:

Nobis Group (Nobis), under a USEPA contract as a subcontractor to KGSNE JV II, LLC (KGSNE), performed a Tier 1 Stage 2A manual data review (S2AVM) on the organic analytical data for the samples listed above. The samples were collected by Nobis at the St. Johnsbury Armory site located in St. Johnsbury, Vermont, on August 14, 2023. The samples were analyzed for PCB Aroclors by EPA Method 8082A by Pace Analytical (formerly Con-test).

The Tier 1 Stage 2A manual data review was performed in accordance with the Region I - EPA New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures (September 2020); USEPA's National Functional Guidelines for Organic Superfund Methods Data Review (November 2020); the Program Quality Assurance Project Plan (Program QAPP) dated October 2022, and the Quality Assurance Project Plan Addendum (QAPPA) (July 2023) for St. Johnsbury Armory, which appends the October 2022 Program QAPP.

The data were evaluated based on the following parameters:

*	•	Overall Evaluation of Data and Potential Usability Issues
*	•	Data Completeness
*	•	Preservation and Technical Holding Times
*	•	Blanks
*	•	Surrogates (PCBs only)
NA	•	Internal Standards

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

*	•	Matrix Spike Analysis
NA	•	Laboratory Duplicates
*	•	Laboratory Control Samples (LCS)/Standard Reference Material (SRM) Recovery (metals only)
*	•	Field Duplicates
NA	•	ICP Serial Dilutions (metals only)
NA	•	Performance Evaluation (PE) Samples
*	•	Target Analyte Identification
	•	Reported Quantitation Limits

* All criteria were met for this parameter or qualification was not required.
NA – Not applicable.

Overall Evaluation of Data and Potential Usability Issues

The site sampling objectives are:

- Perform a supplemental hazardous building material survey (HBMS) to address data gaps identified by Atlas Technical Consultants (ATC).
- Further delineate the distribution of hazardous materials to support future building renovation and reuse or demolition and disposal.
- Evaluate sub-slab soils for possible contamination by PCBs.

Note that quantitation limits for non-detect results exceeded the project action limit (PAL) of ≤ 1 mg/kg for total PCBs in all samples due to required sample dilutions.

The data meet the project quality criteria and can be used without restriction except as summarized below. The attachments provide details and supporting documentation.

PCBs:
Qualification of the data was not required.

Please contact Linda Terzis at lterzis@nobis-group.com should you have any questions or comments regarding this information.

Sincerely,

NOBIS GROUP®

Linda Terzis
Data Validator

Gary Glennon
Data Validator

Tables: Data Summary Tables – Tier 1 Stage 2A (S2AVM) Validated Data
Data Qualification Actions Table

Attachments: Data Review Checklist
Support Documentation
COC

cc: Denis McGrath (Nobis Group)
Tim Andrews (Nobis Group)

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23H3248-01	23H3248-02	23H3248-03	23H3248-04	23H3248-05
Field Sample ID		P-001-R03E	P-002-R03S	P-003-R03W	P-004-R03C	P-005-R03WT
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	08/14/23	08/14/23	08/14/23	08/14/23	08/14/23
Aroclor 1016	mg/kg	3.9 U	4.8 U	4.2 U	3.8 U	4.8 U
Aroclor 1221	mg/kg	3.9 U	4.8 U	4.2 U	3.8 U	4.8 U
Aroclor 1232	mg/kg	3.9 U	4.8 U	4.2 U	3.8 U	4.8 U
Aroclor 1242	mg/kg	3.9 U	4.8 U	4.2 U	3.8 U	4.8 U
Aroclor 1248	mg/kg	3.9 U	4.8 U	4.2 U	3.8 U	4.8 U
Aroclor 1254	mg/kg	37	46	43	29	58
Aroclor 1260	mg/kg	3.9 U	4.8 U	4.2 U	3.8 U	4.8 U
Aroclor 1262	mg/kg	3.9 U	4.8 U	4.2 U	3.8 U	4.8 U
Aroclor 1268	mg/kg	3.9 U	4.8 U	4.2 U	3.8 U	4.8 U

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23H3248-06	23H3248-07	23H3248-08	23H3248-09	23H3248-10
Field Sample ID		P-006-R03D	P-007-R04E	P-008-R04S	P-009-R04W	P-010-R04WT
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	08/14/23	08/14/23	08/14/23	08/14/23	08/14/23
Aroclor 1016	mg/kg	5 U	4.9 U	4.3 U	4.4 U	4.7 U
Aroclor 1221	mg/kg	5 U	4.9 U	4.3 U	4.4 U	4.7 U
Aroclor 1232	mg/kg	5 U	4.9 U	4.3 U	4.4 U	4.7 U
Aroclor 1242	mg/kg	5 U	4.9 U	4.3 U	4.4 U	4.7 U
Aroclor 1248	mg/kg	5 U	4.9 U	4.3 U	4.4 U	4.7 U
Aroclor 1254	mg/kg	41	23	17	24	51
Aroclor 1260	mg/kg	5 U	4.9 U	4.3 U	4.4 U	4.7 U
Aroclor 1262	mg/kg	5 U	4.9 U	4.3 U	4.4 U	4.7 U
Aroclor 1268	mg/kg	5 U	4.9 U	4.3 U	4.4 U	4.7 U

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23H3248-11	23H3248-12	23H3248-13	23H3248-14	23H3248-15
Field Sample ID		P-011-R04D	P-012-RO5E	P-013-R05S	P-014-R05W	P-015-R05C
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	08/14/23	08/14/23	08/14/23	08/14/23	08/14/23
Aroclor 1016	mg/kg	4.7 U	4.7 U	4.7 U	5 U	4.2 U
Aroclor 1221	mg/kg	4.7 U	4.7 U	4.7 U	5 U	4.2 U
Aroclor 1232	mg/kg	4.7 U	4.7 U	4.7 U	5 U	4.2 U
Aroclor 1242	mg/kg	4.7 U	4.7 U	4.7 U	5 U	4.2 U
Aroclor 1248	mg/kg	4.7 U	4.7 U	4.7 U	5 U	4.2 U
Aroclor 1254	mg/kg	50	18	31	22	16
Aroclor 1260	mg/kg	4.7 U	4.7 U	4.7 U	5 U	4.2 U
Aroclor 1262	mg/kg	4.7 U	4.7 U	4.7 U	5 U	4.2 U
Aroclor 1268	mg/kg	4.7 U	4.7 U	4.7 U	5 U	4.2 U

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23H3248-16	23H3248-17	23H3248-18	23H3248-19	23H3248-20
Field Sample ID		P-016-R05F	P-017-R05WT	P-018-R06E	P-019-R06S	P-020-R06C
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	08/14/23	08/14/23	08/14/23	08/14/23	08/14/23
Aroclor 1016	mg/kg	4.7 U	4.6 U	4.7 U	4.6 U	4.9 U
Aroclor 1221	mg/kg	4.7 U	4.6 U	4.7 U	4.6 U	4.9 U
Aroclor 1232	mg/kg	4.7 U	4.6 U	4.7 U	4.6 U	4.9 U
Aroclor 1242	mg/kg	4.7 U	4.6 U	4.7 U	4.6 U	4.9 U
Aroclor 1248	mg/kg	4.7 U	4.6 U	4.7 U	4.6 U	4.9 U
Aroclor 1254	mg/kg	21	35	23	21	18
Aroclor 1260	mg/kg	4.7 U	4.6 U	4.7 U	4.6 U	4.9 U
Aroclor 1262	mg/kg	4.7 U	4.6 U	4.7 U	4.6 U	4.9 U
Aroclor 1268	mg/kg	4.7 U	4.6 U	4.7 U	4.6 U	4.9 U

Data Review Qualification Actions
Case: St. Johnsbury Armory
SDG: 23H3248

Parameter	Analyte	Samples	Evaluation Criteria	Action Needed	Comments
PCBs					
	Qualification of the data was not required.				

Tier 1 Stage 2A Data Review Checklist

Project: St. Johnsbury Armory Site, St. Johnsbury, Vermont
Project #: S00001.017
Case#: NA
Date: 09/27/2023
Methods: PCBs (8082A)
Laboratory: Pace Analytical (formerly Con-test), East Longmeadow, MA
SDG: 23H3248
Reviewer: Linda Terzis

1. **Case Narrative and Data Package Completeness (COC and Analyte List Review)**
Twenty (20) building material samples, including three field duplicate samples, were listed on the COC for SDG 23H3248. The samples were collected on 08/14/2023 and were received at the laboratory on 08/22/2023 at temperatures ranging from 2.2 to 5.6 °C.

Sample ID	Laboratory ID	Analyses
P-001-R03E	23H3248-01	PCBs
P-002-R03S	23H3248-02	PCBs
P-003-R03W	23H3248-03	PCBs
P-004-R03C	23H3248-04	PCBs
P-005-R03WT	23H3248-05	PCBs
P-006-R03D	23H3248-06	PCBs
P-007-R04E	23H3248-07	PCBs
P-008-R04S	23H3248-08	PCBs
P-009-R04W	23H3248-09	PCBs
P-010-R04WT	23H3248-10	PCBs
P-011-R04D	23H3248-11	PCBs
P-012-RO5E	23H3248-12	PCBs
P-013-R05S	23H3248-13	PCBs
P-014-R05W	23H3248-14	PCBs
P-015-R05C	23H3248-15	PCBs
P-016-R05F	23H3248-16	PCBs
P-017-R05WT	23H3248-17	PCBs
P-018-R06E	23H3248-18	PCBs
P-019-R06S	23H3248-19	PCBs
P-020-R06C	23H3248-20	PCBs

A complete laboratory report was received for SDG 23H3248.

2. **Holding Time and Sample Preservation Compliance**

Receipt temperature met the acceptable level of ≤ 6 °C.

PCBs: Holding time limits are not applicable for building material samples, based on Table 3 of the Quality Assurance Project Plan Addendum (QAPPA) for the St. Johnsbury Armory site (July 2023). No actions are required.

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

3. **Calibration Issues**

   Not assessed for S2AVM.

4. **Lab and Field Blanks**

   PCBs: Results for the laboratory method blank associated with the samples of this SDG were non-detect. No blank actions are required.

   An equipment blank was not required during sample collection for the site.

5. **Interference Check Sample (metals only)**

   Not assessed for S2AVM.

6. **Surrogates (PCBs only)**

   PCBs: Surrogate recoveries were within the Program QAPP limits (30-150%) for all samples. No action is required.

7. **Laboratory Control Samples**

   PCBs: Percent recoveries of Aroclors 1016 and 1260 in the PCB LCS/LCSD pair met the Program QAPP limits of 40-140% recovery and relative percent difference (RPD) ≤ 30%. No action is required.

8. **Matrix Spikes**

   PCBs: Only Aroclors 1016 and 1260 were spiked in the MS/MSD; therefore, based on professional judgment, if actions are required, they are applied as follows:

   If 1016 %R or %RPD out: Qualify 1016, 1221, 1232, 1242
   If 1260 %R or %RPD out: Qualify 1248, 1254, 1260, 1262,1268

   MS/MSD analyses were performed on sample P-019-R06S (23H3248-19).

   Percent recoveries of Aroclors 1016 and 1260 exceeded the Program QAPP limits of 40-140% in the MS and MSD analyses, on both columns. RPDs were ≤ 30%, as specified in the Program QAPP. The laboratory indicated the percent recoveries were high due to the contribution of other Aroclors (i.e., Aroclor 1254) present in the parent sample. No action is taken.

9. **Laboratory Duplicates**

   PCBs: Not applicable to this analysis.

10. **Serial Dilution (metals only)**

    PCBs: Not applicable to this analysis.

11. Field Duplicate Precision

Criteria based on the EPA Region I Environmental Data Review Supplement (September 2020): RPD ≤ 50% (soils) for results ≥ 5x QL or absolute difference of ≤ 4x QL for results < 5X QL.

The following field duplicate pairs are associated with the samples of this SDG.

- P-018-R06E / P-FD-01 (23H3248-18 / 23H3268-15)
- P-003-R03W / P-FD-12 (23H3248-03 / 23H3270-06)
- P-009-R04W / P-FD-13 (23H3248-09 / 23H3270-07)

PCBs: Aroclor results met field duplicate precision criteria and no actions are required.

12. Internal Standards

Not applicable to these analyses.

13. Dual Column Precision (PCBs only)

Dual column precision criteria (≤ 25% RPD per NFG) were met for all Aroclor detections > QL. No action is required.

14. Performance Evaluation (PE) Samples

A PE sample was not submitted with the samples of this SDG. No actions are required.

15. Quantitation Limits

PCBs: Laboratory quantitation limits (QLs) for non-detect Aroclor results exceeded the PAL of ≤ 1 mg/kg for total PCBs, per Table 4 of the QAPPA, for all samples. All samples required a 1/10 dilution due to the presence of individual Aroclor(s) in the samples. The QLs were greater than 1 mg/kg in all samples due to the required sample dilutions.

16. Other

The EPA Region I Environmental Data Review Supplement (2020) percent solids criterion of ≥ 30% for soil samples does not apply to building material samples.

Overall bias is considered indeterminate when cumulative nonconformances do not show a consistent bias or in cases of the presence of conflicting high and low biases.

Field Duplicate Evaluation

SDG: 23H3248 PCBs

Analyte	Original Result mg/kg	Qual	Duplicate Result mg/kg	Qual	RPD ≤ 50%	Abs Diff	Comment
Sample ID	**P-018-R06E**		**P-FD-01**				
	23H3248-18		**23H3268-15**				
Aroclor 1016	4.7	U	3.8	U	-21.18		Ok - both ND
Aroclor 1221	4.7	U	3.8	U	-21.18		Ok - both ND
Aroclor 1232	4.7	U	3.8	U	-21.18		Ok - both ND
Aroclor 1242	4.7	U	3.8	U	-21.18		Ok - both ND
Aroclor 1248	4.7	U	3.8	U	-21.18		Ok - both ND
Aroclor 1254	23		21		-9.09	-2.00	Ok - abs diff < 4x RL
Aroclor 1260	4.7	U	3.8	U	-21.18		Ok - both ND
Aroclor 1262	4.7	U	3.8	U	-21.18		Ok - both ND
Aroclor 1268	4.7	U	3.8	U	-21.18		Ok - both ND

Note that P-FD-01 is located in SDG 23H3268.

Field Duplicate Evaluation

SDG: 23H3248 PCBs

Analyte	Original Result mg/kg	Qual	Duplicate Result mg/kg	Qual	RPD ≤ 50%	Abs Diff	Comment
Sample ID	**P-003-R03W**		**P-FD-12**				
	23H3248-03		**23H3270-06**				
Aroclor 1016	4.2	U	4.1	U	-2.41		Ok - both ND
Aroclor 1221	4.2	U	4.1	U	-2.41		Ok - both ND
Aroclor 1232	4.2	U	4.1	U	-2.41		Ok - both ND
Aroclor 1242	4.2	U	4.1	U	-2.41		Ok - both ND
Aroclor 1248	4.2	U	4.1	U	-2.41		Ok - both ND
Aroclor 1254	43		41		-4.76		Ok - RPD < 50%
Aroclor 1260	4.2	U	4.1	U	-2.41		Ok - both ND
Aroclor 1262	4.2	U	4.1	U	-2.41		Ok - both ND
Aroclor 1268	4.2	U	4.1	U	-2.41		Ok - both ND

Note that P-FD-12 is located in SDG 23H3270.

Field Duplicate Evaluation

SDG: 23H3248 PCBs

Analyte	Original Result mg/kg	Qual	Duplicate Result mg/kg	Qual	RPD ≤ 50%	Abs Diff	Comment
Sample ID	**P-009-R04W**		**P-FD-13**				
	23H3248-09		**23H3270-07**				
Aroclor 1016	4.4	U	4.7	U	6.59		Ok - both ND
Aroclor 1221	4.4	U	4.7	U	6.59		Ok - both ND
Aroclor 1232	4.4	U	4.7	U	6.59		Ok - both ND
Aroclor 1242	4.4	U	4.7	U	6.59		Ok - both ND
Aroclor 1248	4.4	U	4.7	U	6.59		Ok - both ND
Aroclor 1254	24		23		-4.26		Ok - RPD < 50%
Aroclor 1260	4.4	U	4.7	U	6.59		Ok - both ND
Aroclor 1262	4.4	U	4.7	U	6.59		Ok - both ND
Aroclor 1268	4.4	U	4.7	U	6.59		Ok - both ND

Note that P-FD-13 is located in SDG 23H3270.

23H3248 RF

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time
7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
1	P-001-R03E	8/14/2023	9:20	GRAB	O	U		1				x
2	P-002-R03S	8/14/2023	9:21	GRAB	O	U		1				x
3	P-003-R03W	8/14/2023	9:22	GRAB	O	U		1				x
4	P-004-R03C	8/14/2023	9:23	GRAB	O	U		1				x
5	P-005-R03WT	8/14/2023	9:24	GRAB	O	U		1				x
6	P-006-R03D	8/14/2023	9:25	GRAB	O	U		1				x
7	P-007-R04E	8/14/2023	9:30	GRAB	O	U		1				x
8	P-008-R04S	8/14/2023	9:31	GRAB	O	U		1				x
9	P-009-R04W	8/14/2023	9:32	GRAB	O	U		1				x
10	P-010-R04WT	8/14/2023	9:33	GRAB	O	U		1				x

[2] Preservation Code
Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N
*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time:	1358
Received by: (signature)	Date/Time:	1258
Relinquished by: (signature)	Date/Time:	1744
Received by: (signature) 3.8, 2.2, 3.9	Date/Time:	
Relinquished by: (signature) 2.6, 5.6	Date/Time:	1746
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

23H3248 RF

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time
7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
11	P-011-R04D	8/14/2023	9:34	GRAB	O	U		1				x
12	P-012-R05E	8/14/2023	9:50	GRAB	O	U		1				x
13	P-013-R05S	8/14/2023	9:51	GRAB	O	U		1				x
14	P-014-R05W	8/14/2023	9:52	GRAB	O	U		1				x
15	P-015-R05C	8/14/2023	9:53	GRAB	O	U		1				x
16	P-016-R05F	8/14/2023	9:54	GRAB	O	U		1				x
17	P-017-R05WT	8/14/2023	9:55	GRAB	O	U		1				x
18	P-018-R06E	8/14/2023	10:15	GRAB	O	U		1				x
19	P-019-R06S	8/14/2023	10:16	GRAB	O	U		3				x
20	P-020-R06C	8/14/2023	10:17	GRAB	O	U		1				x

[2] Preservation Code
Courier Use Only
Total Number Of:
VIALS
GLASS
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time: 8/22/23 1158	Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS
Received by: (signature)	Date/Time: 8/22/23 1258	
Relinquished by: (signature)	Date/Time: 8/22/23 1748	
Received by: (signature) 3.8, 2.2, 3.9	Date/Time: 8/22/23	
Relinquished by: (signature) 2.6, 5.6	Date/Time: 17 46	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

November 6, 2023
Nobis File No. S00001.017

Ms. Christine Beling
USEPA - Region I
Land, Chemicals, and Redevelopment Division
5 Post Office Square, Suite 100
Boston, MA 02109-3912

Re: USEPA Contract No. 68HE0122D0001
USEPA Task Order No. 68HE0122F0044
Targeted Brownfield Assessment (TBA) Site
St. Johnsbury Armory Site
St. Johnsbury, Vermont
Sample Delivery Group (SDG) No. 23H3250
Pace Analytical (formerly Con-test), East Longmeadow, MA

Tier 1 Stage 2A Organic Data Review

Polychlorinated Biphenyls (PCBs by 8082A):

20/Building Material Samples: P-021-R06WT, P-022-R06D, P-023-R06F, P-024-R05D, P-025-R07E, P-026-R07S, P-027-R07C, P-028-R07F, P-029-R07WT, P-030-R09E, P-031-R09S, P-032-R09S, P-033-R08C, P-034-R08F, P-035-R08WT, P-036-R08D, P-037-R07D, P-038-R09E, P-039-R09S, P-040-R09W
1/Field Duplicate Pair: P-040-R09W / P-FD-02 (located in SDG 23H3268)

Dear Ms. Beling:

Nobis Group (Nobis), under a USEPA contract as a subcontractor to KGSNE JV II, LLC (KGSNE), performed a Tier 1 Stage 2A manual data review (S2AVM) on the organic analytical data for the samples listed above. The samples were collected by Nobis at the St. Johnsbury Armory site located in St. Johnsbury, Vermont, on August 14, 2023. The samples were analyzed for PCB Aroclors by EPA Method 8082A by Pace Analytical (formerly Con-test).

The Tier 1 Stage 2A manual data review was performed in accordance with the Region I - EPA New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures (September 2020); USEPA's National Functional Guidelines for Organic Superfund Methods Data Review (November 2020); the Program Quality Assurance Project Plan (Program QAPP) dated October 2022, and the Quality Assurance Project Plan Addendum (QAPPA) (July 2023) for St. Johnsbury Armory, which appends the October 2022 Program QAPP.

The data were evaluated based on the following parameters:

*	•	Overall Evaluation of Data and Potential Usability Issues
*	•	Data Completeness
*	•	Preservation and Technical Holding Times
*	•	Blanks
*	•	Surrogates (PCBs only)
NA	•	Internal Standards
NA	•	Matrix Spike Analysis

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

NA	•	Laboratory Duplicates
*	•	Laboratory Control Samples (LCS)/Standard Reference Material (SRM) Recovery (metals only)
*	•	Field Duplicates
NA	•	ICP Serial Dilutions (metals only)
NA	•	Performance Evaluation (PE) Samples
*	•	Target Analyte Identification
	•	Reported Quantitation Limits

* All criteria were met for this parameter or qualification was not required.
NA – Not applicable.

Overall Evaluation of Data and Potential Usability Issues

The site sampling objectives are:

- Perform a supplemental hazardous building material survey (HBMS) to address data gaps identified by Atlas Technical Consultants (ATC).
- Further delineate the distribution of hazardous materials to support future building renovation and reuse or demolition and disposal.
- Evaluate sub-slab soils for possible contamination by PCBs.

Note that quantitation limits for non-detect results exceeded the project action limit (PAL) of ≤ 1 mg/kg for total PCBs in all samples due to required sample dilutions.

The data meet the project quality criteria and can be used without restriction except as summarized below. The attachments provide details and supporting documentation.

PCBs:
Qualification of the data was not required.

Please contact Linda Terzis at lterzis@nobis-group.com should you have any questions or comments regarding this information.

Sincerely,

NOBIS GROUP®

Linda Terzis
Data Validator

Gary Glennon
Data Validator

Tables: Data Summary Tables – Tier 1 Stage 2A (S2AVM) Validated Data
Data Qualification Actions Table

Attachments: Data Review Checklist
Support Documentation
COC

cc: Denis McGrath (Nobis Group)
Tim Andrews (Nobis Group)

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23H3250-01	23H3250-02	23H3250-03	23H3250-04	23H3250-05
Field Sample ID		P-021-R06WT	P-022-R06D	P-023-R06F	P-024-R05D	P-025-R07E
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	08/14/23	08/14/23	08/14/23	08/14/23	08/14/23
Aroclor 1016	mg/kg	4.7 U	3.7 U	4.8 U	4.9 U	4.9 U
Aroclor 1221	mg/kg	4.7 U	3.7 U	4.8 U	4.9 U	4.9 U
Aroclor 1232	mg/kg	4.7 U	3.7 U	4.8 U	4.9 U	4.9 U
Aroclor 1242	mg/kg	4.7 U	3.7 U	4.8 U	4.9 U	4.9 U
Aroclor 1248	mg/kg	4.7 U	3.7 U	4.8 U	4.9 U	4.9 U
Aroclor 1254	mg/kg	38	49	52	72	22
Aroclor 1260	mg/kg	4.7 U	3.7 U	4.8 U	4.9 U	4.9 U
Aroclor 1262	mg/kg	4.7 U	3.7 U	4.8 U	4.9 U	4.9 U
Aroclor 1268	mg/kg	4.7 U	3.7 U	4.8 U	4.9 U	4.9 U

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23H3250-06	23H3250-07	23H3250-08	23H3250-09	23H3250-10
Field Sample ID		P-026-R07S	P-027-R07C	P-028-R07F	P-029-R07WT	P-030-R09E
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	08/14/23	08/14/23	08/14/23	08/14/23	08/14/23
Aroclor 1016	mg/kg	4.5 U	4.6 U	4.1 U	4.4 U	4.8 U
Aroclor 1221	mg/kg	4.5 U	4.6 U	4.1 U	4.4 U	4.8 U
Aroclor 1232	mg/kg	4.5 U	4.6 U	4.1 U	4.4 U	4.8 U
Aroclor 1242	mg/kg	4.5 U	4.6 U	4.1 U	4.4 U	4.8 U
Aroclor 1248	mg/kg	4.5 U	4.6 U	4.1 U	4.4 U	4.8 U
Aroclor 1254	mg/kg	14	33	36	35	20
Aroclor 1260	mg/kg	4.5 U	4.6 U	4.1 U	4.4 U	4.8 U
Aroclor 1262	mg/kg	4.5 U	4.6 U	4.1 U	4.4 U	4.8 U
Aroclor 1268	mg/kg	4.5 U	4.6 U	4.1 U	4.4 U	4.8 U

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23H3250-11	23H3250-12	23H3250-13	23H3250-14	23H3250-15
Field Sample ID		P-031-R09S	P-032-R09S	P-033-R08C	P-034-R08F	P-035-R08WT
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	08/14/23	08/14/23	08/14/23	08/14/23	08/14/23
Aroclor 1016	mg/kg	3.7 U	4.3 U	4.2 U	4.9 U	4.9 U
Aroclor 1221	mg/kg	3.7 U	4.3 U	4.2 U	4.9 U	4.9 U
Aroclor 1232	mg/kg	3.7 U	4.3 U	4.2 U	4.9 U	4.9 U
Aroclor 1242	mg/kg	3.7 U	4.3 U	4.2 U	4.9 U	4.9 U
Aroclor 1248	mg/kg	3.7 U	4.3 U	4.2 U	4.9 U	4.9 U
Aroclor 1254	mg/kg	16	11	20	51	34
Aroclor 1260	mg/kg	3.7 U	4.3 U	4.2 U	4.9 U	4.9 U
Aroclor 1262	mg/kg	3.7 U	4.3 U	4.2 U	4.9 U	4.9 U
Aroclor 1268	mg/kg	3.7 U	4.3 U	4.2 U	4.9 U	4.9 U

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23H3250-16	23H3250-17	23H3250-18	23H3250-19	23H3250-20
Field Sample ID		P-036-R08D	P-037-R07D	P-038-R09E	P-039-R09S	P-040-R09W
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	08/14/23	08/14/23	08/14/23	08/14/23	08/14/23
Aroclor 1016	mg/kg	4.9 U	4.8 U	4.9 U	4.8 U	4.4 U
Aroclor 1221	mg/kg	4.9 U	4.8 U	4.9 U	4.8 U	4.4 U
Aroclor 1232	mg/kg	4.9 U	4.8 U	4.9 U	4.8 U	4.4 U
Aroclor 1242	mg/kg	4.9 U	4.8 U	4.9 U	4.8 U	4.4 U
Aroclor 1248	mg/kg	4.9 U	4.8 U	4.9 U	4.8 U	4.4 U
Aroclor 1254	mg/kg	45	19	50	17	16
Aroclor 1260	mg/kg	4.9 U	4.8 U	4.9 U	4.8 U	4.4 U
Aroclor 1262	mg/kg	4.9 U	4.8 U	4.9 U	4.8 U	4.4 U
Aroclor 1268	mg/kg	4.9 U	4.8 U	4.9 U	4.8 U	4.4 U

Data Review Qualification Actions
Case: St. Johnsbury Armory
SDG: 23H3250

Parameter	Analyte	Samples	Evaluation Criteria	Action Needed	Comments
PCBs					
	Qualification of the data was not required.				

Tier 1 Stage 2A Data Review Checklist

Project: St. Johnsbury Armory Site, St. Johnsbury, Vermont
Project #: S00001.017
Case#: NA
Date: 09/27/2023
Methods: PCBs (8082A)
Laboratory: Pace Analytical (formerly Con-test), East Longmeadow, MA
SDG: 23H3250
Reviewer: Linda Terzis

1. **Case Narrative and Data Package Completeness (COC and Analyte List Review)**
Twenty (20) building material samples, including one field duplicate sample, were listed on the COC for SDG 23H3250. The samples were collected on 08/14/2023 and were received at the laboratory on 08/22/2023 at temperatures ranging from 2.2 to 5.6 °C.

Sample ID	Laboratory ID	Analyses
P-021-R06WT	23H3250-01	PCBs
P-022-R06D	23H3250-02	PCBs
P-023-R06F	23H3250-03	PCBs
P-024-R05D	23H3250-04	PCBs
P-025-R07E	23H3250-05	PCBs
P-026-R07S	23H3250-06	PCBs
P-027-R07C	23H3250-07	PCBs
P-028-R07F	23H3250-08	PCBs
P-029-R07WT	23H3250-09	PCBs
P-030-R09E	23H3250-10	PCBs
P-031-R09S	23H3250-11	PCBs
P-032-R09S	23H3250-12	PCBs
P-033-R08C	23H3250-13	PCBs
P-034-R08F	23H3250-14	PCBs
P-035-R08WT	23H3250-15	PCBs
P-036-R08D	23H3250-16	PCBs
P-037-R07D	23H3250-17	PCBs
P-038-R09E	23H3250-18	PCBs
P-039-R09S	23H3250-19	PCBs
P-040-R09W	23H3250-20	PCBs

A complete laboratory report was received for SDG 23H3250.

2. **Holding Time and Sample Preservation Compliance**

Receipt temperature met the acceptable level of ≤ 6 °C.

PCBs: Holding time limits are not applicable for building material samples, based on Table 3 of the Quality Assurance Project Plan Addendum (QAPPA) for the St. Johnsbury Armory site (July 2023). No actions are required.

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

3. **Calibration Issues**

   Not assessed for S2AVM.

4. **Lab and Field Blanks**

   PCBs: Results for the laboratory method blank associated with the samples of this SDG were non-detect. No blank actions are required.

   An equipment blank was not required during sample collection for the site.

5. **Interference Check Sample (metals only)**

   Not assessed for S2AVM.

6. **Surrogates (PCBs only)**

   PCBs: Surrogate recoveries were within the Program QAPP limits (30-150%) for all samples. No action is required.

7. **Laboratory Control Samples**

   PCBs: Percent recoveries of Aroclors 1016 and 1260 in the PCB LCS/LCSD pair met the Program QAPP limits of 40-140% recovery and relative percent difference (RPD) ≤ 30%. No action is required.

8. **Matrix Spikes**

   PCBs: Only Aroclors 1016 and 1260 were spiked in the MS/MSD; therefore, based on professional judgment, if actions are required, they are applied as follows:

   If 1016 %R or %RPD out: Qualify 1016, 1221, 1232, 1242
   If 1260 %R or %RPD out: Qualify 1248, 1254, 1260, 1262,1268

   MS/MSD analyses were not assigned for the samples of this SDG. No action is required.

9. **Laboratory Duplicates**

   PCBs: Not applicable to this analysis.

10. **Serial Dilution (metals only)**

    PCBs: Not applicable to this analysis.

11. **Field Duplicate Precision**

    Criteria based on the EPA Region I Environmental Data Review Supplement (September 2020): RPD ≤ 50% (soils) for results ≥ 5x QL or absolute difference of ≤ 4x QL for results < 5X QL.

    The following field duplicate pair is associated with the samples of this SDG.

    - P-040-R09W / P-FD-02 (23H3250-20 / 23H3268-16)

PCBs: Aroclor results met field duplicate precision criteria and no actions are required.

12. Internal Standards

Not applicable to these analyses.

13. Dual Column Precision (PCBs only)

Dual column precision criteria (≤ 25% RPD per NFG) were met for all Aroclor detections > QL. No action is required.

14. Performance Evaluation (PE) Samples

A PE sample was not submitted with the samples of this SDG. No actions are required.

15. Quantitation Limits

PCBs: Laboratory quantitation limits (QLs) for non-detect Aroclor results exceeded the PAL of ≤ 1 mg/kg for total PCBs, per Table 4 of the QAPPA, for all samples. All samples required a 1/10 dilution due to the presence of individual Aroclor(s) in the samples. The QLs were greater than 1 mg/kg in all samples due to the required sample dilutions.

16. Other

The EPA Region I Environmental Data Review Supplement (2020) percent solids criterion of ≥ 30% for soil samples does not apply to building material samples.

Overall bias is considered indeterminate when cumulative nonconformances do not show a consistent bias or in cases of the presence of conflicting high and low biases.

Field Duplicate Evaluation

SDG: 23H3250 PCBs

Analyte	Original Result mg/kg	Qual	Duplicate Result mg/kg	Qual	RPD ≤ 50%	Abs Diff	Comment
Sample ID	**P-040-R09W**		**P-FD-02**				
	23H3250-20		**23H3268-16**				
Aroclor 1016	4.4	U	3.7	U	-17.28		Ok - both ND
Aroclor 1221	4.4	U	3.7	U	-17.28		Ok - both ND
Aroclor 1232	4.4	U	3.7	U	-17.28		Ok - both ND
Aroclor 1242	4.4	U	3.7	U	-17.28		Ok - both ND
Aroclor 1248	4.4	U	3.7	U	-17.28		Ok - both ND
Aroclor 1254	16		19		17.14	3.00	Ok - abs diff < 4x QL
Aroclor 1260	4.4	U	3.7	U	-17.28		Ok - both ND
Aroclor 1262	4.4	U	3.7	U	-17.28		Ok - both ND
Aroclor 1268	4.4	U	3.7	U	-17.28		Ok - both ND

Note that P-FD-02 is located in SDG 23H3268.

23H3250 RF

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time
7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
1	P-021-R06WT	8/14/2023	10:18	GRAB	O	U		1				x
2	P-022-R06D	8/14/2023	10:19	GRAB	O	U		1				x
3	P-023-R06F	8/14/2023	10:20	GRAB	O	U		1				x
4	P-024-R05D	8/14/2023	10:30	GRAB	O	U		1				x
5	P-025-R07E	8/14/2023	11:00	GRAB	O	U		1				x
6	P-026-R07S	8/14/2023	11:01	GRAB	O	U		1				x
7	P-027-R07C	8/14/2023	11:02	GRAB	O	U		1				x
8	P-028-R07F	8/14/2023	11:03	GRAB	O	U		1				x
9	P-029-R07WT	8/14/2023	11:04	GRAB	O	U		1				x
10	P-030-R09E	8/14/2023	11:15	GRAB	O	U		1				x

[2] Preservation Code
Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time: 8/22/23 12:58	Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS
Received by: (signature)	Date/Time: 8/22/23 1258	
Relinquished by: (signature)	Date/Time: 8/22/23 1741	
Received by: (signature) 3.8 22, 3.9	Date/Time: 8/23/23	
Relinquished by: (signature) 2.6, 5.6	Date/Time: 1746	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

Pace Analytical

Phone: 612-607-6400
Fax: 612-607-6344

23H3250 RF

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time

7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
11	P-031-R09S	8/14/2023	11:16	GRAB	O	U		1				x
12	P-032-R09W	8/14/2023	11:17	GRAB	O	U		1				x
13	P-033-R08C	8/14/2023	11:18	GRAB	O	U		1				x
14	P-034-R08F	8/14/2023	11:19	GRAB	O	U		1				x
15	P-035-R08WT	8/14/2023	11:20	GRAB	O	U		1				x
16	P-036-R08D	8/14/2023	11:21	GRAB	O	U		1				x
17	P-037-R07D	8/14/2023	11:30	GRAB	O	U		1				x
18	P-038-R09E	8/14/2023	11:31	GRAB	O	U		1				x
19	P-039-R09S	8/14/2023	11:32	GRAB	O	U		1				x
20	P-040-R09W	8/14/2023	11:33	GRAB	O	U		1				x

[2] Preservation Code
Courier Use Only
Total Number Of:
VIALS
GLASS
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time: 8/22/23 1258
Received by: (signature)	Date/Time: 8/22/23 1258
Relinquished by: (signature)	Date/Time: 8/22/23 1746
Received by: (signature) 3.9, 2.2, 3.9	Date/Time: 8/22/23
Relinquished by: (signature) 2.6, 5.6	Date/Time: 1746
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other

☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

November 6, 2023
Nobis File No. S00001.017

Ms. Christine Beling
USEPA - Region I
Land, Chemicals, and Redevelopment Division
5 Post Office Square, Suite 100
Boston, MA 02109-3912

Re: USEPA Contract No. 68HE0122D0001
Task Order No. 68HE0122F0044
Targeted Brownfield Assessment (TBA) Site
St. Johnsbury Armory Site
St. Johnsbury, Vermont
Sample Delivery Group (SDG) No. 23H3253
Pace Analytical (formerly Con-test), East Longmeadow, MA

Tier 1 Stage 2A Organic Data Review

Polychlorinated Biphenyls (PCBs by 8082A):

20/Building Material Samples: P-041-R09C, P-042-R09F, P-043-R09WT, P-044-R09D, P-045-R10E, P-046-R10S, P-047-R10W, P-048-R18E, P-049-R18S, P-050-R18NB, P-051-R18NC, P-052-R18C, P-053-R20E, P-054-R20W, P-055-R20NB, P-056-R20NC, P-057-R21EC, P-058-R21EB, P-059-R21S, P-060-R21C

Dear Ms. Beling:

Nobis Group (Nobis), under a USEPA contract as a subcontractor to KGSNE JV II, LLC (KGSNE), performed a Tier 1 Stage 2A manual data review (S2AVM) on the organic analytical data for the samples listed above. The samples were collected by Nobis at the St. Johnsbury Armory site located in St. Johnsbury, Vermont, on August 14, 2023. The samples were analyzed for PCB Aroclors by EPA Method 8082A by Pace Analytical (formerly Con-test).

The Tier 1 Stage 2A manual data review was performed in accordance with the Region I - EPA New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures (September 2020); USEPA's National Functional Guidelines for Organic Superfund Methods Data Review (November 2020); the Program Quality Assurance Project Plan (Program QAPP) dated October 2022, and the Quality Assurance Project Plan Addendum (QAPPA) (July 2023) for St. Johnsbury Armory, which appends the October 2022 Program QAPP.

The data were evaluated based on the following parameters:

*	•	Overall Evaluation of Data and Potential Usability Issues
*	•	Data Completeness
*	•	Preservation and Technical Holding Times
*	•	Blanks
*	•	Surrogates (PCBs only)
NA	•	Internal Standards
*	•	Matrix Spike Analysis

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

NA	•	Laboratory Duplicates
*	•	Laboratory Control Samples (LCS)/Standard Reference Material (SRM) Recovery (metals only)
NA	•	Field Duplicates
NA	•	ICP Serial Dilutions (metals only)
NA	•	Performance Evaluation (PE) Samples
*	•	Target Analyte Identification
	•	Reported Quantitation Limits

* All criteria were met for this parameter or qualification was not required.
NA – Not applicable.

Overall Evaluation of Data and Potential Usability Issues

The site sampling objectives are:

- Perform a supplemental hazardous building material survey (HBMS) to address data gaps identified by Atlas Technical Consultants (ATC).
- Further delineate the distribution of hazardous materials to support future building renovation and reuse or demolition and disposal.
- Evaluate sub-slab soils for possible contamination by PCBs.

Note that quantitation limits for non-detect results exceeded the project action limit (PAL) of ≤ 1 mg/kg for total PCBs in all samples due to required sample dilutions.

The data meet the project quality criteria and can be used without restriction except as summarized below. The attachments provide details and supporting documentation.

PCBs:
Qualification of the data was not required.

Please contact Linda Terzis at lterzis@nobis-group.com should you have any questions or comments regarding this information.

Sincerely,

NOBIS GROUP®

Linda Terzis
Data Validator

Gary Glennon
Data Validator

Tables: Data Summary Tables – Tier 1 Stage 2A (S2AVM) Validated Data
Data Qualification Actions Table

Attachments: Data Review Checklist
Support Documentation
COC

cc: Denis McGrath (Nobis Group)
Tim Andrews (Nobis Group)

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23H3253-01	23H3253-02	23H3253-03	23H3253-04	23H3253-05
Field Sample ID		P-041-R09C	P-042-R09F	P-043-R09WT	P-044-R09D	P-045-R10E
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	08/14/23	08/14/23	08/14/23	08/14/23	08/14/23
Aroclor 1016	mg/kg	2.4 U	5 U	4.9 U	5 U	2.4 U
Aroclor 1221	mg/kg	2.4 U	5 U	4.9 U	5 U	2.4 U
Aroclor 1232	mg/kg	2.4 U	5 U	4.9 U	5 U	2.4 U
Aroclor 1242	mg/kg	2.4 U	5 U	4.9 U	5 U	2.4 U
Aroclor 1248	mg/kg	2.4 U	5 U	4.9 U	5 U	2.4 U
Aroclor 1254	mg/kg	14	56	27	31	13
Aroclor 1260	mg/kg	2.4 U	5 U	4.9 U	5 U	2.4 U
Aroclor 1262	mg/kg	2.4 U	5 U	4.9 U	5 U	2.4 U
Aroclor 1268	mg/kg	2.4 U	5 U	4.9 U	5 U	2.4 U

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23H3253-06	23H3253-07	23H3253-08	23H3253-09	23H3253-10
Field Sample ID		P-046-R10S	P-047-R10W	P-048-R18E	P-049-R18S	P-050-R18NB
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	08/14/23	08/14/23	08/14/23	08/14/23	08/14/23
Aroclor 1016	mg/kg	4.7 U	4.9 U	9.8 U	24 U	8.8 U
Aroclor 1221	mg/kg	4.7 U	4.9 U	9.8 U	24 U	8.8 U
Aroclor 1232	mg/kg	4.7 U	4.9 U	9.8 U	24 U	8.8 U
Aroclor 1242	mg/kg	4.7 U	4.9 U	9.8 U	24 U	8.8 U
Aroclor 1248	mg/kg	4.7 U	4.9 U	9.8 U	24 U	8.8 U
Aroclor 1254	mg/kg	21	19	180	330	110
Aroclor 1260	mg/kg	4.7 U	4.9 U	9.8 U	24 U	8.8 U
Aroclor 1262	mg/kg	4.7 U	4.9 U	9.8 U	24 U	8.8 U
Aroclor 1268	mg/kg	4.7 U	4.9 U	9.8 U	24 U	8.8 U

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23H3253-11	23H3253-12	23H3253-13	23H3253-14	23H3253-15
Field Sample ID		P-051-R18NC	P-052-R18C	P-053-R20E	P-054-R20W	P-055-R20NB
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	08/14/23	08/14/23	08/14/23	08/14/23	08/14/23
Aroclor 1016	mg/kg	24 U	4.3 U	250 U	250 U	90 U
Aroclor 1221	mg/kg	24 U	4.3 U	250 U	250 U	90 U
Aroclor 1232	mg/kg	24 U	4.3 U	250 U	250 U	90 U
Aroclor 1242	mg/kg	24 U	4.3 U	250 U	250 U	90 U
Aroclor 1248	mg/kg	24 U	4.3 U	250 U	250 U	90 U
Aroclor 1254	mg/kg	290	19	4000	5100	1300
Aroclor 1260	mg/kg	24 U	4.3 U	250 U	250 U	90 U
Aroclor 1262	mg/kg	24 U	4.3 U	250 U	250 U	90 U
Aroclor 1268	mg/kg	24 U	4.3 U	250 U	250 U	90 U

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23H3253-16	23H3253-17	23H3253-18	23H3253-19	23H3253-20
Field Sample ID		P-056-R20NC	P-057-R21EC	P-058-R21EB	P-059-R21S	P-060-R21C
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	08/14/23	08/14/23	08/14/23	08/14/23	08/14/23
Aroclor 1016	mg/kg	480 U	8.8 U	4.4 U	47 U	4.6 U
Aroclor 1221	mg/kg	480 U	8.8 U	4.4 U	47 U	4.6 U
Aroclor 1232	mg/kg	480 U	8.8 U	4.4 U	47 U	4.6 U
Aroclor 1242	mg/kg	480 U	8.8 U	4.4 U	47 U	4.6 U
Aroclor 1248	mg/kg	480 U	8.8 U	4.4 U	47 U	4.6 U
Aroclor 1254	mg/kg	6400	86	52	380	50
Aroclor 1260	mg/kg	480 U	8.8 U	4.4 U	47 U	4.6 U
Aroclor 1262	mg/kg	480 U	8.8 U	4.4 U	47 U	4.6 U
Aroclor 1268	mg/kg	480 U	8.8 U	4.4 U	47 U	4.6 U

Data Review Qualification Actions
Case: St. Johnsbury Armory
SDG: 23H3253

Parameter	Analyte	Samples	Evaluation Criteria	Action Needed	Comments
PCBs					
	Qualification of the data was not required.				

nobis

Tier 1 Stage 2A Data Review Checklist

Project: St. Johnsbury Armory Site, St. Johnsbury, Vermont
Project #: S00001.017
Case#: NA
Date: 09/27/2023
Methods: PCBs (8082A)
Laboratory: Pace Analytical (formerly Con-test), East Longmeadow, MA
SDG: 23H3253
Reviewer: Linda Terzis

1. **Case Narrative and Data Package Completeness (COC and Analyte List Review)**
Twenty (20) building material samples were listed on the COC for SDG 23H3253. The samples were collected on 08/14/2023 and were received at the laboratory on 08/22/2023 at temperatures ranging from 2.2 to 5.6 °C.

Sample ID	Laboratory ID	Analyses
P-041-R09C	23H3253-01	PCBs
P-042-R09F	23H3253-02	PCBs
P-043-R09WT	23H3253-03	PCBs
P-044-R09D	23H3253-04	PCBs
P-045-R10E	23H3253-05	PCBs
P-046-R10S	23H3253-06	PCBs
P-047-R10W	23H3253-07	PCBs
P-048-R18E	23H3253-08	PCBs
P-049-R18S	23H3253-09	PCBs
P-050-R18NB	23H3253-10	PCBs
P-051-R18NC	23H3253-11	PCBs
P-052-R18C	23H3253-12	PCBs
P-053-R20E	23H3253-13	PCBs
P-054-R20W	23H3253-14	PCBs
P-055-R20NB	23H3253-15	PCBs
P-056-R20NC	23H3253-16	PCBs
P-057-R21EC	23H3253-17	PCBs
P-058-R21EB	23H3253-18	PCBs
P-059-R21S	23H3253-19	PCBs
P-060-R21C	23H3253-20	PCBs

A complete laboratory report was received for SDG 23H3253.

2. **Holding Time and Sample Preservation Compliance**

Receipt temperature met the acceptable level of ≤ 6 °C.

PCBs: Holding time limits are not applicable for building material samples, based on Table 3 of the Quality Assurance Project Plan Addendum (QAPPA) for the St. Johnsbury Armory site (July 2023). No actions are required.

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

3. **Calibration Issues**

   Not assessed for S2AVM.

4. **Lab and Field Blanks**

   PCBs: Results for the laboratory method blank associated with the samples of this SDG were non-detect. No blank actions are required.

   An equipment blank was not required during sample collection for the site.

5. **Interference Check Sample (metals only)**

   Not assessed for S2AVM.

6. **Surrogates (PCBs only)**

   PCBs: Surrogate recoveries were within the Program QAPP limits (30-150%) for all samples except where required sample dilutions caused the surrogates to dilute out of the samples. Dilution factors ranged from 1/5 to 1/1000. Surrogates were diluted out of samples that had sample dilutions > 1/20. No action is required.

7. **Laboratory Control Samples**

   PCBs: Percent recoveries of Aroclors 1016 and 1260 in the PCB LCS/LCSD pair met the Program QAPP limits of 40-140% recovery and relative percent difference (RPD) ≤ 30%. No action is required.

8. **Matrix Spikes**

   PCBs: Only Aroclors 1016 and 1260 were spiked in the MS/MSD; therefore, based on professional judgment, if actions are required, they are applied as follows:

   If 1016 %R or %RPD out: Qualify 1016, 1221, 1232, 1242
   If 1260 %R or %RPD out: Qualify 1248, 1254, 1260, 1262,1268

   MS/MSD analyses were performed on sample P-043-R09WT (23H3253-03).

   Percent recoveries of Aroclors 1016 and 1260 exceeded the Program QAPP limits of 40-140% in the MS and MSD analyses, on both columns. RPDs were ≤ 30%, as specified in the Program QAPP. The laboratory indicated the percent recoveries were high due to the contribution of other Aroclors (i.e., Aroclor 1254) present in the parent sample. No action is taken.

9. **Laboratory Duplicates**

   PCBs: Not applicable to this analysis.

10. **Serial Dilution (metals only)**

    PCBs: Not applicable to this analysis.

11. Field Duplicate Precision

Criteria based on the EPA Region I Environmental Data Review Supplement (September 2020): RPD ≤ 50% (soils) for results ≥ 5x QL or absolute difference of ≤ 4x QL for results < 5X QL.

A field duplicate sample was not submitted with the samples of this SDG. No actions are required.

12. Internal Standards

Not applicable to these analyses.

13. Dual Column Precision (PCBs only)

Dual column precision criteria (≤ 25% RPD per NFG) were met for all Aroclor detections > QL. No action is required.

14. Performance Evaluation (PE) Samples

A PE sample was not submitted with the samples of this SDG. No actions are required.

15. Quantitation Limits

PCBs: Laboratory quantitation limits (QLs) for non-detect Aroclor results exceeded the PAL of ≤ 1 mg/kg for total PCBs, per Table 4 of the QAPPA, for all samples. All samples required dilutions due to the presence of individual Aroclor(s) in the samples. Dilutions ranged from 1/5 through 1/1,000. The QLs were > 1 mg/kg in all samples due to the required sample dilutions.

16. Other

The EPA Region I Environmental Data Review Supplement (2020) percent solids criterion of ≥ 30% for soil samples does not apply to building material samples.

Overall bias is considered indeterminate when cumulative nonconformances do not show a consistent bias or in cases of the presence of conflicting high and low biases.

23H3253 RF

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time

7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
1	P-041-R09C	8/14/2023	11:34	GRAB	O	U		1				x
2	P-042-R09F	8/14/2023	11:35	GRAB	O	U		1				x
3	P-043-R09WT	8/14/2023	11:36	GRAB	O	U		3				x
4	P-044-R09D	8/14/2023	11:37	GRAB	O	U		1				x
5	P-045-R10E	8/14/2023	12:00	GRAB	O	U		1				x
6	P-046-R10S	8/14/2023	12:01	GRAB	O	U		1				x
7	P-047-R10W	8/14/2023	12:02	GRAB	O	U		1				x
8	P-048-R18E	8/14/2023	12:10	GRAB	O	U		1				x
9	P-049-R18S	8/14/2023	12:11	GRAB	O	U		1				x
10	P-050-R18NB	8/14/2023	12:12	GRAB	O	U		1				x

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N

Glassware in freezer? Y / N

Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time: 1258 8/15/23
Received by: (signature)	Date/Time: 8/22/23 1251
Relinquished by: (signature)	Date/Time: 8/22/23 1740
Received by: (signature) 3.8, 2.2, 3.9	Date/Time: 8/22/23
Relinquished by: (signature) 2.6, 5.6	Date/Time: 1746
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other

☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

23H3253 RF

Pace Analytical

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Engineering, INC
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time
7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
11	P-051-R18NC	8/14/2023	12:13	GRAB	O	U		1				x
12	P-052-R18C	8/14/2023	12:14	GRAB	O	U		1				x
13	P-053-R20E	8/14/2023	12:15	GRAB	O	U		1				x
14	P-054-R20W	8/14/2023	12:16	GRAB	O	U		1				x
15	P-055-R20NB	8/14/2023	12:17	GRAB	O	U		1				x
16	P-056-R20NC	8/14/2023	12:18	GRAB	O	U		1				x
17	P-057-R21EC	8/14/2023	12:30	GRAB	O	U		1				x
18	P-058-R21EB	8/14/2023	12:31	GRAB	O	U		1				x
19	P-059-R21S	8/14/2023	12:32	GRAB	O	U		1				x
20	P-060-R21C	8/14/2023	12:33	GRAB	O	U		1				x

[2] Preservation Code
Courier Use Only
Total Number Of:
VIALS
GLASS
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time: 8/22/23 1258
Received by: (signature)	Date/Time: 8/22/23 1258
Relinquished by: (signature)	Date/Time: 8-22-23 1740
Received by: (signature) 38, 22, 3.9	Date/Time: 8/22/23
Relinquished by: (signature) 2.6, 5.6	Date/Time: 1740
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

November 6, 2023
Nobis File No. S00001.017

Ms. Christine Beling
USEPA - Region I
Land, Chemicals, and Redevelopment Division
5 Post Office Square, Suite 100
Boston, MA 02109-3912

Re: USEPA Contract No. 68HE0122D0001
USEPA Task Order No. 68HE0122F0044
Targeted Brownfield Assessment (TBA) Site
St. Johnsbury Armory Site
St. Johnsbury, Vermont
Sample Delivery Group (SDG) No. 23H3255
Pace Analytical (formerly Con-test), East Longmeadow, MA

Tier 1 Stage 2A Organic Data Review

Polychlorinated Biphenyls (PCBs by 8082A):

20/Building Material Samples: P-061-R21D, P-062-S01S, P-063-S01W, P-064-S01N, P-065-S01C, P-066-S01C, P-067-S01D, P-068-R22EDW, P-069-R22EC, P-070-R22WPW, P-071-R22WB, P-072-R2D, P-073-R22C, P-074-R23EC, P-075-R23EB, P-076-R23EWT, P-077-R23W, P-078-R23N, P-079-R23D, P-080-R22SPW
1/Field Duplicate Pair: P-065-S01C / P-FD-03 (located in SDG 23H3268)

Dear Ms. Beling:

Nobis Group (Nobis), under a USEPA contract as a subcontractor to KGSNE JV II, LLC (KGSNE), performed a Tier 1 Stage 2A manual data review (S2AVM) on the organic analytical data for the samples listed above. The samples were collected by Nobis at the St. Johnsbury Armory site located in St. Johnsbury, Vermont, on August 14, 2023. The samples were analyzed for PCB Aroclors by EPA Method 8082A by Pace Analytical (formerly Con-test).

The Tier 1 Stage 2A manual data review was performed in accordance with the Region I - EPA New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures (September 2020); USEPA's National Functional Guidelines for Organic Superfund Methods Data Review (November 2020); the Program Quality Assurance Project Plan (Program QAPP) dated October 2022, and the Quality Assurance Project Plan Addendum (QAPPA) (July 2023) for St. Johnsbury Armory, which appends the October 2022 Program QAPP.

The data were evaluated based on the following parameters:

*	•	Overall Evaluation of Data and Potential Usability Issues
*	•	Data Completeness
*	•	Preservation and Technical Holding Times
*	•	Blanks
*	•	Surrogates (PCBs only)
NA	•	Internal Standards

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

*	•	Matrix Spike Analysis
NA	•	Laboratory Duplicates
*	•	Laboratory Control Samples (LCS)/Standard Reference Material (SRM) Recovery (metals only)
	•	Field Duplicates
NA	•	ICP Serial Dilutions (metals only)
NA	•	Performance Evaluation (PE) Samples
*	•	Target Analyte Identification
	•	Reported Quantitation Limits

* All criteria were met for this parameter or qualification was not required.
NA – Not applicable.

Overall Evaluation of Data and Potential Usability Issues

The site sampling objectives are:

- Perform a supplemental hazardous building material survey (HBMS) to address data gaps identified by Atlas Technical Consultants (ATC).
- Further delineate the distribution of hazardous materials to support future building renovation and reuse or demolition and disposal.
- Evaluate sub-slab soils for possible contamination by PCBs.

Note that quantitation limits for non-detect results exceeded the project action limit (PAL) of ≤ 1 mg/kg for total PCBs in all samples except for sample P-066-S01C, due to required sample dilutions.

The data meet the project quality criteria and can be used without restriction except as summarized below. The attachments provide details and supporting documentation.

PCBs:
Results were qualified due to field duplicate imprecision.

Please contact Linda Terzis at lterzis@nobis-group.com should you have any questions or comments regarding this information.

Sincerely,

NOBIS GROUP®

Linda Terzis
Data Validator

Gary Glennon
Data Validator

Tables: Data Summary Tables – Tier 1 Stage 2A (S2AVM) Validated Data
Data Qualification Actions Table

Attachments: Data Review Checklist
Support Documentation
COC

cc: Denis McGrath (Nobis Group)
Tim Andrews (Nobis Group)

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23H3255-01	23H3255-02	23H3255-03	23H3255-04	23H3255-05
Field Sample ID		P-061-R21D	P-062-S01S	P-063-S01W	P-064-S01N	P-065-S01C
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	08/14/23	08/14/23	08/14/23	08/14/23	08/14/23
Aroclor 1016	mg/kg	4 U	2 U	2 U	4 U	4 U
Aroclor 1221	mg/kg	4 U	2 U	2 U	4 U	4 U
Aroclor 1232	mg/kg	4 U	2 U	2 U	4 U	4 U
Aroclor 1242	mg/kg	4 U	2 U	2 U	4 U	4 U
Aroclor 1248	mg/kg	4 U	2 U	2 U	4 U	4 UJ
Aroclor 1254	mg/kg	52	18	40	43	81 J
Aroclor 1260	mg/kg	4 U	2 U	2 U	4 U	4 U
Aroclor 1262	mg/kg	4 U	2 U	2 U	4 U	4 U
Aroclor 1268	mg/kg	4 U	2 U	2 U	4 U	4 U

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23H3255-06	23H3255-07	23H3255-08	23H3255-09	23H3255-10
Field Sample ID		P-066-S01C	P-067-S01D	P-068-R22EDW	P-069-R22EC	P-070-R22WPW
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	08/14/23	08/14/23	08/14/23	08/14/23	08/14/23
Aroclor 1016	mg/kg	0.2 U	4 U	4 U	40 U	2 U
Aroclor 1221	mg/kg	0.2 U	4 U	4 U	40 U	2 U
Aroclor 1232	mg/kg	0.2 U	4 U	4 U	40 U	2 U
Aroclor 1242	mg/kg	0.2 U	4 U	4 U	40 U	2 U
Aroclor 1248	mg/kg	0.2 UJ	4 U	4 U	40 U	2 U
Aroclor 1254	mg/kg	0.33 J	65	52	460	21
Aroclor 1260	mg/kg	0.2 U	4 U	4 U	40 U	2 U
Aroclor 1262	mg/kg	0.2 U	4 U	4 U	40 U	2 U
Aroclor 1268	mg/kg	0.2 U	4 U	4 U	40 U	2 U

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23H3255-11	23H3255-12	23H3255-13	23H3255-14	23H3255-15
Field Sample ID		P-071-R22WB	P-072-R2D	P-073-R22C	P-074-R23EC	P-075-R23EB
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	08/14/23	08/14/23	08/14/23	08/14/23	08/14/23
Aroclor 1016	mg/kg	20 U	20 U	4 U	10 U	4 U
Aroclor 1221	mg/kg	20 U	20 U	4 U	10 U	4 U
Aroclor 1232	mg/kg	20 U	20 U	4 U	10 U	4 U
Aroclor 1242	mg/kg	20 U	20 U	4 U	10 U	4 U
Aroclor 1248	mg/kg	20 U	20 U	4 U	10 U	4 U
Aroclor 1254	mg/kg	280	200	67	150	65
Aroclor 1260	mg/kg	20 U	20 U	4 U	10 U	4 U
Aroclor 1262	mg/kg	20 U	20 U	4 U	10 U	4 U
Aroclor 1268	mg/kg	20 U	20 U	4 U	10 U	4 U

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23H3255-16	23H3255-17	23H3255-18	23H3255-19	23H3255-20
Field Sample ID		P-076-R23EWT	P-077-R23W	P-078-R23N	P-079-R23D	P-080-R22SPW
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	08/14/23	08/14/23	08/14/23	08/14/23	08/14/23
Aroclor 1016	mg/kg	10 U	9.9 U	10 U	9.8 U	2 U
Aroclor 1221	mg/kg	10 U	9.9 U	10 U	9.8 U	2 U
Aroclor 1232	mg/kg	10 U	9.9 U	10 U	9.8 U	2 U
Aroclor 1242	mg/kg	10 U	9.9 U	10 U	9.8 U	2 U
Aroclor 1248	mg/kg	10 U	9.9 U	10 U	9.8 U	2 U
Aroclor 1254	mg/kg	92	120	150	75	25
Aroclor 1260	mg/kg	10 U	9.9 U	10 U	9.8 U	2 U
Aroclor 1262	mg/kg	10 U	9.9 U	10 U	9.8 U	2 U
Aroclor 1268	mg/kg	10 U	9.9 U	10 U	9.8 U	2 U

Data Review Qualification Actions
Case: St. Johnsbury Armory
SDG: 23H3255

Parameter	Analyte	Samples	Evaluation Criteria	Action Needed	Comments
PCBs					
	Aroclors 1248 and 1254	P-065-S01C, P-066-S01C	Field duplicate imprecision	J / UJ	

Tier 1 Stage 2A Data Review Checklist

Project: St. Johnsbury Armory Site, St. Johnsbury, Vermont
Project #: S00001.017
Case#: NA
Date: 09/27/2023
Methods: PCBs (8082A)
Laboratory: Pace Analytical (formerly Con-test), East Longmeadow, MA
SDG: 23H3255
Reviewer: Linda Terzis

1. **Case Narrative and Data Package Completeness (COC and Analyte List Review)**
Twenty (20) building material samples, including one field duplicate sample, were listed on the COC for SDG 23H3255. The samples were collected on 08/14/2023 and were received at the laboratory on 08/22/2023 at temperatures ranging from 2.2 to 5.6 °C.

Sample ID	Laboratory ID	Analyses
P-061-R21D	23H3255-01	PCBs
P-062-S01S	23H3255-02	PCBs
P-063-S01W	23H3255-03	PCBs
P-064-S01N	23H3255-04	PCBs
P-065-S01C	23H3255-05	PCBs
P-066-S01C	23H3255-06	PCBs
P-067-S01D	23H3255-07	PCBs
P-068-R22EDW	23H3255-08	PCBs
P-069-R22EC	23H3255-09	PCBs
P-070-R22WPW	23H3255-10	PCBs
P-071-R22WB	23H3255-11	PCBs
P-072-R2D	23H3255-12	PCBs
P-073-R22C	23H3255-13	PCBs
P-074-R23EC	23H3255-14	PCBs
P-075-R23EB	23H3255-15	PCBs
P-076-R23EWT	23H3255-16	PCBs
P-077-R23W	23H3255-17	PCBs
P-078-R23N	23H3255-18	PCBs
P-079-R23D	23H3255-19	PCBs
P-080-R22SPW	23H3255-20	PCBs

A complete laboratory report was received for SDG 23H3255.

2. **Holding Time and Sample Preservation Compliance**

Receipt temperature met the acceptable level of ≤ 6 °C.

PCBs: Holding time limits are not applicable for building material samples, based on Table 3 of the Quality Assurance Project Plan Addendum (QAPPA) for the St. Johnsbury Armory site (July 2023). No actions are required.

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

3. **Calibration Issues**

   Not assessed for S2AVM.

4. **Lab and Field Blanks**

   PCBs: Results for the laboratory method blank associated with the samples of this SDG were non-detect. No blank actions are required.

   An equipment blank was not required during sample collection for the site.

5. **Interference Check Sample (metals only)**

   Not assessed for S2AVM.

6. **Surrogates (PCBs only)**

   PCBs: Surrogate recoveries were within the Program QAPP limits (30-150%) for all samples except where required sample dilutions caused the surrogates to dilute out of the samples. Dilution factors ranged from 1/10 to 1/200. Surrogates were diluted out of samples that had sample dilutions > 1/20. No action is required.

7. **Laboratory Control Samples**

   PCBs: Percent recoveries of Aroclors 1016 and 1260 in the PCB LCS/LCSD pair met the Program QAPP limits of 40-140% recovery and relative percent difference (RPD) ≤ 30%. No action is required.

8. **Matrix Spikes**

   PCBs: Only Aroclors 1016 and 1260 were spiked in the MS/MSD; therefore, based on professional judgment, if actions are required, they are applied as follows:

   If 1016 %R or %RPD out: Qualify 1016, 1221, 1232, 1242
   If 1260 %R or %RPD out: Qualify 1248, 1254, 1260, 1262,1268

   MS/MSD analyses were performed on sample P-069-R22EC (23H3255-09).

   Percent recoveries of Aroclors 1016 and 1260 exceeded the Program QAPP limits of 40-140% in the MS and MSD analyses, on both columns. RPDs were ≤ 30%, as specified in the Program QAPP. The laboratory indicated the percent recoveries were high due to the contribution of other Aroclors (i.e., Aroclor 1254) present in the parent sample. No action is taken.

9. **Laboratory Duplicates**

   PCBs: Not applicable to this analysis.

10. **Serial Dilution (metals only)**

    PCBs: Not applicable to this analysis.

11. Field Duplicate Precision

Criteria based on the EPA Region I Environmental Data Review Supplement (September 2020): RPD ≤ 50% (soils) for results ≥ 5x QL or absolute difference of ≤ 4x QL for results < 5X QL.

The following field duplicate pair is associated with the samples of this SDG.

- P-065-S01C / P-FD-03 (23H3255-05 / 23H3268-17)

PCBs: Aroclor results met field duplicate precision criteria except for results for Aroclor 1248, where the absolute difference was > 4x QL for results < 5x QL for Aroclor 1248, and for results for Aroclor 1254, where the RPD was > 50% for results > 5x QL. Based on the EPA Region I Supplemental Data Review Guidance (Region I Supplement, 2020), detected and non-detect results for Aroclor 1248 and Aroclor 1254 are qualified as estimated (J/UJ) in samples P-065-S01C (23H3255-05) and P-066-S01C (23H3255-06) due to field duplicate imprecision. Professional judgement based on the EPA Region I Supplement (2020) was used to qualify only the similar matrix/location "S01C" samples. Detected results for Aroclors 1248 and 1254 are also qualified as estimated in sample P-FD-03 (located in SDG 23H3268).

12. Internal Standards

Not applicable to these analyses.

13. Dual Column Precision (PCBs only)

Dual column precision criteria (≤ 25% RPD per NFG) were met for all Aroclor detections > QL. No action is required.

14. Performance Evaluation (PE) Samples

A PE sample was not submitted with the samples of this SDG. No actions are required.

15. Quantitation Limits

PCBs: Laboratory quantitation limits (QLs) for non-detect Aroclor results exceeded the PAL of ≤ 1 mg/kg for total PCBs, per Table 4 of the QAPPA, for all samples except sample P-066-S01C, where a dilution was not required. All remaining samples required dilutions due to the presence of individual Aroclors(s) in the samples. The QLs were > 1 mg/kg in all samples requiring dilutions. Dilutions ranged from 1/10 to 1/200.

16. Other

The EPA Region I Environmental Data Review Supplement (2020) percent solids criterion of ≥ 30% for soil samples does not apply to building material samples.

Overall bias is considered indeterminate when cumulative nonconformances do not show a consistent bias or in cases of the presence of conflicting high and low biases.

Field Duplicate Evaluation

SDG: 23H3255 PCBs

Analyte	Original Result mg/kg	Qual	Duplicate Result mg/kg	Qual	RPD ≤ 50%	Abs Diff	Comment[1]
Sample ID	**P-065-S01C**		**P-FD-03**				
	23H3255-05		**23H3268-17**				
Aroclor 1016	4	U	4.8	U	18.18		Ok- both ND
Aroclor 1221	4	U	4.8	U	18.18		Ok- both ND
Aroclor 1232	4	U	4.8	U	18.18		Ok- both ND
Aroclor 1242	4	U	4.8	U	18.18		Ok- both ND
Aroclor 1248	4	U	68		177.78	64	**J/UJ - abs diff > 4x RL**
Aroclor 1254	81		44		-59.20		**J/UJ - RPD > 50%**
Aroclor 1260	4	U	4.8	U	18.18		Ok - both ND
Aroclor 1262	4	U	4.8	U	18.18		Ok - both ND
Aroclor 1268	4	U	4.8	U	18.18		Ok - both ND

[1] Professional judgement used to qualify "S01C" samples only (P-065-S01C and P-066-S01C).
Note that P-FD-03 is located in SDG 23H3268.

23H3255 RF

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time

7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
1	P-061-R21D	8/14/2023	12:34	GRAB	O	U		1				x
2	P-062-S01S	8/14/2023	12:55	GRAB	O	U		1				x
3	P-063-S01W	8/14/2023	12:56	GRAB	O	U		1				x
4	P-064-S01N	8/14/2023	12:57	GRAB	O	U		1				x
5	P-065-S01R	8/14/2023	13:00	GRAB	O	U		1				x
6	P-066-S01C	8/14/2023	13:01	GRAB	O	U		1				x
7	P-067-S01D	8/14/2023	13:02	GRAB	O	U		1				x
8	P-068-R22EDW	8/14/2023	13:30	GRAB	O	U		1				x
9	P-069-R22EC	8/14/2023	13:31	GRAB	O	U		3				x
10	P-070-R22WPW	8/14/2023	13:32	GRAB	O	U		1				x

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time: 1258 8/22/23
Received by: (signature)	Date/Time: 1258 8/22/23
Relinquished by: (signature)	Date/Time: 1746 8.22.23
Received by: (signature) 38, 22, 3.9	Date/Time: 8/22/23
Relinquished by: (signature) 26, 5.6	Date/Time: 1746
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other

☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

23H3255 RT

Pace Analytical

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time

7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
11	P-071-R22WB	8/14/2023	13:33	GRAB	O	U		1				x
12	P-072-R2D	8/14/2023	13:34	GRAB	O	U		1				x
13	P-073-R22C	8/14/2023	13:35	GRAB	O	U		1				x
14	P-074-R23EC	8/14/2023	13:40	GRAB	O	U		1				x
15	P-075-R23EB	8/14/2023	13:41	GRAB	O	U		1				x
16	P-076-R23EWT	8/14/2023	13:42	GRAB	O	U		1				x
17	P-077-R23W	8/14/2023	13:43	GRAB	O	U		1				x
18	P-078-R23N	8/14/2023	13:44	GRAB	O	U		1				x
19	P-079-R23D	8/14/2023	13:45	GRAB	O	U		1				x
20	P-080-R22SPW	8/14/2023	13:50	GRAB	O	U		1				x

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS
GLASS
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time:	1255
Received by: (signature)	Date/Time:	8/22/23 1255
Relinquished by: (signature)	Date/Time:	8/22/23 1746
Received by: (signature) 3.8, 22, 3.9	Date/Time:	8/22/23
Relinquished by: (signature) 2.6, 5.6	Date/Time:	1746
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other

☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

November 6, 2023
Nobis File No. S00001.017

Ms. Christine Beling
USEPA - Region I
Land, Chemicals, and Redevelopment Division
5 Post Office Square, Suite 100
Boston, MA 02109-3912

Re: USEPA Contract No. 68HE0122D0001
USEPA Task Order No. 68HE0122F0044
Targeted Brownfield Assessment (TBA) Site
St. Johnsbury Armory Site
St. Johnsbury, Vermont
Sample Delivery Group (SDG) No. 23H3256
Pace Analytical (formerly Con-test), East Longmeadow, MA

Tier 1 Stage 2A Organic Data Review

Polychlorinated Biphenyls (PCBs by 8082A):

20/Building Material Samples: P-081-R22SB, P-082-R24E, P-083-R24SC, P-084-R24SB, P-085-R24W, P-086-R25E, P-087-R25S, P-088-R2SCDW, P-089-R2SCP, P-090-R25AE, P-091-R25AS, P-092-R25ACDW, P-093-R25ACP, P-094-R21W, P-095-R21FN, P-096-R21FS, P-097-R24AS, P-098-R24AW, P-099-R24AN, P-100-R24AC

Dear Ms. Beling:

Nobis Group (Nobis), under a USEPA contract as a subcontractor to KGSNE JV II, LLC (KGSNE), performed a Tier 1 Stage 2A manual data review (S2AVM) on the organic analytical data for the samples listed above. The samples were collected by Nobis at the St. Johnsbury Armory site located in St. Johnsbury, Vermont, on August 14, 2023. The samples were analyzed for PCB Aroclors by EPA Method 8082A by Pace Analytical (formerly Con-test).

The Tier 1 Stage 2A manual data review was performed in accordance with the Region I - EPA New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures (September 2020); USEPA's National Functional Guidelines for Organic Superfund Methods Data Review (November 2020); the Program Quality Assurance Project Plan (Program QAPP) dated October 2022, and the Quality Assurance Project Plan Addendum (QAPPA) (July 2023) for St. Johnsbury Armory, which appends the October 2022 Program QAPP.

The data were evaluated based on the following parameters:

*	•	Overall Evaluation of Data and Potential Usability Issues
*	•	Data Completeness
*	•	Preservation and Technical Holding Times
*	•	Blanks
*	•	Surrogates (PCBs only)
NA	•	Internal Standards
*	•	Matrix Spike Analysis
NA	•	Laboratory Duplicates

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

*	•	Laboratory Control Samples (LCS)/Standard Reference Material (SRM) Recovery (metals only)
NA	•	Field Duplicates
NA	•	ICP Serial Dilutions (metals only)
NA	•	Performance Evaluation (PE) Samples
*	•	Target Analyte Identification
	•	Reported Quantitation Limits

* All criteria were met for this parameter or qualification was not required.
NA – Not applicable.

Overall Evaluation of Data and Potential Usability Issues

The site sampling objectives are:

- Perform a supplemental hazardous building material survey (HBMS) to address data gaps identified by Atlas Technical Consultants (ATC).
- Further delineate the distribution of hazardous materials to support future building renovation and reuse or demolition and disposal.
- Evaluate sub-slab soils for possible contamination by PCBs.

Note that quantitation limits for non-detect results exceeded the project action limit (PAL) of ≤ 1 mg/kg for total PCBs in all samples due to required sample dilutions.

The data meet the project quality criteria and can be used without restriction except as summarized below. The attachments provide details and supporting documentation.

PCBs:
Qualification of the data was not required.

Please contact Linda Terzis at lterzis@nobis-group.com should you have any questions or comments regarding this information.

Sincerely,

NOBIS GROUP®

Linda Terzis
Data Validator

Gary Glennon
Data Validator

Tables: Data Summary Tables – Tier 1 Stage 2A (S2AVM) Validated Data
Data Qualification Actions Table

Attachments: Data Review Checklist
Support Documentation
COC

cc: Denis McGrath (Nobis Group)
Tim Andrews (Nobis Group)

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23H3256-01	23H3256-02	23H3256-03	23H3256-04	23H3256-05
Field Sample ID		P-081-R22SB	P-082-R24E	P-083-R24SC	P-084-R24SB	P-085-R24W
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	08/14/23	08/14/23	08/14/23	08/14/23	08/14/23
Aroclor 1016	mg/kg	20 U	9.8 U	9.9 U	10 U	9.9 U
Aroclor 1221	mg/kg	20 U	9.8 U	9.9 U	10 U	9.9 U
Aroclor 1232	mg/kg	20 U	9.8 U	9.9 U	10 U	9.9 U
Aroclor 1242	mg/kg	20 U	9.8 U	9.9 U	10 U	9.9 U
Aroclor 1248	mg/kg	20 U	9.8 U	9.9 U	10 U	9.9 U
Aroclor 1254	mg/kg	400	120	130	130	110
Aroclor 1260	mg/kg	20 U	9.8 U	9.9 U	10 U	9.9 U
Aroclor 1262	mg/kg	20 U	9.8 U	9.9 U	10 U	9.9 U
Aroclor 1268	mg/kg	20 U	9.8 U	9.9 U	10 U	9.9 U

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23H3256-06RE1	23H3256-07	23H3256-08RE1	23H3256-09RE1	23H3256-10RE1
Field Sample ID		P-086-R25E	P-087-R25S	P-088-R2SCDW	P-089-R2SCP	P-090-R25AE
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	08/14/23	08/14/23	08/14/23	08/14/23	08/14/23
Aroclor 1016	mg/kg	23 U	10 U	7.5 U	4.3 U	20 U
Aroclor 1221	mg/kg	23 U	10 U	7.5 U	4.3 U	20 U
Aroclor 1232	mg/kg	23 U	10 U	7.5 U	4.3 U	20 U
Aroclor 1242	mg/kg	23 U	10 U	7.5 U	4.3 U	20 U
Aroclor 1248	mg/kg	23 U	10 U	7.5 U	4.3 U	20 U
Aroclor 1254	mg/kg	300	90	66	56	350
Aroclor 1260	mg/kg	23 U	10 U	7.5 U	4.3 U	20 U
Aroclor 1262	mg/kg	23 U	10 U	7.5 U	4.3 U	20 U
Aroclor 1268	mg/kg	23 U	10 U	7.5 U	4.3 U	20 U

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23H3256-11	23H3256-12RE1	23H3256-13RE1	23H3256-14RE1	23H3256-15
Field Sample ID		P-091-R25AS	P-092-R25ACDW	P-093-R25ACP	P-094-R21W	P-095-R21FN
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	08/14/23	08/14/23	08/14/23	08/14/23	08/14/23
Aroclor 1016	mg/kg	20 U	4.4 U	3.8 U	3.9 U	2 U
Aroclor 1221	mg/kg	20 U	4.4 U	3.8 U	3.9 U	2 U
Aroclor 1232	mg/kg	20 U	4.4 U	3.8 U	3.9 U	2 U
Aroclor 1242	mg/kg	20 U	4.4 U	3.8 U	3.9 U	2 U
Aroclor 1248	mg/kg	20 U	4.4 U	3.8 U	3.9 U	2 U
Aroclor 1254	mg/kg	380	37	30	51	21
Aroclor 1260	mg/kg	20 U	4.4 U	3.8 U	3.9 U	2 U
Aroclor 1262	mg/kg	20 U	4.4 U	3.8 U	3.9 U	2 U
Aroclor 1268	mg/kg	20 U	4.4 U	3.8 U	3.9 U	2 U

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23H3256-16	23H3256-17	23H3256-18RE1	23H3256-19	23H3256-20
Field Sample ID		P-096-R21FS	P-097-R24AS	P-098-R24AW	P-099-R24AN	P-100-R24AC
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	08/14/23	08/14/23	08/14/23	08/14/23	08/14/23
Aroclor 1016	mg/kg	2 U	4.1 U	18 U	9.8 U	10 U
Aroclor 1221	mg/kg	2 U	4.1 U	18 U	9.8 U	10 U
Aroclor 1232	mg/kg	2 U	4.1 U	18 U	9.8 U	10 U
Aroclor 1242	mg/kg	2 U	4.1 U	18 U	9.8 U	10 U
Aroclor 1248	mg/kg	9.9	4.1 U	18 U	9.8 U	10 U
Aroclor 1254	mg/kg	16	42	200	150	110
Aroclor 1260	mg/kg	2 U	4.1 U	18 U	9.8 U	10 U
Aroclor 1262	mg/kg	2 U	4.1 U	18 U	9.8 U	10 U
Aroclor 1268	mg/kg	2 U	4.1 U	18 U	9.8 U	10 U

Data Review Qualification Actions
Case: St. Johnsbury Armory
SDG: 23H3256

Parameter	Analyte	Samples	Evaluation Criteria	Action Needed	Comments
PCBs					
	Qualification of the data was not required.				

nobis

Tier 1 Stage 2A Data Review Checklist

Project: St. Johnsbury Armory Site, St. Johnsbury, Vermont
Project #: S00001.017
Case#: NA
Date: 09/28/2023
Methods: PCBs (8082A)
Laboratory: Pace Analytical (formerly Con-test), East Longmeadow, MA
SDG: 23H3256
Reviewer: Linda Terzis

1. **Case Narrative and Data Package Completeness (COC and Analyte List Review)**
Twenty (20) building material samples were listed on the COC for SDG 23H3256. The samples were collected on 08/14/2023 and were received at the laboratory on 08/22/2023 at temperatures ranging from 2.2 to 5.6 °C.

Sample ID	Laboratory ID	Analyses
P-081-R22SB	23H3256-01	PCBs
P-082-R24E	23H3256-02	PCBs
P-083-R24SC	23H3256-03	PCBs
P-084-R24SB	23H3256-04	PCBs
P-085-R24W	23H3256-05	PCBs
P-086-R25E	23H3256-06RE1	PCBs
P-087-R25S	23H3256-07	PCBs
P-088-R2SCDW	23H3256-08RE1	PCBs
P-089-R2SCP	23H3256-09RE1	PCBs
P-090-R25AE	23H3256-10RE1	PCBs
P-091-R25AS	23H3256-11	PCBs
P-092-R25ACDW	23H3256-12RE1	PCBs
P-093-R25ACP	23H3256-13RE1	PCBs
P-094-R21W	23H3256-14RE1	PCBs
P-095-R21FN	23H3256-15	PCBs
P-096-R21FS	23H3256-16	PCBs
P-097-R24AS	23H3256-17	PCBs
P-098-R24AW	23H3256-18RE1	PCBs
P-099-R24AN	23H3256-19	PCBs
P-100-R24AC	23H3256-20	PCBs

A complete laboratory report was received for SDG 23H3256.

2. **Holding Time and Sample Preservation Compliance**

Receipt temperature met the acceptable level of ≤ 6 °C.

PCBs: Holding time limits are not applicable for building material samples, based on Table 3 of the Quality Assurance Project Plan Addendum (QAPPA) for the St. Johnsbury Armory site (July 2023). No actions are required.

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

3. **Calibration Issues**

   Not assessed for S2AVM.

4. **Lab and Field Blanks**

   PCBs: Results for the laboratory method blanks associated with the samples of this SDG were non-detect. No blank actions are required.

   An equipment blank was not required during sample collection for the site.

5. **Interference Check Sample (metals only)**

   Not assessed for S2AVM.

6. **Surrogates (PCBs only)**

   PCBs: Surrogate recoveries were within the Program QAPP limits (30-150%) for all samples except where required sample dilutions caused the surrogates to dilute out of the samples. Dilution factors ranged from 1/10 to 1/100. Surrogates were diluted out of samples that had sample dilutions > 1/20. No action is required.

7. **Laboratory Control Samples**

   PCBs: Percent recoveries of Aroclors 1016 and 1260 in the PCB LCS/LCSD pairs associated with the samples met the Program QAPP limits of 40-140% recovery and relative percent difference (RPD) ≤ 30%. No action is required.

8. **Matrix Spikes**

   PCBs: Only Aroclors 1016 and 1260 were spiked in the MS/MSD; therefore, based on professional judgment, if actions are required, they are applied as follows:

   If 1016 %R or %RPD out: Qualify 1016, 1221, 1232, 1242
   If 1260 %R or %RPD out: Qualify 1248, 1254, 1260, 1262,1268

   MS/MSD analyses were performed on sample P-081-R22SB (23H3256-01).

   Percent recoveries of Aroclors 1016 and 1260 exceeded the Program QAPP limits of 40-140% in the MS and MSD analyses, on both columns. Three of the four RPDs were > 30%, as specified in the Program QAPP. The laboratory indicated the percent recoveries were high due to the contribution of other Aroclors (i.e., Aroclor 1254) in the parent sample. No action is taken.

9. **Laboratory Duplicates**

   PCBs: Not applicable to this analysis.

10. **Serial Dilution (metals only)**

    PCBs: Not applicable to this analysis.

11. Field Duplicate Precision

Criteria based on the EPA Region I Environmental Data Review Supplement (September 2020): RPD ≤ 50% (soils) for results ≥ 5x QL or absolute difference of ≤ 4x QL for results < 5X QL.

A field duplicate sample was not submitted with the samples of this SDG. No actions are required.

12. Internal Standards

Not applicable to these analyses.

13. Dual Column Precision (PCBs only)

Dual column precision criteria (≤ 25% RPD per NFG) were met for all Aroclor detections > QL. No action is required.

14. Performance Evaluation (PE) Samples

A PE sample was not submitted with the samples of this SDG. No actions are required.

15. Quantitation Limits

PCBs: Laboratory quantitation limits (QLs) for non-detect Aroclor results exceeded the PAL of ≤ 1 mg/kg for total PCBs, per Table 4 of the QAPPA, for all samples. All samples required dilutions due to the presence of individual Aroclors(s) in the samples. Dilutions ranged from 1/10 to 1/100. The QLs were greater than 1 mg/kg in the samples due to the required sample dilutions.

16. Other

The EPA Region I Environmental Data Review Supplement (2020) percent solids criterion of ≥ 30% for soil samples does not apply to building material samples.

Overall bias is considered indeterminate when cumulative nonconformances do not show a consistent bias or in cases of the presence of conflicting high and low biases.

23H3256 RF

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time
7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
1	P-081-R22SB	8/14/2023	13:51	GRAB	O	U		3				x
2	P-082-R24E	8/14/2023	13:55	GRAB	O	U		1				x
3	P-083-R24SC	8/14/2023	13:56	GRAB	O	U		1				x
4	P-084-R24SB	8/14/2023	13:57	GRAB	O	U		1				x
5	P-085-R24W	8/14/2023	13:58	GRAB	O	U		1				x
6	P-086-R25E	8/14/2023	14:35	GRAB	O	U		1				x
7	P-087-R25S	8/14/2023	14:36	GRAB		U		1				x
8	P-088-R2SCDW	8/14/2023	14:37	GRAB	O	U		1				x
9	P-089-R2SCP	8/14/2023	14:38	GRAB	O	U		1				x
10	P-090-R25AE	8/14/2023	14:40	GRAB	O	U		1				x

Relinquished by: (signature)	Date/Time: 1238 8/22/23	Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS
Received by: (signature)	Date/Time: 8/22/23 P55	
Relinquished by: (signature)	Date/Time: 8-22-23 1741	
Received by: (signature) 3.8, 2.2, 3.9	Date/Time: 8/22/23	
Relinquished by: (signature) 2.6, 5.6	Date/Time: 1746	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Table of Contents

23H3256 RF

Pace Analytical

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time

7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
11	P-091-R25AS	8/14/2023	14:41	GRAB	O	U		1				x
12	P-092-R25ACDW	8/14/2023	14:42	GRAB	O	U		1				x
13	P-093-R25ACP	8/14/2023	14:43	GRAB	O	U		1				x
14	P-094-R21W	8/14/2023	14:44	GRAB	O	U		1				x
15	P-095-R21FN	8/14/2023	14:45	GRAB	O	U		1				x
16	P-096-R21FS	8/14/2023	14:46	GRAB	O	U		1				x
17	P-097-R24AS	8/14/2023	14:50	GRAB	O	U		1				x
18	P-098-R24AW	8/14/2023	14:51	GRAB	O	U		1				x
19	P-099-R24AN	8/14/2023	14:52	GRAB	O	U		1				x
20	P-100-R24AC	8/14/2023	14:53	GRAB	O	U		1				x

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS
GLASS
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time: 8/22/23 1255
Received by: (signature)	Date/Time: 8/22/23 1358
Relinquished by: (signature)	Date/Time: 8-22-23 1746
Received by: (signature) 3.8, 2.2, 3.9	Date/Time: 8/22/23 1746
Relinquished by: (signature) 1.6, 5.6	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other

☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

November 6, 2023
Nobis File No. S00001.017

Ms. Christine Beling
USEPA - Region I
Land, Chemicals, and Redevelopment Division
5 Post Office Square, Suite 100
Boston, MA 02109-3912

Re: USEPA Contract No. 68HE0122D0001
USEPA Task Order No. 68HE0122F0044
Targeted Brownfield Assessment (TBA) Site
St. Johnsbury Armory Site
St. Johnsbury, Vermont
Sample Delivery Group (SDG) No. 23H3257
Pace Analytical (formerly Con-test), East Longmeadow, MA

Tier 1 Stage 2A Organic Data Review

Polychlorinated Biphenyls (PCBs by 8082A):

20/Building Material Samples: P-101-R26E, P-102-R26SC, P-103-R26SB, P-104-R26N, P-105-R26C, P-106-R-27S, P-107-R27NC, P-108-R27NB, P-109-R27AE, P-110-R27AW, P-111-R28SC, P-112-R28SB, P-113-R28WC, P-114-R28WB, P-115-R28D, P-116-29WC, P-117-29WB, P-118-29NB, P-119-29NC, P-120-R30E
1/Field Duplicate Pair: P-111-R28SC / P-FD-04 (located in SDG 23H3268)

Dear Ms. Beling:

Nobis Group (Nobis), under a USEPA contract as a subcontractor to KGSNE JV II, LLC (KGSNE), performed a Tier 1 Stage 2A manual data review (S2AVM) on the organic analytical data for the samples listed above. The samples were collected by Nobis at the St. Johnsbury Armory site located in St. Johnsbury, Vermont, on August 14, 2023 and August 15, 2023. The samples were analyzed for PCB Aroclors by EPA Method 8082A by Pace Analytical (formerly Con-test).

The Tier 1 Stage 2A manual data review was performed in accordance with the Region I - EPA New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures (September 2020); USEPA's National Functional Guidelines for Organic Superfund Methods Data Review (November 2020); the Program Quality Assurance Project Plan (Program QAPP) dated October 2022, and the Quality Assurance Project Plan Addendum (QAPPA) (July 2023) for St. Johnsbury Armory, which appends the October 2022 Program QAPP.

The data were evaluated based on the following parameters:

* • Overall Evaluation of Data and Potential Usability Issues
* • Data Completeness
* • Preservation and Technical Holding Times
* • Blanks
* • Surrogates (PCBs only)
NA • Internal Standards

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

*	•	Matrix Spike Analysis
NA	•	Laboratory Duplicates
*	•	Laboratory Control Samples (LCS)/Standard Reference Material (SRM) Recovery (metals only)
*	•	Field Duplicates
NA	•	ICP Serial Dilutions (metals only)
NA	•	Performance Evaluation (PE) Samples
*	•	Target Analyte Identification
	•	Reported Quantitation Limits

* All criteria were met for this parameter or qualification was not required.
NA – Not applicable.

Overall Evaluation of Data and Potential Usability Issues

The site sampling objectives are:

- Perform a supplemental hazardous building material survey (HBMS) to address data gaps identified by Atlas Technical Consultants (ATC).
- Further delineate the distribution of hazardous materials to support future building renovation and reuse or demolition and disposal.
- Evaluate sub-slab soils for possible contamination by PCBs.

Note that quantitation limits for non-detect results exceeded the project action limit (PAL) of ≤ 1 mg/kg for total PCBs in all samples due to required sample dilutions.

The data meet the project quality criteria and can be used without restriction except as summarized below. The attachments provide details and supporting documentation.

PCBs:
Qualification of the data was not required.

Please contact Linda Terzis at lterzis@nobis-group.com should you have any questions or comments regarding this information.

Sincerely,

NOBIS GROUP®

Linda Terzis
Data Validator

Gary Glennon
Data Validator

Tables: Data Summary Tables – Tier 1 Stage 2A (S2AVM) Validated Data
Data Qualification Actions Table

Attachments: Data Review Checklist
Support Documentation
COC

cc: Denis McGrath (Nobis Group)
Tim Andrews (Nobis Group)

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23H3257-01	23H3257-02	23H3257-03	23H3257-04	23H3257-05
Field Sample ID		P-101-R26E	P-102-R26SC	P-103-R26SB	P-104-R26N	P-105-R26C
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	08/14/23	08/14/23	08/14/23	08/14/23	08/14/23
Aroclor 1016	mg/kg	4.5 U	4 U	4.3 U	3.6 U	3.5 U
Aroclor 1221	mg/kg	4.5 U	4 U	4.3 U	3.6 U	3.5 U
Aroclor 1232	mg/kg	4.5 U	4 U	4.3 U	3.6 U	3.5 U
Aroclor 1242	mg/kg	4.5 U	4 U	4.3 U	3.6 U	3.5 U
Aroclor 1248	mg/kg	4.5 U	4 U	4.3 U	3.6 U	3.5 U
Aroclor 1254	mg/kg	41	80	36	42	7.9
Aroclor 1260	mg/kg	4.5 U	4 U	4.3 U	3.6 U	3.5 U
Aroclor 1262	mg/kg	4.5 U	4 U	4.3 U	3.6 U	3.5 U
Aroclor 1268	mg/kg	4.5 U	4 U	4.3 U	3.6 U	3.5 U

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23H3257-06	23H3257-07	23H3257-08	23H3257-09	23H3257-10
Field Sample ID		P-106-R-27S	P-107-R27NC	P-108-R27NB	P-109-R27AE	P-110-R27AW
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	08/14/23	08/14/23	08/14/23	08/14/23	08/14/23
Aroclor 1016	mg/kg	5 U	4.8 U	3.6 U	4.5 U	4.4 U
Aroclor 1221	mg/kg	5 U	4.8 U	3.6 U	4.5 U	4.4 U
Aroclor 1232	mg/kg	5 U	4.8 U	3.6 U	4.5 U	4.4 U
Aroclor 1242	mg/kg	5 U	4.8 U	3.6 U	4.5 U	4.4 U
Aroclor 1248	mg/kg	5 U	4.8 U	3.6 U	4.5 U	4.4 U
Aroclor 1254	mg/kg	42	30	50	12	23
Aroclor 1260	mg/kg	5 U	4.8 U	3.6 U	4.5 U	4.4 U
Aroclor 1262	mg/kg	5 U	4.8 U	3.6 U	4.5 U	4.4 U
Aroclor 1268	mg/kg	5 U	4.8 U	3.6 U	4.5 U	4.4 U

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23H3257-11	23H3257-12	23H3257-13	23H3257-14	23H3257-15
Field Sample ID		P-111-R28SC	P-112-R28SB	P-113-R28WC	P-114-R28WB	P-115-R28D
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	08/14/23	08/14/23	08/14/23	08/14/23	08/14/23
Aroclor 1016	mg/kg	4.8 U	3.6 U	3.9 U	4.8 U	4.2 U
Aroclor 1221	mg/kg	4.8 U	3.6 U	3.9 U	4.8 U	4.2 U
Aroclor 1232	mg/kg	4.8 U	3.6 U	3.9 U	4.8 U	4.2 U
Aroclor 1242	mg/kg	4.8 U	3.6 U	3.9 U	4.8 U	4.2 U
Aroclor 1248	mg/kg	4.8 U	3.6 U	3.9 U	4.8 U	4.2 U
Aroclor 1254	mg/kg	19	11	29	16	27
Aroclor 1260	mg/kg	4.8 U	3.6 U	3.9 U	4.8 U	4.2 U
Aroclor 1262	mg/kg	4.8 U	3.6 U	3.9 U	4.8 U	4.2 U
Aroclor 1268	mg/kg	4.8 U	3.6 U	3.9 U	4.8 U	4.2 U

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23H3257-16	23H3257-17	23H3257-18	23H3257-19	23H3257-20
Field Sample ID		P-116-29WC	P-117-29WB	P-118-29NB	P-119-29NC	P-120-R30E
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	08/14/23	08/14/23	08/14/23	08/14/23	08/15/23
Aroclor 1016	mg/kg	4.6 U	4.4 U	3.9 U	4.5 U	4.4 U
Aroclor 1221	mg/kg	4.6 U	4.4 U	3.9 U	4.5 U	4.4 U
Aroclor 1232	mg/kg	4.6 U	4.4 U	3.9 U	4.5 U	4.4 U
Aroclor 1242	mg/kg	4.6 U	4.4 U	3.9 U	4.5 U	4.4 U
Aroclor 1248	mg/kg	4.6 U	4.4 U	43	26	4.4 U
Aroclor 1254	mg/kg	60	17	29	51	170
Aroclor 1260	mg/kg	4.6 U	4.4 U	3.9 U	4.5 U	4.4 U
Aroclor 1262	mg/kg	4.6 U	4.4 U	3.9 U	4.5 U	4.4 U
Aroclor 1268	mg/kg	4.6 U	4.4 U	3.9 U	4.5 U	4.4 U

Data Review Qualification Actions
Case: St. Johnsbury Armory
SDG: 23H3257

Parameter	Analyte	Samples	Evaluation Criteria	Action Needed	Comments
PCBs					
	Qualification of the data was not required.				

Tier 1 Stage 2A Data Review Checklist

Project: St. Johnsbury Armory Site, St. Johnsbury, Vermont
Project #: S00001.017
Case#: NA
Date: 09/28/2023
Methods: PCBs (8082A)
Laboratory: Pace Analytical (formerly Con-test), East Longmeadow, MA
SDG: 23H3257
Reviewer: Linda Terzis

1. **Case Narrative and Data Package Completeness (COC and Analyte List Review)**
Twenty (20) building material samples, including one field duplicate sample, were listed on the COC for SDG 23H3257. The samples were collected on 08/14/2023 and 08/15/2023 and were received at the laboratory on 08/22/2023 at temperatures ranging from 2.2 to 5.6 °C.

Sample ID	Laboratory ID	Analyses
P-101-R26E	23H3257-01	PCBs
P-102-R26SC	23H3257-02	PCBs
P-103-R26SB	23H3257-03	PCBs
P-104-R26N	23H3257-04	PCBs
P-105-R26C	23H3257-05	PCBs
P-106-R-27S	23H3257-06	PCBs
P-107-R27NC	23H3257-07	PCBs
P-108-R27NB	23H3257-08	PCBs
P-109-R27AE	23H3257-09	PCBs
P-110-R27AW	23H3257-10	PCBs
P-111-R28SC	23H3257-11	PCBs
P-112-R28SB	23H3257-12	PCBs
P-113-R28WC	23H3257-13	PCBs
P-114-R28WB	23H3257-14	PCBs
P-115-R28D	23H3257-15	PCBs
P-116-29WC	23H3257-16	PCBs
P-117-29WB	23H3257-17	PCBs
P-118-29NB	23H3257-18	PCBs
P-119-29NC	23H3257-19	PCBs
P-120-R30E	23H3257-20	PCBs

A complete laboratory report was received for SDG 23H3257.

2. **Holding Time and Sample Preservation Compliance**

Receipt temperature met the acceptable level of ≤ 6 °C.

PCBs: Holding time limits are not applicable for building material samples, based on Table 3 of the Quality Assurance Project Plan Addendum (QAPPA) for the St. Johnsbury Armory site (July 2023). No actions are required.

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

3. **Calibration Issues**

   Not assessed for S2AVM.

4. **Lab and Field Blanks**

   PCBs: Results for the laboratory method blank associated with the samples of this SDG were non-detect. No blank actions are required.

   An equipment blank was not required during sample collection for the site.

5. **Interference Check Sample (metals only)**

   Not assessed for S2AVM.

6. **Surrogates (PCBs only)**

   PCBs: Surrogate recoveries were within the Program QAPP limits (30-150%) for all samples. No action is required.

7. **Laboratory Control Samples**

   PCBs: Percent recoveries of Aroclors 1016 and 1260 in the PCB LCS/LCSD pair met the Program QAPP limits of 40-140% recovery and relative percent difference (RPD) ≤ 30%. No action is required.

8. **Matrix Spikes**

   PCBs: Only Aroclors 1016 and 1260 were spiked in the MS/MSD; therefore, based on professional judgment, if actions are required, they are applied as follows:

   If 1016 %R or %RPD out: Qualify 1016, 1221, 1232, 1242
   If 1260 %R or %RPD out: Qualify 1248, 1254, 1260, 1262,1268

   MS/MSD analyses were performed on sample P-114-R28WB (23H3257-14).

   Percent recoveries of Aroclors 1016 and 1260 exceeded the Program QAPP limits of 40-140% in the MS and MSD analyses, on both columns. RPDs also exceeded the ≤ 30% limit specified in the Program QAPP. The laboratory indicated the percent recoveries were high due to the contribution of other Aroclors (i.e., Aroclor 1254) in the parent sample. No action is taken.

9. **Laboratory Duplicates**

   PCBs: Not applicable to this analysis.

10. **Serial Dilution (metals only)**

    PCBs: Not applicable to this analysis.

11. Field Duplicate Precision

Criteria based on the EPA Region I Environmental Data Review Supplement (September 2020): RPD ≤ 50% (soils) for results ≥ 5x QL or absolute difference of ≤ 4x QL for results < 5X QL.

The following field duplicate pair is associated with the samples of this SDG.

- P-111-R28SC / P-FD-04 (23H3257-11 / 23H3268-18)

PCBs: Aroclor results met field duplicate precision criteria. No actions are required.

12. Internal Standards

Not applicable to these analyses.

13. Dual Column Precision (PCBs only)

Dual column precision criteria (≤ 25% RPD per NFG) were met for all Aroclor detections > QL. No action is required.

14. Performance Evaluation (PE) Samples

A PE sample was not submitted with the samples of this SDG. No actions are required.

15. Quantitation Limits

PCBs: Laboratory quantitation limits (QLs) for non-detect Aroclor results exceeded the PAL of ≤ 1 mg/kg for total PCBs, per Table 4 of the QAPPA, for all samples. All samples required a 1/10 dilution due to the presence of individual Aroclors(s) in the samples. The QLs were > 1 mg/kg in all samples due to the required dilutions.

16. Other

The EPA Region I Environmental Data Review Supplement (2020) percent solids criterion of ≥ 30% for soil samples does not apply to building material samples.

Overall bias is considered indeterminate when cumulative nonconformances do not show a consistent bias or in cases of the presence of conflicting high and low biases.

Field Duplicate Evaluation

SDG: 23H3257 PCBs

Analyte	Original Result mg/kg	Qual	Duplicate Result mg/kg	Qual	RPD ≤ 50%	Abs Diff	Comment
Sample ID	**P-111-R28SC**		**P-FD-04**				
	23H3257-11		**23H3268-18**				
Aroclor 1016	4.8	U	0.38	U	-170.66		Ok - both ND
Aroclor 1221	4.8	U	0.38	U	-170.66		Ok - both ND
Aroclor 1232	4.8	U	0.38	U	-170.66		Ok - both ND
Aroclor 1242	4.8	U	0.38	U	-170.66		Ok - both ND
Aroclor 1248	4.8	U	4.7		-2.11	-0.10	Ok - abs diff < 4x RL
Aroclor 1254	19		5.6		-108.94	-13.40	Ok - abs diff < 4x RL
Aroclor 1260	4.8	U	0.38	U	-170.66		Ok - both ND
Aroclor 1262	4.8	U	0.38	U	-170.66		Ok - both ND
Aroclor 1268	4.8	U	0.38	U	-170.66		Ok - both ND

Note that P-FD-04 is located in SDG 23H3268.

23H3257 RF

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time
7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
1	P-101-R26E	8/14/2023	15:10	GRAB	O	U		1				x
2	P-102-R26SC	8/14/2023	15:11	GRAB	O	U		1				x
3	P-103-R26SB	8/14/2023	15:12	GRAB	O	U		1				x
4	P-104-R26N	8/14/2023	15:13	GRAB	O	U		1				x
5	P-105-R26C	8/14/2023	15:14	GRAB	O	U		1				x
6	P-106-R-27S	8/14/2023	15:15	GRAB	O	U		1				x
7	P-107-R27NC	8/14/2023	15:16	GRAB	O	U		1				x
8	P-108-R27NB	8/14/2023	15:17	GRAB	O	U		1				x
9	P-109-R27AE	8/14/2023	15:30	GRAB	O	U		1				x
10	P-110-R27AW	8/14/2023	15:31	GRAB	O	U		1				x

[2] Preservation Code
Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)		Date/Time: 8/22/23 0958
Received by: (signature)		Date/Time: 8/22/23 1255
Relinquished by: (signature)		Date/Time: 8-22-23 1744
Received by: (signature)	3.8, 2.2, 3.9	Date/Time: 8/23/23
Relinquished by: (signature)	26, 5.6	Date/Time: 1746
Received by: (signature)		Date/Time:
Relinquished by: (signature)		Date/Time:
Received by: (signature)		Date/Time:

Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

2313257 RF

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time

7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
11	P-111-R28SC	8/14/2023	15:35	GRAB	O	U		1				x
12	P-112-R28SB	8/14/2023	15:36	GRAB	O	U		1				x
13	P-113-R28WC	8/14/2023	15:37	GRAB	O	U		1				x
14	P-114-R28WB	8/14/2023	15:38	GRAB	O	U		3				x
15	P-115-R28D	8/14/2023	16:30	GRAB	O	U		1				x
16	P-116-29WC	8/14/2023	16:31	GRAB	O	U		1				x
17	P-117-29WB	8/14/2023	16:32	GRAB	O	U		1				x
18	P-118-29NB	8/14/2023	16:33	GRAB	O	U		1				x
19	P-119-29NC	8/14/2023	16:34	GRAB	O	U		1				x
20	P-120-R30E	8/15/2023	8:30	GRAB	O	U		1				x

[2] Preservation Code

Courier Box Only
Total Number Of:
VIALS
GLASS
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time: 8/22/23 1255	
Received by: (signature)	Date/Time: 8/22/23 1258	
Relinquished by: (signature)	Date/Time: 8-22-23 1746	
Received by: (signature) GH AM 38, 2.2, 3.9	Date/Time: 8/23/23	
Relinquished by: (signature) 26, 5.6	Date/Time: 1746	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

November 6, 2023
Nobis File No. S00001.017

Ms. Christine Beling
USEPA - Region I
Land, Chemicals, and Redevelopment Division
5 Post Office Square, Suite 100
Boston, MA 02109-3912

Re: USEPA Contract No. 68HE0122D0001
USEPA Task Order No. 68HE0122F0044
Targeted Brownfield Assessment (TBA) Site
St. Johnsbury Armory Site
St. Johnsbury, Vermont
Sample Delivery Group (SDG) No. 23H3258
Pace Analytical (formerly Con-test), East Longmeadow, MA

Tier 1 Stage 2A Organic Data Review

Polychlorinated Biphenyls (PCBs by 8082A):

20/Building Material Samples: P-121-R30NC, P-122-R30NB, P-123-R30C, P-124-R31W, P-125-R31NC, P-126-R33E, P-127-R33NC, P-128-R34C, P-129-R35W, P-130-R37E, P-131-R37S, P-132-R31NB, P-133-R16EP, P-134-R16EW, P-135-R16WT, P-136-GN, P-137-GFN, P-138-GFE, P-139-GFS, P-140-GFW
3/Field Duplicate Pairs: P-127-R33NC / P-FD-05 (located in SDG 23H3268), P-133-R16EP / P-FD-06 (located in SDG 23H3268), P-131-R37S / P-FD-11 (located in SDG 23H3270)

Dear Ms. Beling:

Nobis Group (Nobis), under a USEPA contract as a subcontractor to KGSNE JV II, LLC (KGSNE), performed a Tier 1 Stage 2A manual data review (S2AVM) on the organic analytical data for the samples listed above. The samples were collected by Nobis at the St. Johnsbury Armory site located in St. Johnsbury, Vermont, on August 15, 2023. The samples were analyzed for PCB Aroclors by EPA Method 8082A by Pace Analytical (formerly Con-test).

The Tier 1 Stage 2A manual data review was performed in accordance with the Region I - EPA New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures (September 2020); USEPA's National Functional Guidelines for Organic Superfund Methods Data Review (November 2020); the Program Quality Assurance Project Plan (Program QAPP) dated October 2022, and the Quality Assurance Project Plan Addendum (QAPPA) (July 2023) for St. Johnsbury Armory, which appends the October 2022 Program QAPP.

The data were evaluated based on the following parameters:

*	•	Overall Evaluation of Data and Potential Usability Issues
*	•	Data Completeness
*	•	Preservation and Technical Holding Times
*	•	Blanks
*	•	Surrogates (PCBs only)
NA	•	Internal Standards

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

*	•	Matrix Spike Analysis
NA	•	Laboratory Duplicates
*	•	Laboratory Control Samples (LCS)/Standard Reference Material (SRM) Recovery (metals only)
*	•	Field Duplicates
NA	•	ICP Serial Dilutions (metals only)
NA	•	Performance Evaluation (PE) Samples
*	•	Target Analyte Identification
	•	Reported Quantitation Limits

* All criteria were met for this parameter or qualification was not required.
NA – Not applicable.

Overall Evaluation of Data and Potential Usability Issues

The site sampling objectives are:

- Perform a supplemental hazardous building material survey (HBMS) to address data gaps identified by Atlas Technical Consultants (ATC).
- Further delineate the distribution of hazardous materials to support future building renovation and reuse or demolition and disposal.
- Evaluate sub-slab soils for possible contamination by PCBs.

Note that quantitation limits for non-detect results exceeded the project action limit (PAL) of ≤ 1 mg/kg for total PCBs in several samples due to required sample dilutions.

The data meet the project quality criteria and can be used without restriction except as summarized below. The attachments provide details and supporting documentation.

PCBs:
Qualification of the data was not required.

Please contact Linda Terzis at lterzis@nobis-group.com should you have any questions or comments regarding this information.

Sincerely,

NOBIS GROUP®

Linda Terzis
Data Validator

Gary Glennon
Data Validator

Tables: Data Summary Tables – Tier 1 Stage 2A (S2AVM) Validated Data
Data Qualification Actions Table

Attachments: Data Review Checklist
Support Documentation
COC

cc: Denis McGrath (Nobis Group)
Tim Andrews (Nobis Group)

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23H3258-01	23H3258-02	23H3258-03	23H3258-04	23H3258-05
Field Sample ID		P-121-R30NC	P-122-R30NB	P-123-R30C	P-124-R31W	P-125-R31NC
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	08/15/23	08/15/23	08/15/23	08/15/23	08/15/23
Aroclor 1016	mg/kg	9.5 U	8.8 U	4.4 U	4.7 U	22 U
Aroclor 1221	mg/kg	9.5 U	8.8 U	4.4 U	4.7 U	22 U
Aroclor 1232	mg/kg	9.5 U	8.8 U	4.4 U	4.7 U	22 U
Aroclor 1242	mg/kg	9.5 U	8.8 U	4.4 U	4.7 U	22 U
Aroclor 1248	mg/kg	9.5 U	8.8 U	4.4 U	4.7 U	22 U
Aroclor 1254	mg/kg	130	94	31	28	160
Aroclor 1260	mg/kg	9.5 U	8.8 U	4.4 U	4.7 U	22 U
Aroclor 1262	mg/kg	9.5 U	8.8 U	4.4 U	4.7 U	22 U
Aroclor 1268	mg/kg	9.5 U	8.8 U	4.4 U	4.7 U	22 U

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23H3258-06	23H3258-07	23H3258-08	23H3258-09	23H3258-10
Field Sample ID		P-126-R33E	P-127-R33NC	P-128-R34C	P-129-R35W	P-130-R37E
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	08/15/23	08/15/23	08/15/23	08/15/23	08/15/23
Aroclor 1016	mg/kg	23 U	22 U	4.9 U	20 U	20 U
Aroclor 1221	mg/kg	23 U	22 U	4.9 U	20 U	20 U
Aroclor 1232	mg/kg	23 U	22 U	4.9 U	20 U	20 U
Aroclor 1242	mg/kg	23 U	22 U	4.9 U	20 U	20 U
Aroclor 1248	mg/kg	23 U	22 U	4.9 U	20 U	20 U
Aroclor 1254	mg/kg	300	310	43	180	400
Aroclor 1260	mg/kg	23 U	22 U	4.9 U	20 U	20 U
Aroclor 1262	mg/kg	23 U	22 U	4.9 U	20 U	20 U
Aroclor 1268	mg/kg	23 U	22 U	4.9 U	20 U	20 U

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23H3258-11	23H3258-12	23H3258-13	23H3258-14	23H3258-15
Field Sample ID		P-131-R37S	P-132-R31NB	P-133-R16EP	P-134-R16EW	P-135-R16WT
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	08/15/23	08/15/23	08/15/23	08/15/23	08/15/23
Aroclor 1016	mg/kg	24 U	22 U	0.46 U	4 U	3.8 U
Aroclor 1221	mg/kg	24 U	22 U	0.46 U	4 U	3.8 U
Aroclor 1232	mg/kg	24 U	22 U	0.46 U	4 U	3.8 U
Aroclor 1242	mg/kg	24 U	22 U	0.46 U	4 U	3.8 U
Aroclor 1248	mg/kg	24 U	22 U	0.46 U	4 U	3.8 U
Aroclor 1254	mg/kg	270	250	5.5	21	33
Aroclor 1260	mg/kg	24 U	22 U	0.46 U	4 U	3.8 U
Aroclor 1262	mg/kg	24 U	22 U	0.46 U	4 U	3.8 U
Aroclor 1268	mg/kg	24 U	22 U	0.46 U	4 U	3.8 U

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23H3258-16	23H3258-17	23H3258-18	23H3258-19	23H3258-20
Field Sample ID		P-136-GN	P-137-GFN	P-138-GFE	P-139-GFS	P-140-GFW
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	08/15/23	08/15/23	08/15/23	08/15/23	08/15/23
Aroclor 1016	mg/kg	0.45 U	0.5 U	0.49 U	0.43 U	0.45 U
Aroclor 1221	mg/kg	0.45 U	0.5 U	0.49 U	0.43 U	0.45 U
Aroclor 1232	mg/kg	0.45 U	0.5 U	0.49 U	0.43 U	0.45 U
Aroclor 1242	mg/kg	0.45 U	0.5 U	0.49 U	0.43 U	0.45 U
Aroclor 1248	mg/kg	0.45 U	0.5 U	0.49 U	0.43 U	0.45 U
Aroclor 1254	mg/kg	6.1	3	3.6	7.1	4.1
Aroclor 1260	mg/kg	0.45 U	0.5 U	0.49 U	0.43 U	0.45 U
Aroclor 1262	mg/kg	0.45 U	0.5 U	0.49 U	0.43 U	0.45 U
Aroclor 1268	mg/kg	0.45 U	0.5 U	0.49 U	0.43 U	0.45 U

Data Review Qualification Actions
Case: St. Johnsbury Armory
SDG: 23H3258

Parameter	Analyte	Samples	Evaluation Criteria	Action Needed	Comments
PCBs					
	Qualification of the data was not required.				

nobis

Tier 1 Stage 2A Data Review Checklist

Project: St. Johnsbury Armory Site, St. Johnsbury, Vermont
Project #: S00001.017
Case#: NA
Date: 09/28/2023
Methods: PCBs (8082A)
Laboratory: Pace Analytical (formerly Con-test), East Longmeadow, MA
SDG: 23H3258
Reviewer: Linda Terzis

1. **Case Narrative and Data Package Completeness (COC and Analyte List Review)**
Twenty (20) building material samples, including three field duplicate samples, were listed on the COC for SDG 23H3258. The samples were collected on 08/15/2023 and were received at the laboratory on 08/22/2023 at temperatures ranging from 2.2 to 5.6 °C.

Sample ID	Laboratory ID	Analyses
P-121-R30NC	23H3258-01	PCBs
P-122-R30NB	23H3258-02	PCBs
P-123-R30C	23H3258-03	PCBs
P-124-R31W	23H3258-04	PCBs
P-125-R31NC	23H3258-05	PCBs
P-126-R33E	23H3258-06	PCBs
P-127-R33NC	23H3258-07	PCBs
P-128-R34C	23H3258-08	PCBs
P-129-R35W	23H3258-09	PCBs
P-130-R37E	23H3258-10	PCBs
P-131-R37S	23H3258-11	PCBs
P-132-R31NB	23H3258-12	PCBs
P-133-R16EP	23H3258-13	PCBs
P-134-R16EW	23H3258-14	PCBs
P-135-R16WT	23H3258-15	PCBs
P-136-GN	23H3258-16	PCBs
P-137-GFN	23H3258-17	PCBs
P-138-GFE	23H3258-18	PCBs
P-139-GFS	23H3258-19	PCBs
P-140-GFW	23H3258-20	PCBs

A complete laboratory report was received for SDG 23H3258.

2. **Holding Time and Sample Preservation Compliance**

Receipt temperature met the acceptable level of ≤ 6 °C.

PCBs: Holding time limits are not applicable for building material samples, based on Table 3 of the Quality Assurance Project Plan Addendum (QAPPA) for the St. Johnsbury Armory site (July 2023). No actions are required.

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

3. **Calibration Issues**

Not assessed for S2AVM.

4. **Lab and Field Blanks**

PCBs: Results for the laboratory method blank associated with the samples of this SDG were non-detect. No blank actions are required.

An equipment blank was not required during sample collection for the site.

5. **Interference Check Sample (metals only)**

Not assessed for S2AVM.

6. **Surrogates (PCBs only)**

PCBs: Surrogate recoveries were within the Program QAPP limits (30-150%) for all samples except where required sample dilutions caused the surrogates to dilute out of the samples. Dilution factors ranged from 1/10 to 1/50. Surrogates were diluted out of samples that had sample dilutions > 1/20. No action is required.

7. **Laboratory Control Samples**

PCBs: Percent recoveries of Aroclors 1016 and 1260 in the PCB LCS/LCSD pair met the Program QAPP limits of 40-140% recovery and relative percent difference (RPD) ≤ 30%. No action is required.

8. **Matrix Spikes**

PCBs: Only Aroclors 1016 and 1260 were spiked in the MS/MSD; therefore, based on professional judgment, if actions are required, they are applied as follows:

If 1016 %R or %RPD out: Qualify 1016, 1221, 1232, 1242
If 1260 %R or %RPD out: Qualify 1248, 1254, 1260, 1262,1268

MS/MSD analyses were performed on sample P-136-GN (23H3258-16).

The percent recovery of Aroclor 1016 (147%) exceeded the Program QAPP limits of 40-140% in the MSD analysis on the primary column. RPDs were ≤ 30%, as specified in the Program QAPP, except for the RPD for Aroclor 1260 on the confirmation column (35.4%). Results for Aroclors 1016, 1221, 1232, and 1242 (all reported from the primary column analysis) are non-detect in the parent sample. Based on the NFGs (2020), the non-detect results are accepted unqualified since the potential bias is high. Results for Aroclor 1260 were reported from the primary column and therefore, no actions are taken for the exceeded RPD limit for Aroclor 1260 on the confirmation column. Qualification considerations are limited to the parent sample only due to the nature of the samples (building material).

9. **Laboratory Duplicates**

PCBs: Not applicable to this analysis.

10. Serial Dilution (metals only)

PCBs: Not applicable to this analysis.

11. Field Duplicate Precision

Criteria based on the EPA Region I Environmental Data Review Supplement (September 2020): RPD ≤ 50% (soils) for results ≥ 5x QL or absolute difference of ≤ 4x QL for results < 5X QL.

The following field duplicate pairs are associated with the samples of this SDG.

- P-127-R33NC / P-FD-05 (23H3258-07 / 23H3268-19)
- P-133-R16EP / P-FD-06 (23H3258-13 / 23H3268-20)
- P-131-R37S / P-FD-11 (23H3258-11 / 23H3270-05)

PCBs: Aroclor results met field duplicate precision criteria and no actions are required.

12. Internal Standards

Not applicable to these analyses.

13. Dual Column Precision (PCBs only)

Dual column precision criteria (≤ 25% RPD per NFG) were met for all Aroclor detections > QL. No action is required.

14. Performance Evaluation (PE) Samples

A PE sample was not submitted with the samples of this SDG. No actions are required.

15. Quantitation Limits

PCBs: Laboratory quantitation limits (QLs) for non-detect Aroclor results exceeded the PAL of ≤ 1 mg/kg for total PCBs, per Table 4 of the QAPPA, for several samples due to required dilutions. Dilutions ranged from 1/5 to 1/50. The QLs were greater than 1 mg/kg in samples requiring dilutions ≥ 1/20.

16. Other

The EPA Region I Environmental Data Review Supplement (2020) percent solids criterion of ≥ 30% for soil samples does not apply to building material samples.

Overall bias is considered indeterminate when cumulative nonconformances do not show a consistent bias or in cases of the presence of conflicting high and low biases.

Field Duplicate Evaluation

SDG: 23H3258 PCBs

Analyte	Original Result mg/kg	Qual	Duplicate Result mg/kg	Qual	RPD ≤ 50%	Abs Diff	Comment
Sample ID	**P-127-R33NC**		**P-FD-05**				
	23H3258-07		**23H3268-19**				
Aroclor 1016	22	U	21	U	-4.65		Ok - both ND
Aroclor 1221	22	U	21	U	-4.65		Ok - both ND
Aroclor 1232	22	U	21	U	-4.65		Ok - both ND
Aroclor 1242	22	U	21	U	-4.65		Ok - both ND
Aroclor 1248	22	U	21	U	-4.65		Ok - both ND
Aroclor 1254	310		340		9.23		Ok - RPD < 50%
Aroclor 1260	22	U	21	U	-4.65		Ok - both ND
Aroclor 1262	22	U	21	U	-4.65		Ok - both ND
Aroclor 1268	22	U	21	U	-4.65		Ok - both ND

Note that P-FD-05 is located in SDG 23H3268.

Field Duplicate Evaluation

SDG: 23H3258 PCBs

Analyte	Original Result mg/kg	Qual	Duplicate Result mg/kg	Qual	RPD ≤ 50%	Abs Diff	Comment
Sample ID	**P-133-R16EP**		**P-FD-06**				
	23H3258-13		**23H3268-20**				
Aroclor 1016	0.46	U	0.4	U	-13.95		Ok - both ND
Aroclor 1221	0.46	U	0.4	U	-13.95		Ok - both ND
Aroclor 1232	0.46	U	0.4	U	-13.95		Ok - both ND
Aroclor 1242	0.46	U	0.4	U	-13.95		Ok - both ND
Aroclor 1248	0.46	U	0.4	U	-13.95		Ok - both ND
Aroclor 1254	5.5		5.6		1.80		Ok - RPD < 50%
Aroclor 1260	0.46	U	0.4	U	-13.95		Ok - both ND
Aroclor 1262	0.46	U	0.4	U	-13.95		Ok - both ND
Aroclor 1268	0.46	U	0.4	U	-13.95		Ok - both ND

Note that P-FD-06 is located in SDG 23H3268.

Field Duplicate Evaluation

SDG: 23H3258 PCBs

Analyte	Original Result mg/kg	Qual	Duplicate Result mg/kg	Qual	RPD ≤ 50%	Abs Diff	Comment
Sample ID	**P-131-R37S**		**P-FD-11**				
	23H3258-11		**23H3270-05**				
Aroclor 1016	24	U	22	U	-8.70		Ok - both ND
Aroclor 1221	24	U	22	U	-8.70		Ok - both ND
Aroclor 1232	24	U	22	U	-8.70		Ok - both ND
Aroclor 1242	24	U	22	U	-8.70		Ok - both ND
Aroclor 1248	24	U	22	U	-8.70		Ok - both ND
Aroclor 1254	270		210		-25.00		Ok - RPD < 50%
Aroclor 1260	24	U	22	U	-8.70		Ok - both ND
Aroclor 1262	24	U	22	U	-8.70		Ok - both ND
Aroclor 1268	24	U	22	U	-8.70		Ok - both ND

Note that P-FD-11 is located in SDG 23H3270.

23H3258 RF

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time

7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
1	P-121-R30NC	8/15/2023	8:31	GRAB	O	U		1				x
2	P-122-R30NB	8/15/2023	8:32	GRAB	O	U		1				x
3	P-123-R30C	8/15/2023	8:33	GRAB	O	U		1				x
4	P-124-R31W	8/15/2023	8:34	GRAB	O	U		1				x
5	P-125-R31NC	8/15/2023	8:35	GRAB	O	U		1				x
6	P-126-R33E	8/15/2023	8:36	GRAB	O	U		1				x
7	P-127-R33NC	8/15/2023	8:37	GRAB	O	U		1				x
8	P-128-R34C	8/15/2023	8:38	GRAB	O	U		1				x
9	P-129-R35W	8/15/2023	8:39	GRAB	O	U		1				x
10	P-130-R37E	8/15/2023	8:40	GRAB	O	U		1				x

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time: 1355 8/22/23	Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS
Received by: (signature)	Date/Time: 1355 8/22/23	
Relinquished by: (signature)	Date/Time: 1746 8-22-23	
Received by: (signature) 3.8, 2.2, 3.9	Date/Time: 8/22/23	
Relinquished by: (signature) 26, 5.6	Date/Time: 1746	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other

☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

23H3258 RF

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time

7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
11	P-131-R37S	8/15/2023	8:41	GRAB	O	U		1				x
12	P-132-R31NB	8/15/2023	10:00	GRAB	O	U		1				x
13	P-133-R16EP	8/15/2023	12:59	GRAB	O	U		1				x
14	P-134-R16EW	8/15/2023	13:00	GRAB	O	U		1				x
15	P-135-R16WT	8/15/2023	13:01	GRAB	O	U		1				x
16	P-136-GN	8/15/2023	13:15	GRAB	O	U		3				x
17	P-137-GFN	8/15/2023	13:16	GRAB	O	U		1				x
18	P-138-GFE	8/15/2023	13:17	GRAB	O	U		1				x
19	P-139-GFS	8/15/2023	13:18	GRAB	O	U		1				x
20	P-140-GFW	8/15/2023	13:19	GRAB	O	U		1				x

[3] Preservation Code

Courier Use Only
Total Number Of:
VIALS
GLASS
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time: 8/22/23 1250	Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS
Received by: (signature)	Date/Time: 8/22/23 1254	
Relinquished by: (signature)	Date/Time: 8-22-23 1746	
Received by: (signature) 38, 22, 39	Date/Time: 8/22/23	
Relinquished by: (signature) 26, 5.6	Date/Time: 1746	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other

☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

November 6, 2023
Nobis File No. S00001.017

Ms. Christine Beling
USEPA - Region I
Land, Chemicals, and Redevelopment Division
5 Post Office Square, Suite 100
Boston, MA 02109-3912

Re: USEPA Contract No. 68HE0122D0001
USEPS Task Order No. 68HE0122F0044
Targeted Brownfield Assessment (TBA) Site
St. Johnsbury Armory Site
St. Johnsbury, Vermont
Sample Delivery Group (SDG) No. 23H3259
Pace Analytical (formerly Con-test), East Longmeadow, MA

Tier 1 Stage 2A Organic Data Review

Polychlorinated Biphenyls (PCBs by 8082A):

20/Building Material Samples: P-141-GFC, P-142-GFDG, P-143-GFLG, P-144-GFW, P-145-EWP1, P-146-EWP2, P-147-EWP3, P-148-EPB1, P-149-EPB2, P-150-EPB3, P-151-EP1, P-152-EP2, P-153-EP3, P-154-R14F, P-155-S12F, P-156-R10WT, P-157-R11F, P-158-R11EDW, P-159-R14WT, P-160-R14CWP
2/Field Duplicate Pairs: P-146-EWP2 / P-FD-07 (located in SDG 23H3270), P-158-R11EDW / P-FD-08 (located in SDG 23H3270)

Dear Ms. Beling:

Nobis Group (Nobis), under a USEPA contract as a subcontractor to KGSNE JV II, LLC (KGSNE), performed a Tier 1 Stage 2A manual data review (S2AVM) on the organic analytical data for the samples listed above. The samples were collected by Nobis at the St. Johnsbury Armory site located in St. Johnsbury, Vermont, on August 15, 2023 and August 16, 2023. The samples were analyzed for PCB Aroclors by EPA Method 8082A by Pace Analytical (formerly Con-test).

The Tier 1 Stage 2A manual data review was performed in accordance with the Region I - EPA New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures (September 2020); USEPA's National Functional Guidelines for Organic Superfund Methods Data Review (November 2020); the Program Quality Assurance Project Plan (Program QAPP) dated October 2022, and the Quality Assurance Project Plan Addendum (QAPPA) (July 2023) for St. Johnsbury Armory, which appends the October 2022 Program QAPP.

The data were evaluated based on the following parameters:

*	•	Overall Evaluation of Data and Potential Usability Issues
*	•	Data Completeness
*	•	Preservation and Technical Holding Times
*	•	Blanks
*	•	Surrogates (PCBs only)
NA	•	Internal Standards

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

*	•	Matrix Spike Analysis
NA	•	Laboratory Duplicates
*	•	Laboratory Control Samples (LCS)/Standard Reference Material (SRM) Recovery (metals only)
	•	Field Duplicates
NA	•	ICP Serial Dilutions (metals only)
NA	•	Performance Evaluation (PE) Samples
*	•	Target Analyte Identification
	•	Reported Quantitation Limits

* All criteria were met for this parameter or qualification was not required.
NA – Not applicable.

Overall Evaluation of Data and Potential Usability Issues

The site sampling objectives are:

- Perform a supplemental hazardous building material survey (HBMS) to address data gaps identified by Atlas Technical Consultants (ATC).
- Further delineate the distribution of hazardous materials to support future building renovation and reuse or demolition and disposal.
- Evaluate sub-slab soils for possible contamination by PCBs.

Note that quantitation limits for non-detect results exceeded the project action limit (PAL) of ≤ 1 mg/kg for total PCBs in several samples due to required sample dilutions.

The data meet the project quality criteria and can be used without restriction except as summarized below. The attachments provide details and supporting documentation.

PCBs:
Results were qualified due to field duplicate imprecision.

Please contact Linda Terzis at lterzis@nobis-group.com should you have any questions or comments regarding this information.

Sincerely,

NOBIS GROUP®

Linda Terzis
Data Validator

Gary Glennon
Data Validator

Tables: Data Summary Tables – Tier 1 Stage 2A (S2AVM) Validated Data
Data Qualification Actions Table

Attachments: Data Review Checklist
Support Documentation
COC

cc: Denis McGrath (Nobis Group)
Tim Andrews (Nobis Group)

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23H3259-01	23H3259-02	23H3259-03	23H3259-04	23H3259-05
Field Sample ID		P-141-GFC	P-142-GFDG	P-143-GFLG	P-144-GFW	P-145-EWP1
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	08/15/23	08/15/23	08/15/23	08/15/23	08/15/23
Aroclor 1016	mg/kg	1 U	0.98 U	2 U	0.1 U	0.99 U
Aroclor 1221	mg/kg	1 U	0.98 U	2 U	0.1 U	0.99 U
Aroclor 1232	mg/kg	1 U	0.98 U	2 U	0.1 U	0.99 U
Aroclor 1242	mg/kg	1 U	0.98 U	2 U	0.1 U	0.99 U
Aroclor 1248	mg/kg	1 U	0.98 U	2 U	0.1 U	0.99 U
Aroclor 1254	mg/kg	7.9	3.7	13	1.4	3.4
Aroclor 1260	mg/kg	1 U	0.98 U	2 U	0.1 U	0.99 U
Aroclor 1262	mg/kg	1 U	0.98 U	2 U	0.1 U	0.99 U
Aroclor 1268	mg/kg	1 U	0.98 U	2 U	0.1 U	0.99 U

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23H3259-06	23H3259-07	23H3259-08	23H3259-09	23H3259-10
Field Sample ID		P-146-EWP2	P-147-EWP3	P-148-EPB1	P-149-EPB2	P-150-EPB3
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	08/15/23	08/15/23	08/15/23	08/15/23	08/15/23
Aroclor 1016	mg/kg	1 U	1 U	0.99 U	1 U	2 U
Aroclor 1221	mg/kg	1 U	1 U	0.99 U	1 U	2 U
Aroclor 1232	mg/kg	1 U	1 U	0.99 U	1 U	2 U
Aroclor 1242	mg/kg	1 U	1 U	0.99 U	1 U	2 U
Aroclor 1248	mg/kg	1 U	1 U	0.99 U	1 U	2 U
Aroclor 1254	mg/kg	5.8	5.6	9.3	4.7	19
Aroclor 1260	mg/kg	1 U	1 U	0.99 U	1 U	2 U
Aroclor 1262	mg/kg	1 U	1 U	0.99 U	1 U	2 U
Aroclor 1268	mg/kg	1 U	1 U	0.99 U	1 U	2 U

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23H3259-11	23H3259-12	23H3259-13	23H3259-14	23H3259-15
Field Sample ID		P-151-EP1	P-152-EP2	P-153-EP3	P-154-R14F	P-155-S12F
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	08/15/23	08/15/23	08/15/23	08/15/23	08/16/23
Aroclor 1016	mg/kg	0.099 U	0.1 U	0.1 U	2 U	9.9 U
Aroclor 1221	mg/kg	0.099 U	0.1 U	0.1 U	2 U	9.9 U
Aroclor 1232	mg/kg	0.099 U	0.1 U	0.1 U	2 U	9.9 U
Aroclor 1242	mg/kg	0.099 U	0.1 U	0.1 U	2 U	9.9 U
Aroclor 1248	mg/kg	0.099 U	0.1 U	0.1 U	2 U	9.9 U
Aroclor 1254	mg/kg	0.55	0.62	1.2	12	65
Aroclor 1260	mg/kg	0.099 U	0.1 U	0.1 U	2 U	9.9 U
Aroclor 1262	mg/kg	0.099 U	0.1 U	0.1 U	2 U	9.9 U
Aroclor 1268	mg/kg	0.099 U	0.1 U	0.1 U	2 U	9.9 U

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23H3259-16	23H3259-17	23H3259-18	23H3259-19	23H3259-20
Field Sample ID		P-156-R10WT	P-157-R11F	P-158-R11EDW	P-159-R14WT	P-160-R14CWP
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	08/16/23	08/16/23	08/16/23	08/16/23	08/16/23
Aroclor 1016	mg/kg	9.9 U	2 U	0.5 U	4.9 U	2 U
Aroclor 1221	mg/kg	9.9 U	2 U	0.5 U	4.9 U	2 U
Aroclor 1232	mg/kg	9.9 U	2 U	0.5 U	4.9 U	2 U
Aroclor 1242	mg/kg	9.9 U	2 U	0.5 U	4.9 U	2 U
Aroclor 1248	mg/kg	9.9 U	2 U	0.5 UJ	4.9 U	2 U
Aroclor 1254	mg/kg	38	11	2.7	20	8.3
Aroclor 1260	mg/kg	9.9 U	2 U	0.5 U	4.9 U	2 U
Aroclor 1262	mg/kg	9.9 U	2 U	0.5 U	4.9 U	2 U
Aroclor 1268	mg/kg	9.9 U	2 U	0.5 U	4.9 U	2 U

Data Review Qualification Actions
Case: St. Johnsbury Armory
SDG: 23H3259

Parameter	Analyte	Samples	Evaluation Criteria	Action Needed	Comments
PCBs					
	Aroclor 1248	P-158-R11EDW, P-FD-08	Field duplicate precision	J / UJ	

Tier 1 Stage 2A Data Review Checklist

Project: St. Johnsbury Armory Site, St. Johnsbury, Vermont
Project #: S00001.017
Case#: NA
Date: 09/28/2023
Methods: PCBs (8082A)
Laboratory: Pace Analytical (formerly Con-test), East Longmeadow, MA
SDG: 23H3259
Reviewer: Linda Terzis

1. **Case Narrative and Data Package Completeness (COC and Analyte List Review)**
Twenty (20) building material samples, including two field duplicate samples, were listed on the COC for SDG 23H3259. The samples were collected on 08/15/2023 and 08/16/2023 and were received at the laboratory on 08/22/2023 at temperatures ranging from 2.2 to 5.6 °C.

Sample ID	Laboratory ID	Analyses
P-141-GFC	23H3259-01	PCBs
P-142-GFDG	23H3259-02	PCBs
P-143-GFLG	23H3259-03	PCBs
P-144-GFW	23H3259-04	PCBs
P-145-EWP1	23H3259-05	PCBs
P-146-EWP2	23H3259-06	PCBs
P-147-EWP3	23H3259-07	PCBs
P-148-EPB1	23H3259-08	PCBs
P-149-EPB2	23H3259-09	PCBs
P-150-EPB3	23H3259-10	PCBs
P-151-EP1	23H3259-11	PCBs
P-152-EP2	23H3259-12	PCBs
P-153-EP3	23H3259-13	PCBs
P-154-R14F	23H3259-14	PCBs
P-155-S12F	23H3259-15	PCBs
P-156-R10WT	23H3259-16	PCBs
P-157-R11F	23H3259-17	PCBs
P-158-R11EDW	23H3259-18	PCBs
P-159-R14WT	23H3259-19	PCBs
P-160-R14CWP	23H3259-20	PCBs

A complete laboratory report was received for SDG 23H3259.

2. **Holding Time and Sample Preservation Compliance**

Receipt temperature met the acceptable level of ≤ 6 °C.

PCBs: Holding time limits are not applicable for building material samples, based on Table 3 of the Quality Assurance Project Plan Addendum (QAPPA) for the St. Johnsbury Armory site (July 2023). No actions are required.

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

3. **Calibration Issues**

   Not assessed for S2AVM.

4. **Lab and Field Blanks**

   PCBs: Results for the laboratory method blank associated with the samples of this SDG were non-detect. No blank actions are required.

   An equipment blank was not required during sample collection for the site.

5. **Interference Check Sample (metals only)**

   Not assessed for S2AVM.

6. **Surrogates (PCBs only)**

   PCBs: Surrogate recoveries were within the Program QAPP limits (30-150%) for all samples except where required sample dilutions caused the surrogates to dilute out of the samples. Dilution factors ranged from 1/5 to 1/100. Surrogates were diluted out of samples that had sample dilutions > 1/20. In addition, the recovery of the surrogate decachlorobiphenyl (DCB) for sample P-150-EPB3 (23H3259-10) exceeded the 30-150% limits (154%) on the confirmatory analytical column. All Aroclor results were reported from the primary column analysis for this sample and therefore, no actions are required.

7. **Laboratory Control Samples**

   PCBs: Percent recoveries of Aroclors 1016 and 1260 in the PCB LCS/LCSD pair met the Program QAPP limits of 40-140% recovery and relative percent difference (RPD) ≤ 30%. No action is required.

8. **Matrix Spikes**

   PCBs: Only Aroclors 1016 and 1260 were spiked in the MS/MSD; therefore, based on professional judgment, if actions are required, they are applied as follows:

   If 1016 %R or %RPD out: Qualify 1016, 1221, 1232, 1242
   If 1260 %R or %RPD out: Qualify 1248, 1254, 1260, 1262,1268

   MS/MSD analyses were performed on sample P-151-EP1 (23H3259-11).

   Percent recoveries of Aroclors 1016 and 1260 were within the Program QAPP limits of 40-140% in the MS and MSD analyses on both analytical columns. RPDs were ≤ 30%, as specified in the Program QAPP. No actions are required.

9. **Laboratory Duplicates**

   PCBs: Not applicable to this analysis.

10. **Serial Dilution (metals only)**

    PCBs: Not applicable to this analysis.

11. Field Duplicate Precision

Criteria based on the EPA Region I Environmental Data Review Supplement (September 2020): RPD ≤ 50% (soils) for results ≥ 5x QL or absolute difference of ≤ 4x QL for results < 5X QL.

The following field duplicate pairs are associated with the samples of this SDG.

- P-146-EWP2 / P-FD-07 (23H3259-06 / 23H3270-01)
- P-158-R11EDW / P-FD-08 (23H3259-18 / 23H3270-02)

PCBs: Aroclor results met field duplicate precision criteria except for the results Aroclor 1248 in field duplicate pair P-158-R11EDW / P-FD-08, where the absolute difference was > 4x QL for results < 5x QL. Based on the EPA Region I Supplemental Guidance (2020), the detect and non-detect results for Aroclor 1248 are qualified as estimated (J/UJ) in samples P-158-R11EDW and P-FD-08 due to field duplicate imprecision. Professional judgement was used to limit qualification to the field duplicate pair only.

12. Internal Standards

Not applicable to these analyses.

13. Dual Column Precision (PCBs only)

Dual column precision criteria (≤ 25% RPD per NFG) were met for all Aroclor detections > QL. No action is required.

14. Performance Evaluation (PE) Samples

A PE sample was not submitted with the samples of this SDG. No actions are required.

15. Quantitation Limits

PCBs: Laboratory quantitation limits (QLs) for non-detect Aroclor results exceeded the PAL of ≤ 1 mg/kg for total PCBs, per Table 4 of the QAPPA, for several samples due to required sample dilutions. Dilutions ranged from 1/5 to 1/100. The QLs were greater than 1 mg/kg in samples requiring dilutions ≥ 1/20.

16. Other

The EPA Region I Environmental Data Review Supplement (2020) percent solids criterion of ≥ 30% for soil samples does not apply to building material samples.

Overall bias is considered indeterminate when cumulative nonconformances do not show a consistent bias or in cases of the presence of conflicting high and low biases.

Field Duplicate Evaluation

SDG: 23H3259 PCBs

Analyte	Original Result mg/kg	Qual	Duplicate Result mg/kg	Qual	RPD ≤ 50%	Abs Diff	Comment
Sample ID	**P-146-EWP2**		**P-FD-07**				
	23H3259-06		**23H3270-01**				
Aroclor 1016	0.4	U	1	U	85.71		Ok - both ND
Aroclor 1221	0.4	U	1	U	85.71		Ok - both ND
Aroclor 1232	0.4	U	1	U	85.71		Ok - both ND
Aroclor 1242	0.4	U	1	U	85.71		Ok - both ND
Aroclor 1248	0.4	U	1	U	85.71		Ok - both ND
Aroclor 1254	4.9		5.8		16.82		Ok - RPD < 50%
Aroclor 1260	0.4	U	1	U	85.71		Ok - both ND
Aroclor 1262	0.4	U	1	U	85.71		Ok - both ND
Aroclor 1268	0.4	U	1	U	85.71		Ok - both ND

Note that P-FD-07 is located in SDG 23H3270.

Field Duplicate Evaluation

SDG: 23H3259 PCBs

Analyte	Original Result mg/kg	Qual	Duplicate Result mg/kg	Qual	RPD ≤ 50%	Abs Diff	Comment[1]
Sample ID	**P-158-R11EDW**		**P-FD-08**				
	23H3259-18		**23H3270-02**				
Aroclor 1016	0.5	U	0.44	U	-12.77		Ok - both ND
Aroclor 1221	0.5	U	0.44	U	-12.77		Ok - both ND
Aroclor 1232	0.5	U	0.44	U	-12.77		Ok - both ND
Aroclor 1242	0.5	U	0.44	U	-12.77		Ok - both ND
Aroclor 1248	0.5	U	3.1		144.44	2.60	**J/UJ - abs diff > 4x RL**
Aroclor 1254	2.7		2.7		0.00		Ok - RPD < 50%
Aroclor 1260	0.5	U	0.44	U	-12.77		Ok - both ND
Aroclor 1262	0.5	U	0.44	U	-12.77		Ok - both ND
Aroclor 1268	0.5	U	0.44	U	-12.77		Ok - both ND

[1] Professional judgement used to apply actions to the field duplicate pair only.
Note that P-FD-08 is located in SDG 23H3270.

23H3259 RF

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time

7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
1	P-141-GFC	8/15/2023	13:20	GRAB	O	U		1				x
2	P-142-GFDG	8/15/2023	13:21	GRAB	O	U		1				x
3	P-143-GFLG	8/15/2023	13:22	GRAB	O	U		1				x
4	P-144-GFW	8/15/2023	13:23	GRAB	O	U		1				x
5	P-145-EWP1	8/15/2023	13:45	GRAB	O	U		1				x
6	P-146-EWP2	8/15/2023	13:46	GRAB	O	U		1				x
7	P-147-EWP3	8/15/2023	13:47	GRAB	O	U		1				x
8	P-148-EPB1	8/15/2023	13:48	GRAB	O	U		1				x
9	P-149-EPB2	8/15/2023	13:49	GRAB	O	U		1				x
10	P-150-EPB3	8/15/2023	13:50	GRAB	O	U		1				x

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time: 1258 8-22-23	
Received by: (signature)	Date/Time: 1258 8-22-23	
Relinquished by: (signature)	Date/Time: 1744 8-22-23	
Received by: (signature) 4d VOA 3.8, 2.2, 3.9	Date/Time: 8/22/23	
Relinquished by: (signature) 2.6, 5.6	Date/Time: 1746	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

23H3259 RF

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time
7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
11	P-151-EP1	8/15/2023	13:51	GRAB	O	U		3				x
12	P-152-EP2	8/15/2023	13:52	GRAB	O	U		1				x
13	P-153-EP3	8/15/2023	13:53	GRAB	O	U		1				x
14	P-154-R14F	8/15/2023	8:00	GRAB	O	U		1				x
15	P-155-S12F	8/16/2023	8:01	GRAB	O	U		1				x
16	P-156-R10WT	8/16/2023	8:02	GRAB	O	U		1				x
17	P-157-R11F	8/16/2023	8:03	GRAB	O	U		1				x
18	P-158-R11EDW	8/16/2023	8:04	GRAB	O	U		1				x
19	P-159-R14WT	8/16/2023	8:05	GRAB	O	U		1				x
20	P-160-R14CWP	8/16/2023	8:06	GRAB	O	U		1				x

[2] Preservation Code
Courier Use Only
Total Number Of:
VIALS
GLASS
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time: 8-22-23 1250
Received by: (signature)	Date/Time: 8/22/23 1930
Relinquished by: (signature)	Date/Time: 8.22.23 1746
Received by: (signature) 3.8, 2.2, 3.9	Date/Time: 8/22/23
Relinquished by: (signature) 2.6, 5.6	Date/Time: 1746
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

November 6, 2023
Nobis File No. S00001.017

Ms. Christine Beling
USEPA - Region I
Land, Chemicals, and Redevelopment Division
5 Post Office Square, Suite 100
Boston, MA 02109-3912

Re: USEPA Contract No. 68HE0122D0001
USEPA Task Order No. 68HE0122F0044
Targeted Brownfield Assessment (TBA) Site
St. Johnsbury Armory Site
St. Johnsbury, Vermont
Sample Delivery Group (SDG) No. 23H3260
Pace Analytical (formerly Con-test), East Longmeadow, MA

Tier 1 Stage 2A Organic Data Review

Polychlorinated Biphenyls (PCBs by 8082A):

20/Building Material Samples: P-161-R16SWP, P-162-R12SDW, P-163-R14WDW, P-164-R11WP, P-165-R16D, P-166-EX, P-167-EX, P-168-EX, P-169-EX, P-170-EX, P-171-EX, P-172-EX, P-173-EX, P-174-EX, P-175-EX, P-176-EX, P-177-EX, P-178-EX, P-179-EX, P-180-EX
1/Field Duplicate Pair: P-176-EX / P-FD-10 (located in SDG 23H3270)

Dear Ms. Beling:

Nobis Group (Nobis), under a USEPA contract as a subcontractor to KGSNE JV II, LLC (KGSNE), performed a Tier 1 Stage 2A manual data review (S2AVM) on the organic analytical data for the samples listed above. The samples were collected by Nobis at the St. Johnsbury Armory site located in St. Johnsbury, Vermont, on August 16, 2023. The samples were analyzed for PCB Aroclors by EPA Method 8082A by Pace Analytical (formerly Con-test).

The Tier 1 Stage 2A manual data review was performed in accordance with the Region I - EPA New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures (September 2020); USEPA's National Functional Guidelines for Organic Superfund Methods Data Review (November 2020); the Program Quality Assurance Project Plan (Program QAPP) dated October 2022, and the Quality Assurance Project Plan Addendum (QAPPA) (July 2023) for St. Johnsbury Armory, which appends the October 2022 Program QAPP.

The data were evaluated based on the following parameters:

*	• Overall Evaluation of Data and Potential Usability Issues
*	• Data Completeness
*	• Preservation and Technical Holding Times
*	• Blanks
*	• Surrogates (PCBs only)
NA	• Internal Standards
	• Matrix Spike Analysis
NA	• Laboratory Duplicates

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

*	•	Laboratory Control Samples (LCS)/Standard Reference Material (SRM) Recovery (metals only)
*	•	Field Duplicates
NA	•	ICP Serial Dilutions (metals only)
NA	•	Performance Evaluation (PE) Samples
*	•	Target Analyte Identification
	•	Reported Quantitation Limits

* All criteria were met for this parameter or qualification was not required.
NA – Not applicable.

Overall Evaluation of Data and Potential Usability Issues

The site sampling objectives are:

- Perform a supplemental hazardous building material survey (HBMS) to address data gaps identified by Atlas Technical Consultants (ATC).
- Further delineate the distribution of hazardous materials to support future building renovation and reuse or demolition and disposal.
- Evaluate sub-slab soils for possible contamination by PCBs.

Note that quantitation limits for non-detect results exceeded the project action limit (PAL) of ≤ 1 mg/kg for total PCBs in several samples due to required sample dilutions.

The data meet the project quality criteria and can be used without restriction except as summarized below. The attachments provide details and supporting documentation.

PCBs:
Results were qualified due to exceeded MS/MSD RPD criteria.

Please contact Linda Terzis at lterzis@nobis-group.com should you have any questions or comments regarding this information.

Sincerely,

NOBIS GROUP®

Linda Terzis
Data Validator

Gary Glennon
Data Validator

Tables: Data Summary Tables – Tier 1 Stage 2A (S2AVM) Validated Data
Data Qualification Actions Table

Attachments: Data Review Checklist
Support Documentation
COC

cc: Denis McGrath (Nobis Group)
Tim Andrews (Nobis Group)

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23H3260-01	23H3260-02	23H3260-03	23H3260-04	23H3260-05
Field Sample ID		P-161-R16SWP	P-162-R12SDW	P-163-R14WDW	P-164-R11WP	P-165-R16D
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	08/16/23	08/16/23	08/16/23	08/16/23	08/16/23
Aroclor 1016	mg/kg	5 U	0.8 U	0.89 U	4.1 U	4.4 U
Aroclor 1221	mg/kg	5 U	0.8 U	0.89 U	4.1 U	4.4 U
Aroclor 1232	mg/kg	5 U	0.8 U	0.89 U	4.1 U	4.4 U
Aroclor 1242	mg/kg	5 U	0.8 U	0.89 U	4.1 U	4.4 U
Aroclor 1248	mg/kg	17	3.6	3.5	4.1 U	4.4 U
Aroclor 1254	mg/kg	18	3.3	2.1	20	34
Aroclor 1260	mg/kg	5 U	0.8 U	0.89 U	4.1 U	4.4 U
Aroclor 1262	mg/kg	5 U	0.8 U	0.89 U	4.1 U	4.4 U
Aroclor 1268	mg/kg	5 U	0.8 U	0.89 U	4.1 U	4.4 U

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23H3260-06	23H3260-07	23H3260-08	23H3260-09	23H3260-10
Field Sample ID		P-166-EX	P-167-EX	P-168-EX	P-169-EX	P-170-EX
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	08/16/23	08/16/23	08/16/23	08/16/23	08/16/23
Aroclor 1016	mg/kg	0.95 U	0.96 U	0.46 U	0.47 U	0.48 U
Aroclor 1221	mg/kg	0.95 U	0.96 U	0.46 U	0.47 U	0.48 U
Aroclor 1232	mg/kg	0.95 U	0.96 U	0.46 U	0.47 U	0.48 U
Aroclor 1242	mg/kg	0.95 U	0.96 U	0.46 U	0.47 U	0.48 U
Aroclor 1248	mg/kg	0.95 U	0.96 U	0.46 U	0.47 U	0.48 U
Aroclor 1254	mg/kg	5.7	4.5	1	1.8	1
Aroclor 1260	mg/kg	0.95 U	0.96 U	0.46 U	0.47 U	0.48 U
Aroclor 1262	mg/kg	0.95 U	0.96 U	0.46 U	0.47 U	0.48 U
Aroclor 1268	mg/kg	0.95 U	0.96 U	0.46 U	0.47 U	0.48 U

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23H3260-11	23H3260-12	23H3260-13	23H3260-14	23H3260-15
Field Sample ID		P-171-EX	P-172-EX	P-173-EX	P-174-EX	P-175-EX
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	08/16/23	08/16/23	08/16/23	08/16/23	08/16/23
Aroclor 1016	mg/kg	0.49 U	900 U	1400 U	3400 U	0.43 U
Aroclor 1221	mg/kg	0.49 U	900 U	1400 U	3400 U	0.43 U
Aroclor 1232	mg/kg	0.49 U	900 U	1400 U	3400 U	0.43 U
Aroclor 1242	mg/kg	0.49 U	900 U	1400 U	3400 U	0.43 U
Aroclor 1248	mg/kg	0.49 U	900 U	1400 U	3400 U	0.43 U
Aroclor 1254	mg/kg	1.7	9700	7100	20000	1.8
Aroclor 1260	mg/kg	0.49 U	900 U	1400 U	3400 U	0.43 U
Aroclor 1262	mg/kg	0.49 U	900 U	1400 U	3400 U	0.43 U
Aroclor 1268	mg/kg	0.49 U	900 U	1400 U	3400 U	0.43 U

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23H3260-16	23H3260-17	23H3260-18	23H3260-19	23H3260-20
Field Sample ID		P-176-EX	P-177-EX	P-178-EX	P-179-EX	P-180-EX
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	08/16/23	08/16/23	08/16/23	08/16/23	08/16/23
Aroclor 1016	mg/kg	0.47 U	0.47 U	0.93 U	0.97 U	0.92 U
Aroclor 1221	mg/kg	0.47 U	0.47 U	0.93 U	0.97 U	0.92 U
Aroclor 1232	mg/kg	0.47 U	0.47 U	0.93 U	0.97 U	0.92 U
Aroclor 1242	mg/kg	0.47 U	0.47 U	0.93 U	0.97 U	0.92 U
Aroclor 1248	mg/kg	0.47 U	0.47 U	0.93 U	0.97 U	0.92 U
Aroclor 1254	mg/kg	0.62	0.72 J	2.4	1.8	3
Aroclor 1260	mg/kg	0.47 U	0.47 U	0.93 U	0.97 U	0.92 U
Aroclor 1262	mg/kg	0.47 U	0.47 U	0.93 U	0.97 U	0.92 U
Aroclor 1268	mg/kg	0.47 U	0.47 U	0.93 U	0.97 U	0.92 U

Data Review Qualification Actions
Case: St. Johnsbury Armory
SDG: 23H3260

Parameter	Analyte	Samples	Evaluation Criteria	Action Needed	Comments
PCBs					
	Aroclor 1254	P-177-EX	MS/MSD RPDs	J	

Tier 1 Stage 2A Data Review Checklist

Project: St. Johnsbury Armory Site, St. Johnsbury, Vermont
Project #: S00001.017
Case#: NA
Date: 09/28/2023
Methods: PCBs (8082A)
Laboratory: Pace Analytical (formerly Con-test), East Longmeadow, MA
SDG: 23H3260
Reviewer: Linda Terzis

1. **Case Narrative and Data Package Completeness (COC and Analyte List Review)**
Twenty (20) building material samples, including one field duplicate sample, were listed on the COC for SDG 23H3260. The samples were collected on 08/16/2023 and were received at the laboratory on 08/22/2023 at temperatures ranging from 2.2 to 5.6 °C.

Sample ID	Laboratory ID	Analyses
P-161-R16SWP	23H3260-01	PCBs
P-162-R12SDW	23H3260-02	PCBs
P-163-R14WDW	23H3260-03	PCBs
P-164-R11WP	23H3260-04	PCBs
P-165-R16D	23H3260-05	PCBs
P-166-EX	23H3260-06	PCBs
P-167-EX	23H3260-07	PCBs
P-168-EX	23H3260-08	PCBs
P-169-EX	23H3260-09	PCBs
P-170-EX	23H3260-10	PCBs
P-171-EX	23H3260-11	PCBs
P-172-EX	23H3260-12	PCBs
P-173-EX	23H3260-13	PCBs
P-174-EX	23H3260-14	PCBs
P-175-EX	23H3260-15	PCBs
P-176-EX	23H3260-16	PCBs
P-177-EX	23H3260-17	PCBs
P-178-EX	23H3260-18	PCBs
P-179-EX	23H3260-19	PCBs
P-180-EX	23H3260-20	PCBs

A complete laboratory report was received for SDG 23H3260.

2. **Holding Time and Sample Preservation Compliance**

Receipt temperature met the acceptable level of ≤ 6 °C.

PCBs: Holding time limits are not applicable for building material samples, based on Table 3 of the Quality Assurance Project Plan Addendum (QAPPA) for the St. Johnsbury Armory site (July 2023). No actions are required.

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

3. **Calibration Issues**

Not assessed for S2AVM.

4. **Lab and Field Blanks**

PCBs: Results for the laboratory method blank associated with the samples of this SDG were non-detect. No blank actions are required.

An equipment blank was not required during sample collection for the site.

5. **Interference Check Sample (metals only)**

Not assessed for S2AVM.

6. **Surrogates (PCBs only)**

PCBs: Surrogate recoveries were within the Program QAPP limits (30-150%) for all samples except where required sample dilutions caused the surrogates to dilute out of the samples. Dilution factors ranged from 1/5 to 1/40,000. Surrogates were diluted out of samples that had sample dilutions > 1/20. No actions are required.

7. **Laboratory Control Samples**

PCBs: Percent recoveries of Aroclors 1016 and 1260 in the PCB LCS/LCSD pair met the Program QAPP limits of 40-140% recovery and relative percent difference (RPD) ≤ 30%. No action is required.

8. **Matrix Spikes**

PCBs: Only Aroclors 1016 and 1260 were spiked in the MS/MSD; therefore, based on professional judgment, if actions are required, they are applied as follows:

If 1016 %R or %RPD out: Qualify 1016, 1221, 1232, 1242
If 1260 %R or %RPD out: Qualify 1248, 1254, 1260, 1262,1268

MS/MSD analyses were performed on sample P-177-EX (23H3260-17).

Percent recoveries of Aroclors 1016 and 1260 were within the Program QAPP limits of 40-140% in the MS and MSD analyses on both analytical columns. RPDs exceeded the Program QAPP criterion of ≤ 30% in 3 of the 4 RPDs. RPDs for the Aroclor 1016 and 1260 results exceeded the Program QAPP limit of ≤ 30% on the primary column. All Aroclor results for the parent sample were reported from the primary column analysis. Based on the NFGs (2020), the detected Aroclor results are qualified as estimated (J) in sample P-177-EX due to the high RPDs and non-detect results are accepted unqualified. Note that only Aroclor 1254 was detected in the sample.

9. **Laboratory Duplicates**

PCBs: Not applicable to this analysis.

10. **Serial Dilution (metals only)**

PCBs: Not applicable to this analysis.

11. **Field Duplicate Precision**

Criteria based on the EPA Region I Environmental Data Review Supplement (September 2020): RPD ≤ 50% (soils) for results ≥ 5x QL or absolute difference of ≤ 4x QL for results < 5X QL.

The following field duplicate pair is associated with the samples of this SDG.

- P-176-EX / P-FD-10 (23H3260-16 / 23H3270-04)

PCBs: Aroclor results met field duplicate precision criteria and no action is required.

12. **Internal Standards**

Not applicable to these analyses.

13. **Dual Column Precision (PCBs only)**

Dual column precision criteria (≤ 25% RPD per NFG) were met for all Aroclor detections > QL. No action is required.

14. **Performance Evaluation (PE) Samples**

A PE sample was not submitted with the samples of this SDG. No actions are required.

15. **Quantitation Limits**

PCBs: Laboratory quantitation limits (QLs) for non-detect Aroclor results exceeded the PAL of ≤ 1 mg/kg for total PCBs, per Table 4 of the QAPPA, for several samples due to required sample dilutions. Dilutions ranged from 1/5 to 1/40,000. The QLs were greater than 1 mg/kg in samples requiring dilutions ≥ 1/50.

16. **Other**

The EPA Region I Environmental Data Review Supplement (2020) percent solids criterion of ≥ 30% for soil samples does not apply to building material samples.

Overall bias is considered indeterminate when cumulative nonconformances do not show a consistent bias or in cases of the presence of conflicting high and low biases.

Field Duplicate Evaluation

SDG: 23H3260 PCBs

Analyte	Original Result mg/kg	Qual	Duplicate Result mg/kg	Qual	RPD ≤ 50%	Abs Diff	Comment
Sample ID	**P-176-EX**		**P-FD-10**				
	23H3260-16		**23H3270-04**				
Aroclor 1016	0.47	U	0.35	U	-29.27		Ok - both ND
Aroclor 1221	0.47	U	0.35	U	-29.27		Ok - both ND
Aroclor 1232	0.47	U	0.35	U	-29.27		Ok - both ND
Aroclor 1242	0.47	U	0.35	U	-29.27		Ok - both ND
Aroclor 1248	0.47	U	0.35	U	-29.27		Ok - both ND
Aroclor 1254	0.62		0.56		-10.17	-0.06	Ok - abs diff < 4x RL
Aroclor 1260	0.47	U	0.35	U	-29.27		Ok - both ND
Aroclor 1262	0.47	U	0.35	U	-29.27		Ok - both ND
Aroclor 1268	0.47	U	0.35	U	-29.27		Ok - both ND

Note that P-FD-10 is located in SDG 23H3270.

23H3260

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time

7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
1	P-161-R16SWP	8/16/2023	8:07	GRAB	O	U		1				x
2	P-162-R12SDW	8/16/2023	8:08	GRAB	O	U		1				x
3	P-163-R14WDW	8/16/2023	8:09	GRAB	O	U		1				x
4	P-164-R11WP	8/16/2023	8:10	GRAB	O	U		1				x
5	P-165-R16D	8/16/2023	8:11	GRAB	O	U		1				x
6	P-166-Ex	8/16/2023	8:12	GRAB	O	U		1				x
7	P-167-Ex	8/16/2023	8:13	GRAB	O	U		1				x
8	P-168-Ex	8/16/2023	8:14	GRAB	O	U		1				x
9	P-169-Ex	8/16/2023	8:15	GRAB	O	U		1				x
10	P-170-Ex	8/16/2023	8:16	GRAB	O	U		1				x

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time: 8-22-23 1258
Received by: (signature)	Date/Time: 8-22-23 1258
Relinquished by: (signature)	Date/Time: 8-22-23 1746
Received by: (signature)	Date/Time: 8/22/23
Relinquished by: (signature) 3.8, 2.2, 3.9	Date/Time:
Received by: (signature) 2.6, 5.6	Date/Time: 1742
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

NELAC and AIHA-LAP, LLC Accredited

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

23H3260

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time

7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
11	P-171-Ex	8/16/2023	8:17	GRAB	O	U		1				x
12	P-172-Ex	8/16/2023	8:18	GRAB	O	U		1				x
13	P-173-Ex	8/16/2023	8:19	GRAB	O	U		1				x
14	P-174-Ex	8/16/2023	8:20	GRAB	O	U		1				x
15	P-175-Ex	8/16/2023	8:21	GRAB	O	U		1				x
16	P-176-Ex	8/16/2023	8:22	GRAB	O	U		1				x
17	P-177-Ex	8/16/2023	8:23	GRAB	O	U		3				x
18	P-178-Ex	8/16/2023	8:24	GRAB	O	U		1				x
19	P-179-Ex	8/16/2023	8:25	GRAB	O	U		1				x
20	P-180-Ex	8/16/2023	8:26	GRAB	O	U		1				x

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS
GLASS
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time:	8/22/23 1258
Received by: (signature)	Date/Time:	8/22/23 1258
Relinquished by: (signature)	Date/Time:	8-22-23 1746
Received by: (signature)	Date/Time:	8-22-23 1746
Relinquished by: (signature) 38, 22, 3.9	Date/Time:	8/22/23
Received by: (signature) 26, 56	Date/Time:	1746
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other

☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

November 6, 2023
Nobis File No. S00001.017

Ms. Christine Beling
USEPA - Region I
Land, Chemicals, and Redevelopment Division
5 Post Office Square, Suite 100
Boston, MA 02109-3912

Re: USEPA Contract No. 68HE0122D0001
USEPA Task Order No. 68HE0122F0044
Targeted Brownfield Assessment (TBA) Site
St. Johnsbury Armory Site
St. Johnsbury, Vermont
Sample Delivery Group (SDG) No. 23H3261
Pace Analytical (formerly Con-test), East Longmeadow, MA

Tier 1 Stage 2A Organic Data Review

Polychlorinated Biphenyls (PCBs by 8082A):

20/Building Material Samples: P-181-EX, P-182-EX, P-183-EX, P-184-EX, P-185-EX, P-186-EX, P-187-EX, P-188-EX, P-189-EX, P-190-EX, P-191-EX, P-192-EX, P-193-GC, P-194-GC, P-195-GC, P-196-GC, P-197-GC, P-198-GC, P-199, P-200

Dear Ms. Beling:

Nobis Group (Nobis), under a USEPA contract as a subcontractor to KGSNE JV II, LLC (KGSNE), performed a Tier 1 Stage 2A manual data review (S2AVM) on the organic analytical data for the samples listed above. The samples were collected by Nobis at the St. Johnsbury Armory site located in St. Johnsbury, Vermont, on August 16, 2023. The samples were analyzed for PCB Aroclors by EPA Method 8082A by Pace Analytical (formerly Con-test).

The Tier 1 Stage 2A manual data review was performed in accordance with the Region I - EPA New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures (September 2020); USEPA's National Functional Guidelines for Organic Superfund Methods Data Review (November 2020); the Program Quality Assurance Project Plan (Program QAPP) dated October 2022, and the Quality Assurance Project Plan Addendum (QAPPA) (July 2023) for St. Johnsbury Armory, which appends the October 2022 Program QAPP.

The data were evaluated based on the following parameters:

*	•	Overall Evaluation of Data and Potential Usability Issues
*	•	Data Completeness
*	•	Preservation and Technical Holding Times
*	•	Blanks
*	•	Surrogates (PCBs only)
NA	•	Internal Standards
*	•	Matrix Spike Analysis
NA	•	Laboratory Duplicates
*	•	Laboratory Control Samples (LCS)/Standard Reference Material (SRM) Recovery (metals only)

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

NA	•	Field Duplicates
NA	•	ICP Serial Dilutions (metals only)
NA	•	Performance Evaluation (PE) Samples
	•	Target Analyte Identification
	•	Reported Quantitation Limits

* All criteria were met for this parameter or qualification was not required.
NA – Not applicable.

Overall Evaluation of Data and Potential Usability Issues

The site sampling objectives are:

- Perform a supplemental hazardous building material survey (HBMS) to address data gaps identified by Atlas Technical Consultants (ATC).
- Further delineate the distribution of hazardous materials to support future building renovation and reuse or demolition and disposal.
- Evaluate sub-slab soils for possible contamination by PCBs.

Note that quantitation limits for non-detect results exceeded the project action limit (PAL) of ≤ 1 mg/kg for total PCBs in several samples due to required sample dilutions.

The data meet the project quality criteria and can be used without restriction except as summarized below. The attachments provide details and supporting documentation.

PCBs:
Results were qualified due to dual column imprecision.

Please contact Linda Terzis at lterzis@nobis-group.com should you have any questions or comments regarding this information.

Sincerely,

NOBIS GROUP®

Linda Terzis
Data Validator

Gary Glennon
Data Validator

Tables: Data Summary Tables – Tier 1 Stage 2A (S2AVM) Validated Data
Data Qualification Actions Table

Attachments: Data Review Checklist
Support Documentation
COC

cc: Denis McGrath (Nobis Group)
Tim Andrews (Nobis Group)

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23H3261-01	23H3261-02	23H3261-03	23H3261-04	23H3261-05
Field Sample ID		P-181-EX	P-182-EX	P-183-EX	P-184-EX	P-185-EX
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	08/16/23	08/16/23	08/16/23	08/16/23	08/16/23
Aroclor 1016	mg/kg	2.3 U	2 U	2.1 U	200 U	230 U
Aroclor 1221	mg/kg	2.3 U	2 U	2.1 U	200 U	230 U
Aroclor 1232	mg/kg	2.3 U	2 U	2.1 U	200 U	230 U
Aroclor 1242	mg/kg	2.3 U	2 U	2.1 U	200 U	230 U
Aroclor 1248	mg/kg	11	8.8	13	200 U	230 U
Aroclor 1254	mg/kg	11	12	12	7500	7700
Aroclor 1260	mg/kg	2.3 U	2 U	2.1 U	200 U	230 U
Aroclor 1262	mg/kg	2.3 U	2 U	2.1 U	200 U	230 U
Aroclor 1268	mg/kg	2.3 U	2 U	2.1 U	200 U	230 U

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23H3261-06	23H3261-07	23H3261-08	23H3261-09	23H3261-10
Field Sample ID		P-186-EX	P-187-EX	P-188-EX	P-189-EX	P-190-EX
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	08/16/23	08/16/23	08/16/23	08/16/23	08/16/23
Aroclor 1016	mg/kg	220 U	4.3 U	8.1 U	21 U	0.45 U
Aroclor 1221	mg/kg	220 U	4.3 U	8.1 U	21 U	0.45 U
Aroclor 1232	mg/kg	220 U	4.3 U	8.1 U	21 U	0.45 U
Aroclor 1242	mg/kg	220 U	4.3 U	8.1 U	21 U	0.45 U
Aroclor 1248	mg/kg	220 U	4.3 U	8.1 U	21 U	0.45 U
Aroclor 1254	mg/kg	9600	38	110	360	1.1 J
Aroclor 1260	mg/kg	220 U	4.3 U	8.1 U	21 U	0.45 U
Aroclor 1262	mg/kg	220 U	4.3 U	8.1 U	21 U	0.45 U
Aroclor 1268	mg/kg	220 U	4.3 U	8.1 U	21 U	0.45 U

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23H3261-11	23H3261-12	23H3261-13	23H3261-14	23H3261-15
Field Sample ID		P-191-EX	P-192-EX	P-193-GC	P-194-GC	P-195-GC
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	08/16/23	08/16/23	08/16/23	08/16/23	08/16/23
Aroclor 1016	mg/kg	0.44 U	0.41 U	0.48 U	0.38 U	0.37 U
Aroclor 1221	mg/kg	0.44 U	0.41 U	0.48 U	0.38 U	0.37 U
Aroclor 1232	mg/kg	0.44 U	0.41 U	0.48 U	0.38 U	0.37 U
Aroclor 1242	mg/kg	0.44 U	0.41 U	0.48 U	0.38 U	0.37 U
Aroclor 1248	mg/kg	0.44 U	0.41 U	0.48 U	0.38 U	0.37 U
Aroclor 1254	mg/kg	1	1.7	1.6	0.64	0.85
Aroclor 1260	mg/kg	0.44 U	0.41 U	0.48 U	0.38 U	0.37 U
Aroclor 1262	mg/kg	0.44 U	0.41 U	0.48 U	0.38 U	0.37 U
Aroclor 1268	mg/kg	0.44 U	0.41 U	0.48 U	0.38 U	0.37 U

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23H3261-16	23H3261-17	23H3261-18	23H3261-19	23H3261-20
Field Sample ID		P-196-GC	P-197-GC	P-198-GC	P-199	P-200
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	08/16/23	08/16/23	08/16/23	08/16/23	08/16/23
Aroclor 1016	mg/kg	0.42 U	0.37 U	0.4 U	1.9 U	0.46 U
Aroclor 1221	mg/kg	0.42 U	0.37 U	0.4 U	1.9 U	0.46 U
Aroclor 1232	mg/kg	0.42 U	0.37 U	0.4 U	1.9 U	0.46 U
Aroclor 1242	mg/kg	0.42 U	0.37 U	0.4 U	1.9 U	0.46 U
Aroclor 1248	mg/kg	0.42 U	0.37 U	0.4 U	1.9 U	0.46 U
Aroclor 1254	mg/kg	1.5	0.57	1.1	7.6	4.6
Aroclor 1260	mg/kg	0.42 U	0.37 U	0.4 U	1.9 U	0.46 U
Aroclor 1262	mg/kg	0.42 U	0.37 U	0.4 U	1.9 U	0.46 U
Aroclor 1268	mg/kg	0.42 U	0.37 U	0.4 U	1.9 U	0.46 U

Data Review Qualification Actions
Case: St. Johnsbury Armory
SDG: 23H3261

Parameter	Analyte	Samples	Evaluation Criteria	Action Needed	Comments
PCBs					
	Aroclor 1254	P-190-EX	Dual column precision	J	

Tier 1 Stage 2A Data Review Checklist

Project: St. Johnsbury Armory Site, St. Johnsbury, Vermont
Project #: S00001.017
Case#: NA
Date: 09/28/2023
Methods: PCBs (8082A)
Laboratory: Pace Analytical (formerly Con-test), East Longmeadow, MA
SDG: 23H3261
Reviewer: Linda Terzis

1. **Case Narrative and Data Package Completeness (COC and Analyte List Review)**
Twenty (20) building material samples were listed on the COC for SDG 23H3261. The samples were collected on 08/16/2023 and were received at the laboratory on 08/22/2023 at temperatures ranging from 2.2 to 5.6 °C.

Sample ID	Laboratory ID	Analyses
P-181-EX	23H3261-01	PCBs
P-182-EX	23H3261-02	PCBs
P-183-EX	23H3261-03	PCBs
P-184-EX	23H3261-04	PCBs
P-185-EX	23H3261-05	PCBs
P-186-EX	23H3261-06	PCBs
P-187-EX	23H3261-07	PCBs
P-188-EX	23H3261-08	PCBs
P-189-EX	23H3261-09	PCBs
P-190-EX	23H3261-10	PCBs
P-191-EX	23H3261-11	PCBs
P-192-EX	23H3261-12	PCBs
P-193-GC	23H3261-13	PCBs
P-194-GC	23H3261-14	PCBs
P-195-GC	23H3261-15	PCBs
P-196-GC	23H3261-16	PCBs
P-197-GC	23H3261-17	PCBs
P-198-GC	23H3261-18	PCBs
P-199	23H3261-19	PCBs
P-200	23H3261-20	PCBs

A complete laboratory report was received for SDG 23H3261.

2. **Holding Time and Sample Preservation Compliance**

Receipt temperature met the acceptable level of ≤ 6 °C.

PCBs: Holding time limits are not applicable for building material samples, based on Table 3 of the Quality Assurance Project Plan Addendum (QAPPA) for the St. Johnsbury Armory site (July 2023). No actions are required.

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

3. **Calibration Issues**

   Not assessed for S2AVM.

4. **Lab and Field Blanks**

   PCBs: Results for the laboratory method blank associated with the samples of this SDG were non-detect. No blank actions are required.

   An equipment blank was not required during sample collection for the site.

5. **Interference Check Sample (metals only)**

   Not assessed for S2AVM.

6. **Surrogates (PCBs only)**

   PCBs: Surrogate recoveries were within the Program QAPP limits (30-150%) for all samples except where required sample dilutions caused the surrogates to dilute out of the samples. Dilution factors ranged from 1/5 to 1/500. Surrogates were diluted out of all samples that required dilution. No actions are required.

7. **Laboratory Control Samples**

   PCBs: Percent recoveries of Aroclors 1016 and 1260 in the PCB LCS/LCSD pair met the Program QAPP limits of 40-140% recovery and relative percent difference (RPD) ≤ 30%. No action is required.

8. **Matrix Spikes**

   PCBs: Only Aroclors 1016 and 1260 were spiked in the MS/MSD; therefore, based on professional judgment, if actions are required, they are applied as follows:

   If 1016 %R or %RPD out: Qualify 1016, 1221, 1232, 1242
   If 1260 %R or %RPD out: Qualify 1248, 1254, 1260, 1262,1268

   MS/MSD analyses were performed on sample P-189-EX (23H3261-09).

   Percent recoveries of Aroclors 1016 and 1260 exceeded the Program QAPP limits of 40-140% in the MS and MSD analyses on both analytical columns. RPDs were < 30%, as specified in the Program QAPP. The laboratory indicated the percent recoveries were high due to the contribution of other Aroclors (i.e., Aroclor 1254) in the parent sample. No action is taken.

9. **Laboratory Duplicates**

   PCBs: Not applicable to this analysis.

10. **Serial Dilution (metals only)**

    PCBs: Not applicable to this analysis.

11. Field Duplicate Precision

Criteria based on the EPA Region I Environmental Data Review Supplement (September 2020): RPD ≤ 50% (soils) for results ≥ 5x QL or absolute difference of ≤ 4x QL for results < 5X QL.

A field duplicate sample was not submitted with the samples of this SDG. No actions are required.

12. Internal Standards

Not applicable to these analyses.

13. Dual Column Precision (PCBs only)

Dual column precision criteria (≤ 25% RPD per NFG) were met for all Aroclor detections > QL except for the Aroclor 1254 detection in sample P-190-EX (23H3261-10), where the RPD was > 25% (25.6%). Based on the NFGs (2020), the detected result for Aroclor 1254 is qualified as estimated (J) in sample P-190-EX due to dual column imprecision.

14. Performance Evaluation (PE) Samples

A PE sample was not submitted with the samples of this SDG. No actions are required.

15. Quantitation Limits

PCBs: Laboratory quantitation limits (QLs) for non-detect Aroclor results exceeded the PAL of ≤ 1 mg/kg for total PCBs, per Table 4 of the QAPPA, for several samples due to required sample dilutions. Dilutions ranged from 1/5 to 1/500. The QLs were greater than 1 mg/kg in samples requiring dilutions.

16. Other

The EPA Region I Environmental Data Review Supplement (2020) percent solids criterion of ≥ 30% for soil samples does not apply to building material samples.

Overall bias is considered indeterminate when cumulative nonconformances do not show a consistent bias or in cases of the presence of conflicting high and low biases.

2343261

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time
7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
1	P-181-Ex	8/16/2023	8;27	GRAB	O	U		1				x
2	P-182-Ex	8/16/2023	8:28	GRAB	O	U		1				x
3	P-183-Ex	8/16/2023	8:29	GRAB	O	U		1				x
4	P-184-Ex	8/16/2023	8:30	GRAB	O	U		1				x
5	P-185-Ex	8/16/2023	8:31	GRAB	O	U		1				x
6	P-186-Ex	8/16/2023	8:32	GRAB	O	U		1				x
7	P-187-Ex	8/16/2023	8:33	GRAB	O	U		1				x
8	P-188-Ex	8/16/2023	8:34	GRAB	O	U		1				x
9	P-189-Ex	8/16/2023	8:35	GRAB	O	U		3				x
10	P-190-Ex	8/16/2023	8:36	GRAB	O	U		1				x

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time: 1245 8.2.23	Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS
Received by: (signature)	Date/Time: 1245 8.2.23	
Relinquished by: (signature)	Date/Time: 1746 8.2.23	
Received by: (signature) 38.2, 5.9	Date/Time: 8/2/23	
Relinquished by: (signature) 26, 5.6	Date/Time: 1746	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

23H13261

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time
7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
11	P-191-Ex	8/16/2023	8:37	GRAB	O	U		1				x
12	P-192-Ex	8/16/2023	8:38	GRAB	O	U		1				x
13	P-193-GC	8/16/2023	8:39	GRAB	O	U		1				x
14	P-194-GC	8/16/2023	8:40	GRAB	O	U		1				x
15	P-195-GC	8/16/2023	8:41	GRAB	O	U		1				x
16	P-196-GC	8/16/2023	8:42	GRAB	O	U		1				x
17	P-197-GC	8/16/2023	8:43	GRAB	O	U		1				x
18	P-198-GC	8/16/2023	8:44	GRAB	O	U		1				x
19	P-199	8/16/2023	8:45	GRAB	O	U		1				x
20	P-200	8/16/2023	8:46	GRAB	O	U		1				x

[1] Preservation Code
Lauer Use Only
Total Number Of:
VIALS
GLASS
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

	Date/Time:
Relinquished by: (signature)	8-22-23 1325
Received by: (signature)	Date/Time: 8-22-23 1325
Relinquished by: (signature)	Date/Time: 8-22-23 1746
Received by: (signature) 3.8, 2.2, 3.9	Date/Time: 8/22/23
Relinquished by: (signature) 26, 5.6	Date/Time: 1746
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

November 6, 2023
Nobis File No. S00001.017

Ms. Christine Beling
USEPA - Region I
Land, Chemicals, and Redevelopment Division
5 Post Office Square, Suite 100
Boston, MA 02109-3912

Re: USEPA Contract No. 68HE0122D0001
USEPA Task Order No. 68HE0122F0044
Targeted Brownfield Assessment (TBA) Site
St. Johnsbury Armory Site
St. Johnsbury, Vermont
Sample Delivery Group (SDG) No. 23H3264
Pace Analytical (formerly Con-test), East Longmeadow, MA

Tier 1 Stage 2A Organic Data Review

Polychlorinated Biphenyls (PCBs by 8082A):

20/Building Material Samples: P-201, P-202, P-203-EX, P-204-R17W, P-205-R17W, P-206-R17W, P-207-R16C, P-208-R14SP, P-209-R16SP, P-210-R16NWP, P-211-R15CP, P-212-R11EP, P-213-R12CPB, P-214-R12CDW, P-215-R15CPW, P-216-R13CP, P-217-R11SDW, P-218-R13WT, P-219-R14EDW, P-220-S12C

Dear Ms. Beling:

Nobis Group (Nobis), under a USEPA contract as a subcontractor to KGSNE JV II, LLC (KGSNE), performed a Tier 1 Stage 2A manual data review (S2AVM) on the organic analytical data for the samples listed above. The samples were collected by Nobis at the St. Johnsbury Armory site located in St. Johnsbury, Vermont, on August 16, 2023. The samples were analyzed for PCB Aroclors by EPA Method 8082A by Pace Analytical (formerly Con-test).

The Tier 1 Stage 2A manual data review was performed in accordance with the Region I - EPA New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures (September 2020); USEPA's National Functional Guidelines for Organic Superfund Methods Data Review (November 2020); the Program Quality Assurance Project Plan (Program QAPP) dated October 2022, and the Quality Assurance Project Plan Addendum (QAPPA) (July 2023) for St. Johnsbury Armory, which appends the October 2022 Program QAPP.

The data were evaluated based on the following parameters:

*	•	Overall Evaluation of Data and Potential Usability Issues
*	•	Data Completeness
*	•	Preservation and Technical Holding Times
*	•	Blanks
*	•	Surrogates (PCBs only)
NA	•	Internal Standards
NA	•	Matrix Spike Analysis
NA	•	Laboratory Duplicates

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

*	•	Laboratory Control Samples (LCS)/Standard Reference Material (SRM) Recovery (metals only)
NA	•	Field Duplicates
NA	•	ICP Serial Dilutions (metals only)
NA	•	Performance Evaluation (PE) Samples
	•	Target Analyte Identification
	•	Reported Quantitation Limits

* All criteria were met for this parameter or qualification was not required.
NA – Not applicable.

Overall Evaluation of Data and Potential Usability Issues

The site sampling objectives are:

- Perform a supplemental hazardous building material survey (HBMS) to address data gaps identified by Atlas Technical Consultants (ATC).
- Further delineate the distribution of hazardous materials to support future building renovation and reuse or demolition and disposal.
- Evaluate sub-slab soils for possible contamination by PCBs.

Note that quantitation limits for non-detect results exceeded the project action limit (PAL) of ≤ 1 mg/kg for total PCBs in several samples due to required sample dilutions.

The data meet the project quality criteria and can be used without restriction except as summarized below. The attachments provide details and supporting documentation.

PCBs:
Results were qualified due to dual column imprecision.

Please contact Linda Terzis at lterzis@nobis-group.com should you have any questions or comments regarding this information.

Sincerely,

NOBIS GROUP®

Linda Terzis
Data Validator

Gary Glennon
Data Validator

Tables: Data Summary Tables – Tier 1 Stage 2A (S2AVM) Validated Data
Data Qualification Actions Table

Attachments: Data Review Checklist
Support Documentation
COC

cc: Denis McGrath (Nobis Group)
Tim Andrews (Nobis Group)

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23H3264-01	23H3264-02	23H3264-03	23H3264-04	23H3264-05
Field Sample ID		P-201	P-202	P-203-EX	P-204-R17W	P-205-R17W
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	08/16/23	08/16/23	08/16/23	08/16/23	08/16/23
Aroclor 1016	mg/kg	1 U	1.9 U	0.089 U	1.8 U	2.3 U
Aroclor 1221	mg/kg	1 U	1.9 U	0.089 U	1.8 U	2.3 U
Aroclor 1232	mg/kg	1 U	1.9 U	0.089 U	1.8 U	2.3 U
Aroclor 1242	mg/kg	1 U	1.9 U	0.089 U	1.8 U	2.3 U
Aroclor 1248	mg/kg	1 U	1.9 U	0.089 U	1.8 U	2.3 U
Aroclor 1254	mg/kg	7.9	8.5	0.53	4.8	8.2
Aroclor 1260	mg/kg	1 U	1.9 U	0.089 U	1.8 U	2.3 U
Aroclor 1262	mg/kg	1 U	1.9 U	0.089 U	1.8 U	2.3 U
Aroclor 1268	mg/kg	1 U	1.9 U	0.089 U	1.8 U	2.3 U

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23H3264-06	23H3264-07	23H3264-08	23H3264-09	23H3264-10
Field Sample ID		P-206-R17W	P-207-R16C	P-208-R14SP	P-209-R16SP	P-210-R16NWP
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	08/16/23	08/16/23	08/16/23	08/16/23	08/16/23
Aroclor 1016	mg/kg	1.9 U	4.2 U	0.48 U	0.97 U	4.4 U
Aroclor 1221	mg/kg	1.9 U	4.2 U	0.48 U	0.97 U	4.4 U
Aroclor 1232	mg/kg	1.9 U	4.2 U	0.48 U	0.97 U	4.4 U
Aroclor 1242	mg/kg	1.9 U	4.2 U	0.48 U	0.97 U	4.4 U
Aroclor 1248	mg/kg	1.9 U	4.2 U	0.48 U	2.1 J	4.4 U
Aroclor 1254	mg/kg	10	16	1.4	2.3	26
Aroclor 1260	mg/kg	1.9 U	4.2 U	0.48 U	0.97 U	4.4 U
Aroclor 1262	mg/kg	1.9 U	4.2 U	0.48 U	0.97 U	4.4 U
Aroclor 1268	mg/kg	1.9 U	4.2 U	0.48 U	0.97 U	4.4 U

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23H3264-11	23H3264-12	23H3264-13	23H3264-14	23H3264-15
Field Sample ID		P-211-R15CP	P-212-R11EP	P-213-R12CPB	P-214-R12CDW	P-215-R15CPW
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	08/16/23	08/16/23	08/16/23	08/16/23	08/16/23
Aroclor 1016	mg/kg	0.43 U	3.9 U	2.3 U	1 U	4.1 U
Aroclor 1221	mg/kg	0.43 U	3.9 U	2.3 U	1 U	4.1 U
Aroclor 1232	mg/kg	0.43 U	3.9 U	2.3 U	1 U	4.1 U
Aroclor 1242	mg/kg	0.43 U	3.9 U	2.3 U	1 U	4.1 U
Aroclor 1248	mg/kg	0.43 U	3.9 U	2.3 U	1 U	4.1 U
Aroclor 1254	mg/kg	0.59	16	9	5.3	25
Aroclor 1260	mg/kg	0.43 U	3.9 U	2.3 U	1 U	4.1 U
Aroclor 1262	mg/kg	0.43 U	3.9 U	2.3 U	1 U	4.1 U
Aroclor 1268	mg/kg	0.43 U	3.9 U	2.3 U	1 U	4.1 U

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23H3264-16	23H3264-17	23H3264-18	23H3264-19	23H3264-20
Field Sample ID		P-216-R13CP	P-217-R11SDW	P-218-R13WT	P-219-R14EDW	P-220-S12C
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	08/16/23	08/16/23	08/16/23	08/16/23	08/16/23
Aroclor 1016	mg/kg	0.092 U	1.8 U	3.4 U	1.8 U	3.5 U
Aroclor 1221	mg/kg	0.092 U	1.8 U	3.4 U	1.8 U	3.5 U
Aroclor 1232	mg/kg	0.092 U	1.8 U	3.4 U	1.8 U	3.5 U
Aroclor 1242	mg/kg	0.092 U	1.8 U	3.4 U	1.8 U	3.5 U
Aroclor 1248	mg/kg	0.092 U	1.8 U	3.4 U	1.8 U	3.5 U
Aroclor 1254	mg/kg	0.21	6.2	11	6.8	19
Aroclor 1260	mg/kg	0.092 U	1.8 U	3.4 U	1.8 U	3.5 U
Aroclor 1262	mg/kg	0.092 U	1.8 U	3.4 U	1.8 U	3.5 U
Aroclor 1268	mg/kg	0.092 U	1.8 U	3.4 U	1.8 U	3.5 U

Data Review Qualification Actions
Case: St. Johnsbury Armory
SDG: 23H3264

Parameter	Analyte	Samples	Evaluation Criteria	Action Needed	Comments
PCBs					
	Aroclor 1248	P-209-R16SP	Dual column precision	J	

nobis

Tier 1 Stage 2A Data Review Checklist

Project: St. Johnsbury Armory Site, St. Johnsbury, Vermont
Project #: S00001.017
Case#: NA
Date: 09/28/2023
Methods: PCBs (8082A)
Laboratory: Pace Analytical (formerly Con-test), East Longmeadow, MA
SDG: 23H3264
Reviewer: Linda Terzis

1. **Case Narrative and Data Package Completeness (COC and Analyte List Review)**
Twenty (20) building material samples were listed on the COC for SDG 23H3264. The samples were collected on 08/16/2023 and were received at the laboratory on 08/22/2023 at temperatures ranging from 2.2 to 5.6 °C.

Sample ID	Laboratory ID	Analyses
P-201	23H3264-01	PCBs
P-202	23H3264-02	PCBs
P-203-EX	23H3264-03	PCBs
P-204-R17W	23H3264-04	PCBs
P-205-R17W	23H3264-05	PCBs
P-206-R17W	23H3264-06	PCBs
P-207-R16C	23H3264-07	PCBs
P-208-R14SP	23H3264-08	PCBs
P-209-R16SP	23H3264-09	PCBs
P-210-R16NWP	23H3264-10	PCBs
P-211-R15CP	23H3264-11	PCBs
P-212-R11EP	23H3264-12	PCBs
P-213-R12CPB	23H3264-13	PCBs
P-214-R12CDW	23H3264-14	PCBs
P-215-R15CPW	23H3264-15	PCBs
P-216-R13CP	23H3264-16	PCBs
P-217-R11SDW	23H3264-17	PCBs
P-218-R13WT	23H3264-18	PCBs
P-219-R14EDW	23H3264-19	PCBs
P-220-S12C	23H3264-20	PCBs

A complete laboratory report was received for SDG 23H3264.

2. **Holding Time and Sample Preservation Compliance**

Receipt temperature met the acceptable level of ≤ 6 °C.

PCBs: Holding time limits are not applicable for building material samples, based on Table 3 of the Quality Assurance Project Plan Addendum (QAPPA) for the St. Johnsbury Armory site (July 2023). No actions are required.

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

3. **Calibration Issues**

   Not assessed for S2AVM.

4. **Lab and Field Blanks**

   PCBs: Results for the laboratory method blanks associated with the samples of this SDG were non-detect. No blank actions are required.

   An equipment blank was not required during sample collection for the site.

5. **Interference Check Sample (metals only)**

   Not assessed for S2AVM.

6. **Surrogates (PCBs only)**

   PCBs: Surrogate recoveries were within the Program QAPP limits (30-150%) for all samples and no actions are required.

7. **Laboratory Control Samples**

   PCBs: Percent recoveries of Aroclors 1016 and 1260 in the PCB LCS/LCSD pairs associated with the samples met the Program QAPP limits of 40-140% recovery and relative percent difference (RPD) ≤ 30%. No action is required.

8. **Matrix Spikes**

   PCBs: Only Aroclors 1016 and 1260 were spiked in the MS/MSD; therefore, based on professional judgment, if actions are required, they are applied as follows:

   If 1016 %R or %RPD out: Qualify 1016, 1221, 1232, 1242
   If 1260 %R or %RPD out: Qualify 1248, 1254, 1260, 1262,1268

   MS/MSD analyses were not performed for this SDG.

9. **Laboratory Duplicates**

   PCBs: Not applicable to this analysis.

10. **Serial Dilution (metals only)**

    PCBs: Not applicable to this analysis.

11. **Field Duplicate Precision**

    Criteria based on the EPA Region I Environmental Data Review Supplement (September 2020): RPD ≤ 50% (soils) for results ≥ 5x QL or absolute difference of ≤ 4x QL for results < 5X QL.

    A field duplicate sample was not submitted with the samples of this SDG. No actions are required.

12. Internal Standards

Not applicable to these analyses.

13. Dual Column Precision (PCBs only)

Dual column precision criteria (≤ 25% RPD per NFG) were met for all Aroclor detections > QL except for the Aroclor 1248 detection in sample P-209-R16SP (23H3264-09), where the RPD was > 25% (25.6%). Based on the NFGs (2020), the detected result for Aroclor 1248 is qualified as estimated (J) in sample P-209-R16SP due to dual column imprecision.

14. Performance Evaluation (PE) Samples

A PE sample was not submitted with the samples of this SDG. No actions are required.

15. Quantitation Limits

PCBs: Laboratory quantitation limits (QLs) for non-detect Aroclor results exceeded the PAL of ≤ 1 mg/kg for total PCBs, per Table 4 of the QAPPA, for several samples due to required sample dilutions. Dilutions ranged from 1/5 to 1/10. The QLs were greater than 1 mg/kg in samples requiring dilutions; however, note that some samples (23H3264-01, -03, -08, -09, -11, -14, and -16) were extracted using a larger volume of sample than the other samples in the SDG. While these samples also required dilutions, the QLs for these samples met the PAL due to the extra sample volume extracted.

16. Other

The EPA Region I Environmental Data Review Supplement (2020) percent solids criterion of ≥ 30% for soil samples does not apply to building material samples.

Overall bias is considered indeterminate when cumulative nonconformances do not show a consistent bias or in cases of the presence of conflicting high and low biases.

23H3264

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time			
7-Day	☑	10-Day	☐
PFAS 10-Day (std)	☐	Due Date:	

Rush-Approval Required			
1-Day	☐	3-Day	☐
2-Day	☐	4-Day	☐

Dissolved Metals Samples	
○	Field Filtered
○	Lab to Filter

Orthophosphate Samples	
○	Field Filtered
○	Lab to Filter

Data Delivery			
Format:	PDF ☑	EXCEL ☑	
Other:	Equis EDD		
CLP Like Data Pkg Required:	☐		
Email To:	tandrews@nobis-group.com		
Fax To #:			

PCB ONLY

SOXHLET ☑

NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
1	P-201	8/16/2023	8:47	GRAB	O	U		1				x
2	P-202	8/16/2023	8:48	GRAB	O	U		1				x
3	P-203-Ex	8/16/2023	8:49	GRAB	O	U		1				x
4	P-204-R17W	8/16/2023	8:50	GRAB	O	U		1				x
5	P-205-R17W	8/16/2023	8:51	GRAB	O	U		1				x
6	P-206-R17W	8/16/2023	8:52	GRAB	O	U		1				x
7	P-207-R16C	8/16/2023	8:53	GRAB	O	U		1				x
8	P-208-R14CP	8/16/2023	8:54	GRAB	O	U		1				x
9	P-209-R16SP	8/16/2023	8:55	GRAB	O	U		1				x
10	P-210-R16NWP	8/16/2023	8:56	GRAB	O	U		1				x

[2] Preservation Code

Courier Use Only

Total Number Of:

VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N

Glassware in freezer? Y / N

Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time: 8:22:23
Received by: (signature)	Date/Time: 1255 8.22.23
Relinquished by: (signature)	Date/Time: 8-22-23 1746
Received by: (signature) 3.8, 2.2, 3.9	Date/Time: 8/22/23
Relinquished by: (signature) 26, 5.6	Date/Time: 1746
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS

Detection Limit Requirements	
MA	
CT	
Other:	

Special Requirements	
☐	MA MCP Required
	MCP Certification Form Required
☐	CT RCP Required
	RCP Certification Form Required
☐	MA State DW Required
PWSID #	

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government	☐	Municipality	☐	MWRA	☐	WRTA	☐
Federal	☐	21 J	☐	School	☐		
City	☐	Brownfield	☐	MBTA	☐		

Other

☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

23H3264

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time

7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1] Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
11	P-211-R15CP	8/16/2023	8:57	GRAB	O	U		1				x
12	P-212-R11EP	8/16/2023	8:58	GRAB	O	U		1				x
13	P-213-R12CPB	8/16/2023	8:59	GRAB	O	U		1				x
14	P-214-R12CDW	8/16/2023	9:00	GRAB	O	U		1				x
15	P-215-R15CPW	8/16/2023	9:01	GRAB	O	U		1				x
16	P-216-R13CP	8/16/2023	9:02	GRAB	O	U		1				x
17	P-217-R11SDW	8/16/2023	9:03	GRAB	O	U		1				x
18	P-218-R13WT	8/16/2023	9:04	GRAB	O	U		1				x
19	P-219-R14EDW	8/16/2023	9:05	GRAB	O	U		1				x
20	P-220-S12C	8/16/2023	9:06	GRAB	O	U		1				x

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS
GLASS
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

	Date/Time:
Relinquished by: (signature)	8/22/23 1258
Received by: (signature)	8-22-23 1258
Relinquished by: (signature)	8-22-23 1746
Received by: (signature) 3.8, 2.2, 3.9	8/22/23
Relinquished by: (signature) 2.6, 5.6	1746
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other

☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

November 6, 2023
Nobis File No. S00001.017

Ms. Christine Beling
USEPA - Region I
Land, Chemicals, and Redevelopment Division
5 Post Office Square, Suite 100
Boston, MA 02109-3912

Re: USEPA Contract No. 68HE0122D0001
USEPA Task Order No. 68HE0122F0044
Targeted Brownfield Assessment (TBA) Site
St. Johnsbury Armory Site
St. Johnsbury, Vermont
Sample Delivery Group (SDG) No. 23H3265
Pace Analytical (formerly Con-test), East Longmeadow, MA

Tier 1 Stage 2A Organic Data Review

Polychlorinated Biphenyls (PCBs by 8082A):

20/Building Material Samples: P-201, P-202, P-203-EX, P-204-R17W, P-205-R17W, P-206-R17W, P-207-R16C, P-208-R14SP, P-209-R16SP, P-210-R16NWP, P-211-R15CP, P-212-R11EP, P-213-R12CPB, P-214-R12CDW, P-215-R15CPW, P-216-R13CP, P-217-R11SDW, P-218-R13WT, P-219-R14EDW, P-220-S12C

Dear Ms. Beling:

Nobis Group (Nobis), under a USEPA contract as a subcontractor to KGSNE JV II, LLC (KGSNE), performed a Tier 1 Stage 2A manual data review (S2AVM) on the organic analytical data for the samples listed above. The samples were collected by Nobis at the St. Johnsbury Armory site located in St. Johnsbury, Vermont, on August 16, 2023. The samples were analyzed for PCB Aroclors by EPA Method 8082A by Pace Analytical (formerly Con-test).

The Tier 1 Stage 2A manual data review was performed in accordance with the Region I - EPA New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures (September 2020); USEPA's National Functional Guidelines for Organic Superfund Methods Data Review (November 2020); the Program Quality Assurance Project Plan (Program QAPP) dated October 2022, and the Quality Assurance Project Plan Addendum (QAPPA) (July 2023) for St. Johnsbury Armory, which appends the October 2022 Program QAPP.

The data were evaluated based on the following parameters:

*	•	Overall Evaluation of Data and Potential Usability Issues
*	•	Data Completeness
*	•	Preservation and Technical Holding Times
*	•	Blanks
*	•	Surrogates (PCBs only)
NA	•	Internal Standards
*	•	Matrix Spike Analysis
NA	•	Laboratory Duplicates

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

*	•	Laboratory Control Samples (LCS)/Standard Reference Material (SRM) Recovery (metals only)
NA	•	Field Duplicates
NA	•	ICP Serial Dilutions (metals only)
NA	•	Performance Evaluation (PE) Samples
*	•	Target Analyte Identification
	•	Reported Quantitation Limits

* All criteria were met for this parameter or qualification was not required.
NA – Not applicable.

Overall Evaluation of Data and Potential Usability Issues

The site sampling objectives are:

- Perform a supplemental hazardous building material survey (HBMS) to address data gaps identified by Atlas Technical Consultants (ATC).
- Further delineate the distribution of hazardous materials to support future building renovation and reuse or demolition and disposal.
- Evaluate sub-slab soils for possible contamination by PCBs.

Note that quantitation limits for non-detect results exceeded the project action limit (PAL) of ≤ 1 mg/kg for total PCBs in several samples due to required sample dilutions.

The data meet the project quality criteria and can be used without restriction except as summarized below. The attachments provide details and supporting documentation.

PCBs:
Qualification of the data was not required.

Please contact Linda Terzis at lterzis@nobis-group.com should you have any questions or comments regarding this information.

Sincerely,

NOBIS GROUP®

Linda Terzis
Data Validator

Gary Glennon
Data Validator

Tables: Data Summary Tables – Tier 1 Stage 2A (S2AVM) Validated Data
Data Qualification Actions Table

Attachments: Data Review Checklist
Support Documentation
COC

cc: Denis McGrath (Nobis Group)
Tim Andrews (Nobis Group)

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23H3265-01	23H3265-02	23H3265-03	23H3265-04	23H3265-05
Field Sample ID		P-221-R15WT	P-222-R16NP	P-223-S12N	P-224-R23C	P-225-R13S
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	08/16/23	08/16/23	08/16/23	08/16/23	08/16/23
Aroclor 1016	mg/kg	3.8 U	3.6 U	4.7 U	45 U	4.2 U
Aroclor 1221	mg/kg	3.8 U	3.6 U	4.7 U	45 U	4.2 U
Aroclor 1232	mg/kg	3.8 U	3.6 U	4.7 U	45 U	4.2 U
Aroclor 1242	mg/kg	3.8 U	3.6 U	4.7 U	45 U	4.2 U
Aroclor 1248	mg/kg	3.8 U	3.6 U	4.7 U	45 U	4.2 U
Aroclor 1254	mg/kg	63	16	64	950	4.5
Aroclor 1260	mg/kg	3.8 U	3.6 U	4.7 U	45 U	4.2 U
Aroclor 1262	mg/kg	3.8 U	3.6 U	4.7 U	45 U	4.2 U
Aroclor 1268	mg/kg	3.8 U	3.6 U	4.7 U	45 U	4.2 U

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23H3265-06	23H3265-07	23H3265-08	23H3265-09	23H3265-10
Field Sample ID		P-226-R14SDW	P-227-R14-EP	P-228-R12WT	P-229-R14CDW	P-230-R13CWP
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	08/16/23	08/16/23	08/16/23	08/16/23	08/16/23
Aroclor 1016	mg/kg	2.1 U	1.7 U	4.1 U	2.2 U	2.2 U
Aroclor 1221	mg/kg	2.1 U	1.7 U	4.1 U	2.2 U	2.2 U
Aroclor 1232	mg/kg	2.1 U	1.7 U	4.1 U	2.2 U	2.2 U
Aroclor 1242	mg/kg	2.1 U	1.7 U	4.1 U	2.2 U	2.2 U
Aroclor 1248	mg/kg	2.1 U	1.8	4.1 U	2.2 U	2.2 U
Aroclor 1254	mg/kg	12	3	26	8.9	4.5
Aroclor 1260	mg/kg	2.1 U	1.7 U	4.1 U	2.2 U	2.2 U
Aroclor 1262	mg/kg	2.1 U	1.7 U	4.1 U	2.2 U	2.2 U
Aroclor 1268	mg/kg	2.1 U	1.7 U	4.1 U	2.2 U	2.2 U

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23H3265-11	23H3265-12	23H3265-13	23H3265-14	23H3265-15
Field Sample ID		P-231-R11CP	P-232-R13F	P-233-R13E	P-234-R12F	P-235-R25D
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	08/16/23	08/16/23	08/16/23	08/16/23	08/16/23
Aroclor 1016	mg/kg	0.91 U	4.8 U	4.1 U	0.94 U	4.5 U
Aroclor 1221	mg/kg	0.91 U	4.8 U	4.1 U	0.94 U	4.5 U
Aroclor 1232	mg/kg	0.91 U	4.8 U	4.1 U	0.94 U	4.5 U
Aroclor 1242	mg/kg	0.91 U	4.8 U	4.1 U	0.94 U	4.5 U
Aroclor 1248	mg/kg	0.91 U	4.8 U	4.1 U	6.6	4.5 U
Aroclor 1254	mg/kg	1.7	27	8.3	6.4	19
Aroclor 1260	mg/kg	0.91 U	4.8 U	4.1 U	0.94 U	4.5 U
Aroclor 1262	mg/kg	0.91 U	4.8 U	4.1 U	0.94 U	4.5 U
Aroclor 1268	mg/kg	0.91 U	4.8 U	4.1 U	0.94 U	4.5 U

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23H3265-16	23H3265-17	23H3265-18	23H3265-19	23H3265-20
Field Sample ID		P-236-R15S	P-237-R33NB	P-238-R35C	P-239-S01F	P-240-R13D
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	08/16/23	08/16/23	08/16/23	08/16/23	08/16/23
Aroclor 1016	mg/kg	3.8 U	24 U	9.3 U	7.6 U	3.9 U
Aroclor 1221	mg/kg	3.8 U	24 U	9.3 U	7.6 U	3.9 U
Aroclor 1232	mg/kg	3.8 U	24 U	9.3 U	7.6 U	3.9 U
Aroclor 1242	mg/kg	3.8 U	24 U	9.3 U	7.6 U	3.9 U
Aroclor 1248	mg/kg	3.8 U	24 U	9.3 U	7.6 U	3.9 U
Aroclor 1254	mg/kg	59	320	130	110	25
Aroclor 1260	mg/kg	3.8 U	24 U	9.3 U	7.6 U	3.9 U
Aroclor 1262	mg/kg	3.8 U	24 U	9.3 U	7.6 U	3.9 U
Aroclor 1268	mg/kg	3.8 U	24 U	9.3 U	7.6 U	3.9 U

Data Review Qualification Actions
Case: St. Johnsbury Armory
SDG: 23H3265

Parameter	Analyte	Samples	Evaluation Criteria	Action Needed	Comments
PCBs					
	Qualification of the data was not required.				

Tier 1 Stage 2A Data Review Checklist

Project: St. Johnsbury Armory Site, St. Johnsbury, Vermont
Project #: S00001.017
Case#: NA
Date: 10/02/2023
Methods: PCBs (8082A)
Laboratory: Pace Analytical (formerly Con-test), East Longmeadow, MA
SDG: 23H3265
Reviewer: Linda Terzis

1. **Case Narrative and Data Package Completeness (COC and Analyte List Review)**
Twenty (20) building material samples were listed on the COC for SDG 23H3265. The samples were collected on 08/16/2023 and were received at the laboratory on 08/22/2023 at temperatures ranging from 2.2 to 5.6 °C.

Sample ID	Laboratory ID	Analyses
P-221-R15WT	23H3265-01	PCBs
P-222-R16NP	23H3265-02	PCBs
P-223-S12N	23H3265-03	PCBs
P-224-R23C	23H3265-04	PCBs
P-225-R13S	23H3265-05	PCBs
P-226-R14SDW	23H3265-06	PCBs
P-227-R14-EP	23H3265-07	PCBs
P-228-R12WT	23H3265-08	PCBs
P-229-R14CDW	23H3265-09	PCBs
P-230-R13CWP	23H3265-10	PCBs
P-231-R11CP	23H3265-11	PCBs
P-232-R13F	23H3265-12	PCBs
P-233-R13E	23H3265-13	PCBs
P-234-R12F	23H3265-14	PCBs
P-235-R25D	23H3265-15	PCBs
P-236-R15S	23H3265-16	PCBs
P-237-R33NB	23H3265-17	PCBs
P-238-R35C	23H3265-18	PCBs
P-239-S01F	23H3265-19	PCBs
P-240-R13D	23H3265-20	PCBs

A complete laboratory report was received for SDG 23H3265.

2. **Holding Time and Sample Preservation Compliance**

Receipt temperature met the acceptable level of ≤ 6 °C.

PCBs: Holding time limits are not applicable for building material samples, based on Table 3 of the Quality Assurance Project Plan Addendum (QAPPA) for the St. Johnsbury Armory site (July 2023). No actions are required.

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

3. **Calibration Issues**

   Not assessed for S2AVM.

4. **Lab and Field Blanks**

   PCBs: Results for the laboratory method blanks associated with the samples of this SDG were non-detect. No blank actions are required.

   An equipment blank was not required during sample collection for the site.

5. **Interference Check Sample (metals only)**

   Not assessed for S2AVM.

6. **Surrogates (PCBs only)**

   PCBs: Surrogate recoveries were within the Program QAPP limits (30-150%) for all samples except for those samples requiring dilutions. Surrogates were diluted out of samples with dilutions > 1/20. Sample dilutions ranged from 1/5 to 1/100. No actions are required.

7. **Laboratory Control Samples**

   PCBs: Percent recoveries of Aroclors 1016 and 1260 in the PCB LCS/LCSD pairs associated with the samples met the Program QAPP limits of 40-140% recovery and relative percent difference (RPD) ≤ 30%. No action is required.

8. **Matrix Spikes**

   PCBs: Only Aroclors 1016 and 1260 were spiked in the MS/MSD; therefore, based on professional judgment, if actions are required, they are applied as follows:

   If 1016 %R or %RPD out: Qualify 1016, 1221, 1232, 1242
   If 1260 %R or %RPD out: Qualify 1248, 1254, 1260, 1262,1268

   MS/MSD analyses were performed on samples P-225-R13S (23H3265-05) and P-237-R33NB (23H3265-17).

   Percent recoveries of Aroclors 1016 and 1260 exceeded the Program QAPP limits of 40-140% in the MS and MSD analyses of P-225-R13S on both analytical columns except for the recovery of Aroclor 1016, which was within the limits on the primary column (140%). RPDs were < 30%, as specified in the Program QAPP. The laboratory indicated the percent recoveries were high due to the contribution of other Aroclors (i.e., Aroclor 1254) in the parent sample. No action is taken.

   Percent recoveries of Aroclor 1260 exceeded the Program QAPP limits of 40-140% in the MS and MSD analyses of P-237-R33NB on both analytical columns. RPDs were < 30%, as specified in the Program QAPP. The laboratory indicated the percent recoveries were high due to the contribution of other Aroclors (i.e., Aroclor 1254) in the parent sample. No action is taken. Aroclor 1016 was not recovered in this MS/MSD pair due to the required sample dilution below spike reporting limit. Note that a lower sample volume was extracted for this parent sample than for parent sample P-225-R13S, above, and therefore, the reporting limit for parent sample P-237-R33NB was higher even though both parent samples required 1/50 dilutions. No action is taken.

9. **Laboratory Duplicates**

PCBs: Not applicable to this analysis.

10. **Serial Dilution (metals only)**

PCBs: Not applicable to this analysis.

11. **Field Duplicate Precision**

Criteria based on the EPA Region I Environmental Data Review Supplement (September 2020): RPD ≤ 50% (soils) for results ≥ 5x QL or absolute difference of ≤ 4x QL for results < 5X QL.

A field duplicate sample was not submitted with the samples of this SDG. No actions are required.

12. **Internal Standards**

Not applicable to these analyses.

13. **Dual Column Precision (PCBs only)**

Dual column precision criteria (≤ 25% RPD per NFG) were met for all Aroclor detections > QL and no actions are required.

14. **Performance Evaluation (PE) Samples**

A PE sample was not submitted with the samples of this SDG. No actions are required.

15. **Quantitation Limits**

PCBs: Laboratory quantitation limits (QLs) for non-detect Aroclor results exceeded the PAL of ≤ 1 mg/kg for total PCBs, per Table 4 of the QAPPA, for several samples due to required sample dilutions. Dilutions ranged from 1/5 to 1/100. The QLs were greater than 1 mg/kg in samples requiring dilutions; however, note that samples 23H3265-11 and 23H3265-14 were extracted using a larger volume of sample than the other samples in the SDG. While these samples also required dilutions, the QLs for these samples meet the PAL due to the extra sample volume extracted.

16. **Other**

The EPA Region I Environmental Data Review Supplement (2020) percent solids criterion of ≥ 30% for soil samples does not apply to building material samples.

Overall bias is considered indeterminate when cumulative nonconformances do not show a consistent bias or in cases of the presence of conflicting high and low biases.

23H3265

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time

7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
1	P-221-R15WT	8/16/2023	9:07	GRAB	O	U		1				x
2	P-222-R16NP	8/16/2023	9:08	GRAB	O	U		1				x
3	P-223-S12N	8/16/2023	9:09	GRAB	O	U		1				x
4	P-224-R23C	8/16/2023	9:10	GRAB	O	U		1				x
5	P-225-R13S	8/16/2023	9:11	GRAB	O	U		1				x
6	P-226-R14SDW	8/16/2023	9:12	GRAB	O	U		1				x
7	P-227-R14-EP	8/16/2023	9:13	GRAB	O	U		1				x
8	P-228-R12WT	8/16/2023	9:14	GRAB	O	U		1				x
9	P-229-R14CDW	8/16/2023	9:51	GRAB	O	U		1				x
10	P-230-R13CWP	8/16/2023	9:16	GRAB	O	U		1				x

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time: RX 8.22.23	
Received by: (signature)	Date/Time: 2530 8.22.23	
Relinquished by: (signature)	Date/Time: 1746 8.22.23	
Received by: (signature) 3.8, 2.2, 3.9	Date/Time: 8/22/23	
Relinquished by: (signature) 26, 5.6	Date/Time: 1746	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

23H3265

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time

7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

ANALYSIS REQUESTED

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
11	P-231-R11CP	8/16/2023	9:17	GRAB	O	U		1				x
12	P-232-R13F	8/16/2023	9:18	GRAB	O	U		1				x
13	P-233-R13E	8/16/2023	9:19	GRAB	O	U		1				x
14	P-234-R12F	8/16/2023	9:20	GRAB	O	U		1				x
15	P-235-R25D	8/16/2023	9:21	GRAB	O	U		1				x
16	P-236-R15S	8/16/2023	9:22	GRAB	O	U		1				x
17	P-237-R33NB	8/16/2023	8:23	GRAB	O	U		3				x
18	P-238-R35C	8/16/2023	9:24	GRAB	O	U		1				x
19	P-239-S01F	8/16/2023	9:25	GRAB	O	U		1				x
20	P-240-R13D	8/16/2023	9:26	GRAB	O	U		1				x

[2] Preservation Code
Courier Use Only
Total Number Of:
VIALS
GLASS
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time: 1255 8.22.23	Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS
Received by: (signature)	Date/Time: 1258 8.22.23	
Relinquished by: (signature)	Date/Time: 8.22.23 1746	
Received by: (signature)	Date/Time: 8.23.23	
Relinquished by: (signature)	Date/Time: 1746	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

November 6, 2023
Nobis File No. S00001.017

Ms. Christine Beling
USEPA - Region I
Land, Chemicals, and Redevelopment Division
5 Post Office Square, Suite 100
Boston, MA 02109-3912

Re: USEPA Contract No. 68HE0122D0001
USEPA Task Order No. 68HE0122F0044
Targeted Brownfield Assessment (TBA) Site
St. Johnsbury Armory Site
St. Johnsbury, Vermont
Sample Delivery Group (SDG) No. 23H3267
Pace Analytical (formerly Con-test), East Longmeadow, MA

Tier 1 Stage 2A Organic Data Review

Polychlorinated Biphenyls (PCBs by 8082A):

20/Building Material Samples: P-241-R37C, P-242-R12-CP, P-243-R12NDW, P-244-R12EDW, P-245-R35S, P-246-R36C, P-247-R12NP, P-248-R11WT, P-249-R14WP, P-250-R11D, P-251-R12EW, P-252-R17S, P-253-R15D, P-254-R11CDW, P-255-R14SP, P-256-R24D, P-257-S12S, P-258-R11WDW, P-259-R15E, P-260-R34E
1/Field Duplicate Pair: P-252-R17S / P-FD-14 (located in SDG 23H3270)

Dear Ms. Beling:

Nobis Group (Nobis), under a USEPA contract as a subcontractor to KGSNE JV II, LLC (KGSNE), performed a Tier 1 Stage 2A manual data review (S2AVM) on the organic analytical data for the samples listed above. The samples were collected by Nobis at the St. Johnsbury Armory site located in St. Johnsbury, Vermont, on August 14, and August 16, 2023. The samples were analyzed for PCB Aroclors by EPA Method 8082A by Pace Analytical (formerly Con-test).

The Tier 1 Stage 2A manual data review was performed in accordance with the Region I - EPA New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures (September 2020); USEPA's National Functional Guidelines for Organic Superfund Methods Data Review (November 2020); the Program Quality Assurance Project Plan (Program QAPP) dated October 2022, and the Quality Assurance Project Plan Addendum (QAPPA) (July 2023) for St. Johnsbury Armory, which appends the October 2022 Program QAPP.

The data were evaluated based on the following parameters:

*	•	Overall Evaluation of Data and Potential Usability Issues
*	•	Data Completeness
*	•	Preservation and Technical Holding Times
*	•	Blanks
*	•	Surrogates (PCBs only)
NA	•	Internal Standards
*	•	Matrix Spike Analysis

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

NA	•	Laboratory Duplicates
*	•	Laboratory Control Samples (LCS)/Standard Reference Material (SRM) Recovery (metals only)
*	•	Field Duplicates
NA	•	ICP Serial Dilutions (metals only)
NA	•	Performance Evaluation (PE) Samples
	•	Target Analyte Identification
	•	Reported Quantitation Limits

* All criteria were met for this parameter or qualification was not required.
NA – Not applicable.

Overall Evaluation of Data and Potential Usability Issues

The site sampling objectives are:

- Perform a supplemental hazardous building material survey (HBMS) to address data gaps identified by Atlas Technical Consultants (ATC).
- Further delineate the distribution of hazardous materials to support future building renovation and reuse or demolition and disposal.
- Evaluate sub-slab soils for possible contamination by PCBs.

Note that quantitation limits for non-detect results exceeded the project action limit (PAL) of ≤ 1 mg/kg for total PCBs in several samples due to required sample dilutions.

The data meet the project quality criteria and can be used without restriction except as summarized below. The attachments provide details and supporting documentation.

PCBs:
Results were qualified due to dual column imprecision.

Please contact Linda Terzis at lterzis@nobis-group.com should you have any questions or comments regarding this information.

Sincerely,

NOBIS GROUP®

Linda Terzis
Data Validator

Gary Glennon
Data Validator

Tables: Data Summary Tables – Tier 1 Stage 2A (S2AVM) Validated Data
Data Qualification Actions Table

Attachments: Data Review Checklist
Support Documentation
COC

cc: Denis McGrath (Nobis Group)
Tim Andrews (Nobis Group)

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23H3267-01	23H3267-02	23H3267-03	23H3267-04	23H3267-05
Field Sample ID		P-241-R37C	P-242-R12-CP	P-243-R12NDW	P-244-R12EDW	P-245-R35S
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	08/16/23	08/16/23	08/16/23	08/16/23	08/16/23
Aroclor 1016	mg/kg	3.5 U	0.37 U	2.3 U	0.45 U	25 U
Aroclor 1221	mg/kg	3.5 U	0.37 U	2.3 U	0.45 U	25 U
Aroclor 1232	mg/kg	3.5 U	0.37 U	2.3 U	0.45 U	25 U
Aroclor 1242	mg/kg	3.5 U	0.37 U	2.3 U	0.45 U	25 U
Aroclor 1248	mg/kg	3.5 U	0.37 U	2.3 U	2.5	25 U
Aroclor 1254	mg/kg	65	0.66	6.6	3	220
Aroclor 1260	mg/kg	3.5 U	0.37 U	2.3 U	0.45 U	25 U
Aroclor 1262	mg/kg	3.5 U	0.37 U	2.3 U	0.45 U	25 U
Aroclor 1268	mg/kg	3.5 U	0.37 U	2.3 U	0.45 U	25 U

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23H3267-06	23H3267-07	23H3267-08	23H3267-09	23H3267-10
Field Sample ID		P-246-R36C	P-247-R12NP	P-248-R11WT	P-249-R14WP	P-250-R11D
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	08/16/23	08/16/23	08/16/23	08/16/23	08/16/23
Aroclor 1016	mg/kg	21 U	0.42 U	4.2 U	0.43 U	4.7 U
Aroclor 1221	mg/kg	21 U	0.42 U	4.2 U	0.43 U	4.7 U
Aroclor 1232	mg/kg	21 U	0.42 U	4.2 U	0.43 U	4.7 U
Aroclor 1242	mg/kg	21 U	0.42 U	4.2 U	0.43 U	4.7 U
Aroclor 1248	mg/kg	21 U	0.42 U	4.2 U	0.43 U	4.7 U
Aroclor 1254	mg/kg	130	2.4	33	1.5	50
Aroclor 1260	mg/kg	21 U	0.42 U	4.2 U	0.43 U	4.7 U
Aroclor 1262	mg/kg	21 U	0.42 U	4.2 U	0.43 U	4.7 U
Aroclor 1268	mg/kg	21 U	0.42 U	4.2 U	0.43 U	4.7 U

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23H3267-11	23H3267-12	23H3267-13	23H3267-14	23H3267-15
Field Sample ID		P-251-R12EW	P-252-R17S	P-253-R15D	P-254-R11CDW	P-255-R14SP
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	08/16/23	08/16/23	08/16/23	08/16/23	08/16/23
Aroclor 1016	mg/kg	2.3 U	1.9 U	4.4 U	0.5 U	4.2 U
Aroclor 1221	mg/kg	2.3 U	1.9 U	4.4 U	0.5 U	4.2 U
Aroclor 1232	mg/kg	2.3 U	1.9 U	4.4 U	0.5 U	4.2 U
Aroclor 1242	mg/kg	2.3 U	1.9 U	4.4 U	0.5 U	4.2 U
Aroclor 1248	mg/kg	2.3 U	1.9 U	4.4 U	3.7 J	4.2 U
Aroclor 1254	mg/kg	10	12	32	3.4 J	5.3
Aroclor 1260	mg/kg	2.3 U	1.9 U	4.4 U	0.5 U	4.2 U
Aroclor 1262	mg/kg	2.3 U	1.9 U	4.4 U	0.5 U	4.2 U
Aroclor 1268	mg/kg	2.3 U	1.9 U	4.4 U	0.5 U	4.2 U

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23H3267-16	23H3267-17	23H3267-18	23H3267-19	23H3267-20
Field Sample ID		P-256-R24D	P-257-S12S	P-258-R11WDW	P-259-R15E	P-260-R34E
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	08/14/23	08/16/23	08/16/23	08/16/23	08/16/23
Aroclor 1016	mg/kg	4.4 U	4.6 U	3.9 U	4.5 U	20 U
Aroclor 1221	mg/kg	4.4 U	4.6 U	3.9 U	4.5 U	20 U
Aroclor 1232	mg/kg	4.4 U	4.6 U	3.9 U	4.5 U	20 U
Aroclor 1242	mg/kg	4.4 U	4.6 U	3.9 U	4.5 U	20 U
Aroclor 1248	mg/kg	33 J	4.6 U	3.9 U	4.5 U	20 U
Aroclor 1254	mg/kg	27	55	15	56	200
Aroclor 1260	mg/kg	4.4 U	4.6 U	3.9 U	4.5 U	20 U
Aroclor 1262	mg/kg	4.4 U	4.6 U	3.9 U	4.5 U	20 U
Aroclor 1268	mg/kg	4.4 U	4.6 U	3.9 U	4.5 U	20 U

nobis

Tier 1 Stage 2A Data Review Checklist

Project: St. Johnsbury Armory Site, St. Johnsbury, Vermont
Project #: S00001.017
Case#: NA
Date: 10/03/2023
Methods: PCBs (8082A)
Laboratory: Pace Analytical (formerly Con-test), East Longmeadow, MA
SDG: 23H3267
Reviewer: Linda Terzis

1. **Case Narrative and Data Package Completeness (COC and Analyte List Review)**
Twenty (20) building material samples, including one field duplicate sample, were listed on the COC for SDG 23H3267. The samples were collected on 08/14/2023 and 08/16/2023 and were received at the laboratory on 08/22/2023 at temperatures ranging from 2.2 to 5.6 °C.

Sample ID	Laboratory ID	Analyses
P-241-R37C	23H3267-01	PCBs
P-242-R12-CP	23H3267-02	PCBs
P-243-R12NDW	23H3267-03	PCBs
P-244-R12EDW	23H3267-04	PCBs
P-245-R35S	23H3267-05	PCBs
P-246-R36C	23H3267-06	PCBs
P-247-R12NP	23H3267-07	PCBs
P-248-R11WT	23H3267-08	PCBs
P-249-R14WP	23H3267-09	PCBs
P-250-R11D	23H3267-10	PCBs
P-251-R12EW	23H3267-11	PCBs
P-252-R17S	23H3267-12	PCBs
P-253-R15D	23H3267-13	PCBs
P-254-R11CDW	23H3267-14	PCBs
P-255-R14SP	23H3267-15	PCBs
P-256-R24D	23H3267-16	PCBs
P-257-S12S	23H3267-17	PCBs
P-258-R11WDW	23H3267-18	PCBs
P-259-R15E	23H3267-19	PCBs
P-260-R34E	23H3267-20	PCBs

A complete laboratory report was received for SDG 23H3267.

2. **Holding Time and Sample Preservation Compliance**

Receipt temperature met the acceptable level of ≤ 6 °C.

PCBs: Holding time limits are not applicable for building material samples, based on Table 3 of the Quality Assurance Project Plan Addendum (QAPPA) for the St. Johnsbury Armory site (July 2023). No actions are required.

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

3. **Calibration Issues**

Not assessed for S2AVM.

4. **Lab and Field Blanks**

PCBs: Results for the laboratory method blanks associated with the samples of this SDG were non-detect. No blank actions are required.

An equipment blank was not required during sample collection for the site.

5. **Interference Check Sample (metals only)**

Not assessed for S2AVM.

6. **Surrogates (PCBs only)**

PCBs: Surrogate recoveries were within the Program QAPP limits (30-150%) for all samples except where required sample dilutions caused the surrogates to dilute out of the samples. Dilution factors ranged from 1/5 to 1/50. Surrogates were diluted out of samples that had sample dilutions > 1/20. No actions are required.

7. **Laboratory Control Samples**

PCBs: Percent recoveries of Aroclors 1016 and 1260 in the PCB LCS/LCSD pairs associated with the samples met the Program QAPP limits of 40-140% recovery and relative percent difference (RPD) ≤ 30%. No action is required.

8. **Matrix Spikes**

PCBs: Only Aroclors 1016 and 1260 were spiked in the MS/MSD; therefore, based on professional judgment, if actions are required, they are applied as follows:

If 1016 %R or %RPD out: Qualify 1016, 1221, 1232, 1242
If 1260 %R or %RPD out: Qualify 1248, 1254, 1260, 1262,1268

MS/MSD analyses were performed on samples P-257-S12S (23H3267-17), P-258-R11WDW (23H3267-18), and P-259-R15E (23H3267-19).

Percent recoveries of Aroclors 1016 and 1260 exceeded the Program QAPP limits of 40-140% in the MS and MSD analyses of samples P-257-S12S and P-259-R15E on both analytical columns. RPDs met the < 30% limit, as specified in the Program QAPP. The laboratory indicated the percent recoveries were high due to the contribution of other Aroclors (i.e., Aroclor 1254) in the parent samples. No action is taken.

Percent recoveries of Aroclors 1016 and 1260 exceeded the Program QAPP limits of 40-140% in the MS and MSD analyses of samples P-258-R11WDW on both analytical columns. RPDs exceeded the < 30% limit, as specified in the Program QAPP. The laboratory indicated the percent recoveries were high due to the contribution of other Aroclors (i.e., Aroclor 1254) in the parent samples. No action is taken.

9. **Laboratory Duplicates**

PCBs: Not applicable to this analysis.

10. **Serial Dilution (metals only)**

PCBs: Not applicable to this analysis.

11. **Field Duplicate Precision**

Criteria based on the EPA Region I Environmental Data Review Supplement (September 2020): RPD ≤ 50% (soils) for results ≥ 5x QL or absolute difference of ≤ 4x QL for results < 5X QL.

The following field duplicate pair is associated with the samples of this SDG.

- P-252-R17S / P-FD-14 (23H3267-12 / 23H3270-08)

PCBs: Aroclor results met field duplicate precision criteria and no action is required.

12. **Internal Standards**

Not applicable to these analyses.

13. **Dual Column Precision (PCBs only)**

Dual column precision criteria (≤ 25% RPD per the NFGs) were met for all Aroclor detections > QL except for the Aroclor 1248 detections in samples P-254-R11CDW (23H3267-14) and P-256-R24D (23H3267-16), and the Aroclor 1254 detection in sample P-254-R11CDW (23H3267-14), where RPDs were > 25%. Based on the NFGs (2020), the detected results for Aroclor 1248 are qualified as estimated (J) in samples P-254-R11CDW and P-256-R24D, and the Aroclor 1254 detection in sample P-254-R11CDW was qualified as estimated (J) due to dual column imprecision.

14. **Performance Evaluation (PE) Samples**

A PE sample was not submitted with the samples of this SDG. No actions are required.

15. **Quantitation Limits**

PCBs: Laboratory quantitation limits (QLs) for non-detect Aroclor results exceeded the PAL of ≤ 1 mg/kg for total PCBs, per Table 4 of the QAPPA, for several samples due to required sample dilutions. Dilutions ranged from 1/5 to 1/50.

16. **Other**

The EPA Region I Environmental Data Review Supplement (2020) percent solids criterion of ≥ 30% for soil samples does not apply to building material samples.

Overall bias is considered indeterminate when cumulative nonconformances do not show a consistent bias or in cases of the presence of conflicting high and low biases.

Field Duplicate Evaluation

SDG: 23H3267 PCBs

Analyte	Original Result mg/kg	Qual	Duplicate Result mg/kg	Qual	RPD ≤ 50%	Abs Diff	Comment
Sample ID	**P-252-R17S**		**P-FD-14**				
	23H3267-12		**23H3270-08**				
Aroclor 1016	1.9	U	1.8	U	-5.41		Ok - both ND
Aroclor 1221	1.9	U	1.8	U	-5.41		Ok - both ND
Aroclor 1232	1.9	U	1.8	U	-5.41		Ok - both ND
Aroclor 1242	1.9	U	1.8	U	-5.41		Ok - both ND
Aroclor 1248	1.9	U	1.8	U	-5.41		Ok - both ND
Aroclor 1254	12		6.1		-65.19	-5.90	Ok - abs diff < 4x RL
Aroclor 1260	1.9	U	1.8	U	-5.41		Ok - both ND
Aroclor 1262	1.9	U	1.8	U	-5.41		Ok - both ND
Aroclor 1268	1.9	U	1.8	U	-5.41		Ok - both ND

Note that P-FD-14 is located in SDG 23H3270.

23173267

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time
7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
1	P-241-R37C	8/16/2023	9:27	GRAB	O	U		1				
2	P-242-R12-CP	8/16/2023	9:28	GRAB	O	U		1				
3	P-243-R12NDW	8/16/2023	9:29	GRAB	O	U		1				
4	P-244-R12EDW	8/16/2023	9:30	GRAB	O	U		1				
5	P-245-R35S	8/16/2023	9:31	GRAB	O	U		1				
6	P-246-R36C	8/16/2023	9:32	GRAB	O	U		1				
7	P-247-R12NP	8/16/2023	9:33	GRAB	O	U		1				
8	P-248-R11WT	8/16/2023	9:34	GRAB	O	U		1				
9	P-249-R14WP	8/16/2023	9:35	GRAB	O	U		1				
10	P-250-R11D	8/16/2023	9:36	GRAB	O	U		1				

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time: 8.22.23 1258	
Received by: (signature)	Date/Time: 8.22.23 1258	
Relinquished by: (signature)	Date/Time: 8.22.23 1746	
Received by: (signature) 3.8, 2.2, 3.9	Date/Time: 8/22/23	
Relinquished by: (signature) 2.6, 5.6	Date/Time: 1746	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

RF

23H3267

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time
7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
11	P-251-R12EW	8/16/2023	9:37	GRAB	O	U		1				x
12	P-252-R17S	8/16/2023	9:38	GRAB	O	U		1				x
13	P-253-R15D	8/16/2023	9:39	GRAB	O	U		1				x
14	P-254-R11CDW	8/16/2023	9:40	GRAB	O	U		1				x
15	P-255-R14SP	8/16/2023	9:41	GRAB	O	U		1				x
16	P-256-R24D	8/14/2023	9:42	GRAB	O	U		1				x
17	P-257-S12S	8/16/2023	9:43	GRAB	O	U		3				x
18	P-258-R11WDW	8/16/2023	9:44	GRAB	O	U		3				x
19	P-259-R15E	8/16/2023	12:00	GRAB	O	U		3				x
20	P-260-R34E	8/16/2023	9:46	GRAB	O	U		1				x

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS
GLASS
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N

Glassware in freezer? Y / N

Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time: 1258 8.22.23
Received by: (signature) Tim Pace	Date/Time: 1258 8.22.23
Relinquished by: (signature) Jason Pace	Date/Time: 1746 8.22.23
Received by: (signature) 3.8, 2.2, 3.9	Date/Time: 8/22/23
Relinquished by: (signature) 2.6, 5.6	Date/Time: 1746
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

November 6, 2023
Nobis File No. S00001.017

Ms. Christine Beling
USEPA - Region I
Land, Chemicals, and Redevelopment Division
5 Post Office Square, Suite 100
Boston, MA 02109-3912

Re: USEPA Contract No. 68HE0122D0001
USEPA Task Order No. 68HE0122F0044
Targeted Brownfield Assessment (TBA) Site
St. Johnsbury Armory Site
St. Johnsbury, Vermont
Sample Delivery Group (SDG) No. 23H3268
Pace Analytical (formerly Con-test), East Longmeadow, MA

Tier 1 Stage 2A Organic Data Review

Polychlorinated Biphenyls (PCBs by 8082A):

14/Building Material Samples: P-261-R34S, P-262-EX, P-263-EX, P-264-EX, P-265-R17EC1, P-266-R17EC2, P-267-R17EC3, P-268-R17EC4, P-269-R23SS, P-270-R27SS, P-271-R25ASS, P-272-R21SS, P-273-R31SS, P-274-S12R
6/Field Duplicate Samples: P-FD-01, P-FD-02, P-FD-03, P-FD-04, P-FD-05, P-FD-06
8/Field Duplicate Pairs: P-263-EX / P-FD-09 (23H3268-03 / 23H3270-03), P-269-R23SS / P-FD-15 (23H3268-09 / 23H3270-09), P-FD-01 / P-018-R06E (23H3268-15 / 23H3248-18), P-FD-02 / P-040-R09W (23H3268-16 / 23H3250-20), P-FD-03 / P-065-S01C (23H3268-17 / 23H3255-05), P-FD-04 / P-111-R28SC (23H3268-18 / 23H3257-11), P-FD-05 / P-127-R33NC (23H3268-19 / 23H3258-07), P-FD-06 / P-133-R16EP (23H3268-20 / 23H3258-13)

Dear Ms. Beling:

Nobis Group (Nobis), under a USEPA contract as a subcontractor to KGSNE JV II, LLC (KGSNE), performed a Tier 1 Stage 2A manual data review (S2AVM) on the organic analytical data for the samples listed above. The samples were collected by Nobis at the St. Johnsbury Armory site located in St. Johnsbury, Vermont, on August 14 through August 17, 2023. The samples were analyzed for PCB Aroclors by EPA Method 8082A by Pace Analytical (formerly Con-test).

The Tier 1 Stage 2A manual data review was performed in accordance with the Region I - EPA New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures (September 2020); USEPA's National Functional Guidelines for Organic Superfund Methods Data Review (November 2020); the Program Quality Assurance Project Plan (Program QAPP) dated October 2022, and the Quality Assurance Project Plan Addendum (QAPPA) (July 2023) for St. Johnsbury Armory, which appends the October 2022 Program QAPP.

The data were evaluated based on the following parameters:

* • Overall Evaluation of Data and Potential Usability Issues
* • Data Completeness
* • Preservation and Technical Holding Times

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

*	•	Blanks
*	•	Surrogates (PCBs only)
NA	•	Internal Standards
*	•	Matrix Spike Analysis
NA	•	Laboratory Duplicates
*	•	Laboratory Control Samples (LCS)/Standard Reference Material (SRM) Recovery (metals only)
	•	Field Duplicates
NA	•	ICP Serial Dilutions (metals only)
NA	•	Performance Evaluation (PE) Samples
	•	Target Analyte Identification
	•	Reported Quantitation Limits

* All criteria were met for this parameter or qualification was not required.
NA – Not applicable.

Overall Evaluation of Data and Potential Usability Issues

The site sampling objectives are:

- Perform a supplemental hazardous building material survey (HBMS) to address data gaps identified by Atlas Technical Consultants (ATC).
- Further delineate the distribution of hazardous materials to support future building renovation and reuse or demolition and disposal.
- Evaluate sub-slab soils for possible contamination by PCBs.

Note that quantitation limits for non-detect results exceeded the project action limit (PAL) of ≤ 1 mg/kg for total PCBs in several samples due to required sample dilutions.

The data meet the project quality criteria and can be used without restriction except as summarized below. The attachments provide details and supporting documentation.

PCBs:
Results were qualified due to dual column and field duplicate imprecision.

Please contact Linda Terzis at lterzis@nobis-group.com should you have any questions or comments regarding this information.

Sincerely,

NOBIS GROUP®

Linda Terzis
Data Validator

Gary Glennon
Data Validator

Tables: Data Summary Tables – Tier 1 Stage 2A (S2AVM) Validated Data
Data Qualification Actions Table

Attachments: Data Review Checklist
Support Documentation
COC

cc: Denis McGrath (Nobis Group)
Tim Andrews (Nobis Group)

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23H3268-01	23H3268-02	23H3268-03	23H3268-04	23H3268-05
Field Sample ID		P-261-R34S	P-262-EX	P-263-EX	P-264-EX	P-265-R17EC1
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	08/16/23	08/16/23	08/16/23	08/16/23	08/16/23
Aroclor 1016	mg/kg	4.4 U	3.6 U	8.7 U	4.1 U	0.44 U
Aroclor 1221	mg/kg	4.4 U	3.6 U	8.7 U	4.1 U	0.44 U
Aroclor 1232	mg/kg	4.4 U	3.6 U	8.7 U	4.1 U	0.44 U
Aroclor 1242	mg/kg	4.4 U	3.6 U	8.7 U	4.1 U	0.44 U
Aroclor 1248	mg/kg	4.4 U	3.6 U	8.7 U	4.1 U	0.44 U
Aroclor 1254	mg/kg	32	70	160	180	6.3
Aroclor 1260	mg/kg	4.4 U	3.6 U	8.7 U	4.1 U	0.44 U
Aroclor 1262	mg/kg	4.4 U	3.6 U	8.7 U	4.1 U	0.44 U
Aroclor 1268	mg/kg	4.4 U	3.6 U	8.7 U	4.1 U	0.44 U

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23H3268-06	23H3268-07	23H3268-08	23H3268-09	23H3268-10
Field Sample ID		P-266-R17EC2	P-267-R17EC3	P-268-R17EC4	P-269-R23SS	P-270-R27SS
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	08/16/23	08/16/23	08/16/23	08/17/23	08/17/23
Aroclor 1016	mg/kg	0.44 U	0.38 U	0.42 U	0.1 U	0.1 U
Aroclor 1221	mg/kg	0.44 U	0.38 U	0.42 U	0.1 U	0.1 U
Aroclor 1232	mg/kg	0.44 U	0.38 U	0.42 U	0.1 U	0.1 U
Aroclor 1242	mg/kg	0.44 U	0.38 U	0.42 U	0.1 U	0.1 U
Aroclor 1248	mg/kg	0.44 U	0.38 U	0.42 U	0.1 U	0.1 U
Aroclor 1254	mg/kg	5.3 J	2.9	3.1	0.1 U	0.1 U
Aroclor 1260	mg/kg	0.44 U	0.38 U	0.42 U	0.1 U	0.1 U
Aroclor 1262	mg/kg	0.44 U	0.38 U	0.42 U	0.1 U	0.1 U
Aroclor 1268	mg/kg	0.44 U	0.38 U	0.42 U	0.1 U	0.1 U

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23H3268-11RE1	23H3268-12	23H3268-13	23H3268-14	23H3268-15
Field Sample ID		P-271-R25ASS	P-272-R21SS	P-273-R31SS	P-274-S12R	P-FD-01
Sample Type		N	N	N	N	FD
Parent Sample ID						P-018-R06E
Sample Date	**Units**	08/17/23	08/17/23	08/17/23	08/16/23	08/14/23
Aroclor 1016	mg/kg	0.1 U	0.1 U	0.1 U	3.9 U	3.8 U
Aroclor 1221	mg/kg	0.1 U	0.1 U	0.1 U	3.9 U	3.8 U
Aroclor 1232	mg/kg	0.1 U	0.1 U	0.1 U	3.9 U	3.8 U
Aroclor 1242	mg/kg	0.1 U	0.1 U	0.1 U	3.9 U	3.8 U
Aroclor 1248	mg/kg	0.1 U	0.1 U	0.1 U	3.9 U	3.8 U
Aroclor 1254	mg/kg	0.1 U	0.1 U	0.1 U	50	21 J
Aroclor 1260	mg/kg	0.1 U	0.1 U	0.1 U	3.9 U	3.8 U
Aroclor 1262	mg/kg	0.1 U	0.1 U	0.1 U	3.9 U	3.8 U
Aroclor 1268	mg/kg	0.1 U	0.1 U	0.1 U	3.9 U	3.8 U

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23H3268-16	23H3268-17	23H3268-18	23H3268-19	23H3268-20
Field Sample ID		P-FD-02	P-FD-03	P-FD-04	P-FD-05	P-FD-06
Sample Type		FD	FD	FD	FD	FD
Parent Sample ID		P-040-R09W	P-065-S01C	P-111-R28SC	P-127-R33NC	P-133-R16EP
Sample Date	**Units**	08/14/23	08/14/23	08/14/23	08/15/23	08/15/23
Aroclor 1016	mg/kg	3.7 U	4.8 U	0.38 U	21 U	0.4 U
Aroclor 1221	mg/kg	3.7 U	4.8 U	0.38 U	21 U	0.4 U
Aroclor 1232	mg/kg	3.7 U	4.8 U	0.38 U	21 U	0.4 U
Aroclor 1242	mg/kg	3.7 U	4.8 U	0.38 U	21 U	0.4 U
Aroclor 1248	mg/kg	3.7 U	68 J	4.7	21 U	0.4 U
Aroclor 1254	mg/kg	19	44	5.6	340	5.6
Aroclor 1260	mg/kg	3.7 U	4.8 U	0.38 U	21 U	0.4 U
Aroclor 1262	mg/kg	3.7 U	4.8 U	0.38 U	21 U	0.4 U
Aroclor 1268	mg/kg	3.7 U	4.8 U	0.38 U	21 U	0.4 U

Data Review Qualification Actions
Case: St. Johnsbury Armory
SDG: 23H3268

Parameter	Analyte	Samples	Evaluation Criteria	Action Needed	Comments
PCBs					
	Aroclor 1254	P-266-R17EC2 and P-FD-01	Dual column imprecision.	J	
	Aroclor 1248	P-FD-03	Dual column and field duplicate imprecision.	J	

Tier 1 Stage 2A Data Review Checklist

Project: St. Johnsbury Armory Site, St. Johnsbury, Vermont
Project #: S00001.017
Case#: NA
Date: 10/03/2023
Methods: PCBs (8082A)
Laboratory: Pace Analytical (formerly Con-test), East Longmeadow, MA
SDG: 23H3268
Reviewer: Linda Terzis

1. **Case Narrative and Data Package Completeness (COC and Analyte List Review)**
Fourteen (14) building material samples and six (6) field duplicate samples were listed on the COC for SDG 23H3268. The samples were collected on 08/14/2023 through 08/17/2023 and were received at the laboratory on 08/22/2023 at temperatures ranging from 2.2 to 5.6 °C.

Sample ID	Laboratory ID	Analyses
P-261-R34S	23H3268-01	PCBs
P-262-EX	23H3268-02	PCBs
P-263-EX	23H3268-03	PCBs
P-264-EX	23H3268-04	PCBs
P-265-R17EC1	23H3268-05	PCBs
P-266-R17EC2	23H3268-06	PCBs
P-267-R17EC3	23H3268-07	PCBs
P-268-R17EC4	23H3268-08	PCBs
P-269-R23SS	23H3268-09	PCBs
P-270-R27SS	23H3268-10	PCBs
P-271-R25ASS	23H3268-11	PCBs
P-272-R21SS	23H3268-12	PCBs
P-273-R31SS	23H3268-13	PCBs
P-274-S12R	23H3268-14	PCBs
P-FD-01	23H3268-15	PCBs
P-FD-02	23H3268-16	PCBs
P-FD-03	23H3268-17	PCBs
P-FD-04	23H3268-18	PCBs
P-FD-05	23H3268-19	PCBs
P-FD-06	23H3268-20	PCBs

A complete laboratory report was received for SDG 23H3268.

2. **Holding Time and Sample Preservation Compliance**

Receipt temperature met the acceptable level of ≤ 6 °C.

PCBs: Holding time limits are not applicable for building material samples, based on Table 3 of the Quality Assurance Project Plan Addendum (QAPPA) for the St. Johnsbury Armory site (July 2023). No actions are required.

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

3. **Calibration Issues**

Not assessed for S2AVM.

4. **Lab and Field Blanks**

PCBs: Results for the laboratory method blanks associated with the samples of this SDG were non-detect. No blank actions are required.

An equipment blank was not required during sample collection for the site.

5. **Interference Check Sample (metals only)**

Not assessed for S2AVM.

6. **Surrogates (PCBs only)**

PCBs: Surrogate recoveries were within the Program QAPP limits (30-150%) for all samples except where required sample dilutions caused the surrogates to dilute out of the samples. Dilution factors ranged from 1/10 to 1/50. Surrogates were diluted out of samples that had sample dilutions > 1/20. No actions are required.

7. **Laboratory Control Samples**

PCBs: Percent recoveries of Aroclors 1016 and 1260 in the PCB LCS/LCSD pairs associated with the samples met the Program QAPP limits of 40-140% recovery and relative percent difference (RPD) ≤ 30%. No action is required.

8. **Matrix Spikes**

PCBs: Only Aroclors 1016 and 1260 were spiked in the MS/MSD; therefore, based on professional judgment, if actions are required, they are applied as follows:

If 1016 %R or %RPD out: Qualify 1016, 1221, 1232, 1242
If 1260 %R or %RPD out: Qualify 1248, 1254, 1260, 1262,1268

MS/MSD analyses were performed on samples P-264-EX (23H3268-04) and P-270-R27SS (23H3268-10).

Percent recoveries of Aroclors 1016 and 1260 exceeded the Program QAPP limits of 40-140% in the MS and MSD analyses of sample P-264-EX on both analytical columns. RPDs met the < 30% limit, as specified in the Program QAPP, for Aroclor 1016 recoveries; RPDs for the Aroclor 1260 recoveries exceeded 30%. The laboratory indicated the percent recoveries were high due to the contribution of other Aroclors (i.e., Aroclor 1254) in the parent sample. No action is taken.

Percent recoveries of Aroclors 1016 and 1260 were within the Program QAPP limits of 40-140% in the MS and MSD analyses of samples P-270-R27SS on both analytical columns. RPDs met the < 30% limit, as specified in the Program QAPP. No actions are required.

9. **Laboratory Duplicates**

PCBs: Not applicable to this analysis.

10. Serial Dilution (metals only)

PCBs: Not applicable to this analysis.

11. Field Duplicate Precision

Criteria based on the EPA Region I Environmental Data Review Supplement (September 2020): RPD ≤ 50% (soils) for results ≥ 5x QL or absolute difference of ≤ 4x QL for results < 5X QL.

The following field duplicate pairs are associated with the samples of this SDG.

- P-263-EX / P-FD-09 (23H3268-03 / 23H3270-03)
- P-269-R23SS / P-FD-15 (23H3268-09 / 23H3270-09)

PCBs: Aroclor results met field duplicate precision criteria and no action is required.

In addition, the following field duplicate samples, evaluated in other SDGs, are associated with the samples of this SDG:

- P-FD-01 / P-018-R06E (23H3268-15 / 23H3248-18) – evaluated in SDG 23H3248. Field duplicate precision met and no actions required.
- P-FD-02 / P-040-R09W (23H3268-16 / 23H3250-20) – evaluated in SDG 23H3250. Field duplicate precision met and no actions required.
- P-FD-03 / P-065-S01C (23H3268-17 / 23H3255-05) – evaluated in SDG 23H3255. Results for Aroclors 1248 and 1254 qualified as estimated (J/UJ) in samples P-065-S01C and P-066-S01C (located in SDG 23H3255), and FD-03 (located in this SDG), due to field duplicate imprecision.
- P-FD-04 / P-111-R28SC (23H3268-18 / 23H3257-11) – evaluated in SDG 23H3257. Field duplicate precision met and no actions required.
- P-FD-05 / P-127-R33NC (23H3268-19 / 23H3258-07) – evaluated in SDG 23H3258. Field duplicate precision met and no actions required.
- P-FD-06 / P-133-R16EP (23H3268-20 / 23H3258-13) – evaluated in SDG 23H3258. Field duplicate precision met and no actions are required.

Field duplicate precision evaluations for the field duplicate pairs above are included in the attachments of this data validation report.

12. Internal Standards

Not applicable to these analyses.

13. Dual Column Precision (PCBs only)

Dual column precision criteria (≤ 25% RPD per the NFGs) were met for all Aroclor detections > QL except for the Aroclor 1254 detections in samples P-266-R17EC2 (23H3268-06) and P-FD-01 (23H3268-15), and the Aroclor 1248 detection in sample P-FD-03 (23H3268-17), where RPDs were > 25%. Based on the NFGs (2020), the detected results for Aroclor 1254 are qualified as

estimated (J) in samples P-266-R17EC2 and P-FD-01, and the Aroclor 1248 detection in sample P-FD-03 was qualified as estimated (J) due to dual column imprecision. Note that result for Aroclor 1248 in sample P-FD-03 is also qualified as estimated (J) due to field duplicate imprecision, as previously discussed above.

14. Performance Evaluation (PE) Samples

A PE sample was not submitted with the samples of this SDG. No actions are required.

15. Quantitation Limits

PCBs: Laboratory quantitation limits (QLs) for non-detect Aroclor results exceeded the PAL of ≤ 1 mg/kg for total PCBs, per Table 4 of the QAPPA, for several samples due to required sample dilutions. Dilutions ranged from 1/10 to 1/50.

16. Other

The EPA Region I Environmental Data Review Supplement (2020) percent solids criterion of ≥ 30% for soil samples does not apply to building material samples.

Overall bias is considered indeterminate when cumulative nonconformances do not show a consistent bias or in cases of the presence of conflicting high and low biases.

Field Duplicate Evaluation

SDG: 23H3248 PCBs

Analyte	Original Result mg/kg	Qual	Duplicate Result mg/kg	Qual	RPD ≤ 50%	Abs Diff	Comment
Sample ID	**P-018-R06E**		**P-FD-01**				
	23H3248-18		**23H3268-15**				
Aroclor 1016	4.7	U	3.8	U	-21.18		Ok - both ND
Aroclor 1221	4.7	U	3.8	U	-21.18		Ok - both ND
Aroclor 1232	4.7	U	3.8	U	-21.18		Ok - both ND
Aroclor 1242	4.7	U	3.8	U	-21.18		Ok - both ND
Aroclor 1248	4.7	U	3.8	U	-21.18		Ok - both ND
Aroclor 1254	23		21		-9.09	-2.00	Ok - abs diff < 4x RL
Aroclor 1260	4.7	U	3.8	U	-21.18		Ok - both ND
Aroclor 1262	4.7	U	3.8	U	-21.18		Ok - both ND
Aroclor 1268	4.7	U	3.8	U	-21.18		Ok - both ND

Note that P-018-R06E is located in SDG 23H3248.

Field Duplicate Evaluation

SDG: 23H3250 PCBs

Analyte	Original Result mg/kg	Qual	Duplicate Result mg/kg	Qual	RPD ≤ 50%	Abs Diff	Comment
Sample ID	**P-040-R09W**		**P-FD-02**				
	23H3250-20		**23H3268-16**				
Aroclor 1016	4.4	U	3.7	U	-17.28		Ok - both ND
Aroclor 1221	4.4	U	3.7	U	-17.28		Ok - both ND
Aroclor 1232	4.4	U	3.7	U	-17.28		Ok - both ND
Aroclor 1242	4.4	U	3.7	U	-17.28		Ok - both ND
Aroclor 1248	4.4	U	3.7	U	-17.28		Ok - both ND
Aroclor 1254	16		19		17.14	3.00	Ok - abs diff < 4x QL
Aroclor 1260	4.4	U	3.7	U	-17.28		Ok - both ND
Aroclor 1262	4.4	U	3.7	U	-17.28		Ok - both ND
Aroclor 1268	4.4	U	3.7	U	-17.28		Ok - both ND

Note that P-040-R09W is located in SDG 23H3250.

Field Duplicate Evaluation

SDG: 23H3255 PCBs

Analyte	Original Result mg/kg	Qual	Duplicate Result mg/kg	Qual	RPD ≤ 50%	Abs Diff	Comment[1]
Sample ID	**P-065-S01C**		**P-FD-03**				
	23H3255-05		**23H3268-17**				
Aroclor 1016	4	U	4.8	U	18.18		Ok- both ND
Aroclor 1221	4	U	4.8	U	18.18		Ok- both ND
Aroclor 1232	4	U	4.8	U	18.18		Ok- both ND
Aroclor 1242	4	U	4.8	U	18.18		Ok- both ND
Aroclor 1248	4	U	68		177.78	64	**J/UJ - abs diff > 4x RL**
Aroclor 1254	81		44		-59.20		**J/UJ - RPD > 50%**
Aroclor 1260	4	U	4.8	U	18.18		Ok - both ND
Aroclor 1262	4	U	4.8	U	18.18		Ok - both ND
Aroclor 1268	4	U	4.8	U	18.18		Ok - both ND

[1] Professional judgement used to qualify "S01C" samples only (P-065-S01C and P-066-S01C).
Note that P-065-SO1C is located in SDG 23H3255.

Field Duplicate Evaluation

SDG: 23H3257 PCBs

Analyte	Original Result mg/kg	Qual	Duplicate Result mg/kg	Qual	RPD ≤ 50%	Abs Diff	Comment
Sample ID	**P-111-R28SC**		**P-FD-04**				
	23H3257-11		**23H3268-18**				
Aroclor 1016	4.8	U	0.38	U	-170.66		Ok - both ND
Aroclor 1221	4.8	U	0.38	U	-170.66		Ok - both ND
Aroclor 1232	4.8	U	0.38	U	-170.66		Ok - both ND
Aroclor 1242	4.8	U	0.38	U	-170.66		Ok - both ND
Aroclor 1248	4.8	U	4.7		-2.11	-0.10	Ok - abs diff < 4x RL
Aroclor 1254	19		5.6		-108.94	-13.40	Ok - abs diff < 4x RL
Aroclor 1260	4.8	U	0.38	U	-170.66		Ok - both ND
Aroclor 1262	4.8	U	0.38	U	-170.66		Ok - both ND
Aroclor 1268	4.8	U	0.38	U	-170.66		Ok - both ND

Note that P-111-R28SC is located in SDG 23H3257.

Field Duplicate Evaluation

SDG: 23H3258 PCBs

Analyte	Original Result mg/kg	Qual	Duplicate Result mg/kg	Qual	RPD ≤ 50%	Abs Diff	Comment
Sample ID	**P-127-R33NC**		**P-FD-05**				
	23H3258-07		**23H3268-19**				
Aroclor 1016	22	U	21	U	-4.65		Ok - both ND
Aroclor 1221	22	U	21	U	-4.65		Ok - both ND
Aroclor 1232	22	U	21	U	-4.65		Ok - both ND
Aroclor 1242	22	U	21	U	-4.65		Ok - both ND
Aroclor 1248	22	U	21	U	-4.65		Ok - both ND
Aroclor 1254	310		340		9.23		Ok - RPD < 50%
Aroclor 1260	22	U	21	U	-4.65		Ok - both ND
Aroclor 1262	22	U	21	U	-4.65		Ok - both ND
Aroclor 1268	22	U	21	U	-4.65		Ok - both ND

Note that P-127-R33NC is located in SDG 23H3258.

Field Duplicate Evaluation

SDG: 23H3258 PCBs

Analyte	Original Result mg/kg	Qual	Duplicate Result mg/kg	Qual	RPD ≤ 50%	Abs Diff	Comment
Sample ID	**P-133-R16EP**		**P-FD-06**				
	23H3258-13		**23H3268-20**				
Aroclor 1016	0.46	U	0.4	U	-13.95		Ok - both ND
Aroclor 1221	0.46	U	0.4	U	-13.95		Ok - both ND
Aroclor 1232	0.46	U	0.4	U	-13.95		Ok - both ND
Aroclor 1242	0.46	U	0.4	U	-13.95		Ok - both ND
Aroclor 1248	0.46	U	0.4	U	-13.95		Ok - both ND
Aroclor 1254	5.5		5.6		1.80		Ok - RPD < 50%
Aroclor 1260	0.46	U	0.4	U	-13.95		Ok - both ND
Aroclor 1262	0.46	U	0.4	U	-13.95		Ok - both ND
Aroclor 1268	0.46	U	0.4	U	-13.95		Ok - both ND

Note that P-133-R16EP is located in SDG 23H3258.

Field Duplicate Evaluation

SDG: 23H3268 PCBs

Analyte	Original Result mg/kg	Qual	Duplicate Result mg/kg	Qual	RPD ≤ 50%	Abs Diff	Comment
Sample ID	**P-263-EX**		**P-FD-09**				
	23H3268-03		**23H3270-03**				
Aroclor 1016	8.7	U	7.7	U	-12.20		Ok - both ND
Aroclor 1221	8.7	U	7.7	U	-12.20		Ok - both ND
Aroclor 1232	8.7	U	7.7	U	-12.20		Ok - both ND
Aroclor 1242	8.7	U	7.7	U	-12.20		Ok - both ND
Aroclor 1248	8.7	U	7.7	U	-12.20		Ok - both ND
Aroclor 1254	160		140		-13.33		Ok - RPD < 50%
Aroclor 1260	8.7	U	7.7	U	-12.20		Ok - both ND
Aroclor 1262	8.7	U	7.7	U	-12.20		Ok - both ND
Aroclor 1268	8.7	U	7.7	U	-12.20		Ok - both ND

Note that P-FD-09 is located in SDG 23H3270.

Field Duplicate Evaluation

SDG: 23H3268 PCBs

Analyte	Original Result mg/kg	Qual	Duplicate Result mg/kg	Qual	RPD ≤ 50%	Abs Diff	Comment
Sample ID	**P-269-R23SS**		**P-FD-15**				
	23H3268-09		**23H3270-09**				
Aroclor 1016	0.1	U	0.1	U	0.00		Ok - both ND
Aroclor 1221	0.1	U	0.1	U	0.00		Ok - both ND
Aroclor 1232	0.1	U	0.1	U	0.00		Ok - both ND
Aroclor 1242	0.1	U	0.1	U	0.00		Ok - both ND
Aroclor 1248	0.1	U	0.1	U	0.00		Ok - both ND
Aroclor 1254	0.1	U	0.1	U	0.00		Ok - both ND
Aroclor 1260	0.1	U	0.1	U	0.00		Ok - both ND
Aroclor 1262	0.1	U	0.1	U	0.00		Ok - both ND
Aroclor 1268	0.1	U	0.1	U	0.00		Ok - both ND

Note that P-FD-15 is located in SDG 23H3270.

23H3268

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time
7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
1	P-261-R34S	8/16/2023	9:47	GRAB	O	U		1				x
2	P-262-Ex	8/16/2023	9:48	GRAB	O	U		1				x
3	P-263-Ex	8/16/2023	9:49	GRAB	O	U		1				x
4	P-264-Ex	8/16/2023	9:50	GRAB	O	U		3				x
5	P-265-R17EC1	8/16/2023	9:51	GRAB	O	U		1				x
6	P-266-R17EC2	8/16/2023	9:52	GRAB	O	U		1				x
7	P-267-R17EC3	8/16/2023	9:53	GRAB	O	U		1				x
8	P-268-R17EC4	8/16/2023	9:54	GRAB	O	U		1				x
9	P-269-R23SS	8/17/2023	9:55	GRAB	O	U		1				x
10	P-270-R27SS	8/17/2023	10:20	GRAB	O	U		3				x

Relinquished by: (signature)	Date/Time: 8-22-23 1258
Received by: (signature)	Date/Time: 1258 8-22-23
Relinquished by: (signature)	Date/Time: 1746 8-22-23
Received by: (signature) 38,22,3.9	Date/Time: 8/22/23
Relinquished by: (signature) 2.6,5.6	Date/Time: 1746
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Table of Contents

23H3268

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time

7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
11	P-271-R25ASS	8/17/2023	10:45	GRAB	O	U		1				x
12	P-272-R21SS	8/17/2023	11:20	GRAB	O	U		1				x
13	P-273-R31SS	8/17/2023	11:45	GRAB	O	U		1				x
14	P-274-S12R	8/16/2023	9:55	GRAB	O	U		1				x
15	p-FD-01	8/14/2023	8:00	GRAB	O	U		1				x
16	p-FD-02	8/14/2023	8:01	GRAB	O	U		1				x
17	p-FD-03	8/14/2023	8:02	GRAB	O	U		1				x
18	p-FD-04	8/14/2023	8:03	GRAB	O	U		1				x
19	p-FD-05	8/15/2023	8:00	GRAB	O	U		1				x
20	p-FD-06	8/15/2023	8:01	GRAB	O	U		1				x

[2] Preservation Code
Courier use Only
Total Number Of:
VIALS
GLASS
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time: 1255 8-22-23	Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS
Received by: (signature)	Date/Time: 1255 8-22-23	
Relinquished by: (signature)	Date/Time: 1746 8-22-23	
Received by: (signature) 3.8, 22, 39	Date/Time: 8/22/23	
Relinquished by: (signature) 2.6, 5.6	Date/Time: 1746	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

November 6, 2023
Nobis File No. S00001.017

Ms. Christine Beling
USEPA - Region I
Land, Chemicals, and Redevelopment Division
5 Post Office Square, Suite 100
Boston, MA 02109-3912

Re: USEPA Contract No. 68HE0122D001
USEPA Task Order No. 68HE0122F0044
Targeted Brownfield Assessment (TBA) Site
St. Johnsbury Armory Site
St. Johnsbury, Vermont
Sample Delivery Group (SDG) No. 23H3270
Pace Analytical (formerly Con-test), East Longmeadow, MA

Tier 1 Stage 2A Organic Data Review

Polychlorinated Biphenyls (PCBs by 8082A):

9/Building Material Samples: P-FD-07, P-FD-08, P-FD-09, P-FD-10, P-FD-11, P-FD-12, P-FD-13, P-FD-14, P-FD-15
9/Field Duplicate Pairs: P-146-EWP2 / P-FD-07 (23H3259-06 / 23H3270-01), P-158-R11EDW / P-FD-08 (23H3259-18 / 23H3270-02), P-263-EX / P-FD-09 (23H3268-03 / 23H3270-03), P-176-EX / P-FD-10 (23H3260-16 / 23H3270-04), P-131-R37S / P-FD-11 (23H3258-11 / 23H3270 - 05), P-003-R03W / P-FD-12 (23H3248-03 / 23H3270-06), P-009-R04W / P-FD-13 (23H3248-09 / 23H3270-07), P-252-R17S / P-FD-14 (23H3267-12 / 23H3270-08), P-269-R23SS / P-FD-15 (23H3268-09 / 23H3270-09)

Dear Ms. Beling:

Nobis Group (Nobis), under a USEPA contract as a subcontractor to KGSNE JV II, LLC (KGSNE), performed a Tier 1 Stage 2A manual data review (S2AVM) on the organic analytical data for the samples listed above. The samples were collected by Nobis at the St. Johnsbury Armory site located in St. Johnsbury, Vermont, on August 14 through August 17, 2023. The samples were analyzed for PCB Aroclors by EPA Method 8082A by Pace Analytical (formerly Con-test).

The Tier 1 Stage 2A manual data review was performed in accordance with the Region I - EPA New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures (September 2020); USEPA's National Functional Guidelines for Organic Superfund Methods Data Review (November 2020); the Program Quality Assurance Project Plan (Program QAPP) dated October 2022, and the Quality Assurance Project Plan Addendum (QAPPA) (July 2023) for St. Johnsbury Armory, which appends the October 2022 Program QAPP.

The data were evaluated based on the following parameters:

* • Overall Evaluation of Data and Potential Usability Issues
* • Data Completeness
* • Preservation and Technical Holding Times
* • Blanks

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

*	•	Surrogates (PCBs only)
NA	•	Internal Standards
NA	•	Matrix Spike Analysis
NA	•	Laboratory Duplicates
*	•	Laboratory Control Samples (LCS)/Standard Reference Material (SRM) Recovery (metals only)
	•	Field Duplicates
NA	•	ICP Serial Dilutions (metals only)
NA	•	Performance Evaluation (PE) Samples
	•	Target Analyte Identification
	•	Reported Quantitation Limits

* All criteria were met for this parameter or qualification was not required.
NA – Not applicable.

Overall Evaluation of Data and Potential Usability Issues

The site sampling objectives are:

- Perform a supplemental hazardous building material survey (HBMS) to address data gaps identified by Atlas Technical Consultants (ATC).
- Further delineate the distribution of hazardous materials to support future building renovation and reuse or demolition and disposal.
- Evaluate sub-slab soils for possible contamination by PCBs.

Note that quantitation limits for non-detect results exceeded the project action limit (PAL) of ≤ 1 mg/kg for total PCBs in several samples due to required sample dilutions.

The data meet the project quality criteria and can be used without restriction except as summarized below. The attachments provide details and supporting documentation.

PCBs:
Results were qualified due to dual column and field duplicate imprecision.

Please contact Linda Terzis at lterzis@nobis-group.com should you have any questions or comments regarding this information.

Sincerely,

NOBIS GROUP®

Linda Terzis
Data Validator

Gary Glennon
Data Validator

Tables: Data Summary Tables – Tier 1 Stage 2A (S2AVM) Validated Data
Data Qualification Actions Table

Attachments: Data Review Checklist

Support Documentation
COC

cc: Denis McGrath (Nobis Group)
Tim Andrews (Nobis Group)

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23H3270-01	23H3270-02	23H3270-03	23H3270-04	23H3270-05
Field Sample ID		P-FD-07	P-FD-08	P-FD-09	P-FD-10	P-FD-11
Sample Type		FD	FD	FD	FD	FD
Parent Sample ID		P-146-EWP2	P-158-R11EDW	P-263-EX	P-176-EX	P-131-R37S
Sample Date	**Units**	08/15/23	08/16/23	08/16/23	08/16/23	08/15/23
Aroclor 1016	mg/kg	0.4 U	0.44 U	7.7 U	0.35 U	22 U
Aroclor 1221	mg/kg	0.4 U	0.44 U	7.7 U	0.35 U	22 U
Aroclor 1232	mg/kg	0.4 U	0.44 U	7.7 U	0.35 U	22 U
Aroclor 1242	mg/kg	0.4 U	0.44 U	7.7 U	0.35 U	22 U
Aroclor 1248	mg/kg	0.4 U	3.1 J	7.7 U	0.35 U	22 U
Aroclor 1254	mg/kg	4.9	2.7	140	0.56	210
Aroclor 1260	mg/kg	0.4 U	0.44 U	7.7 U	0.35 U	22 U
Aroclor 1262	mg/kg	0.4 U	0.44 U	7.7 U	0.35 U	22 U
Aroclor 1268	mg/kg	0.4 U	0.44 U	7.7 U	0.35 U	22 U

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material			
Lab Sample ID		23H3270-06	23H3270-07	23H3270-08	23H3270-09
Field Sample ID		P-FD-12	P-FD-13	P-FD-14	P-FD-15
Sample Type		FD	FD	FD	FD
Parent Sample ID		P-003-R03W	P-009-R04W	P-252-R17S	P-269-R23SS
Sample Date	**Units**	08/14/23	08/14/23	08/16/23	08/17/23
Aroclor 1016	mg/kg	4.1 U	4.7 U	1.8 U	0.1 U
Aroclor 1221	mg/kg	4.1 U	4.7 U	1.8 U	0.1 U
Aroclor 1232	mg/kg	4.1 U	4.7 U	1.8 U	0.1 U
Aroclor 1242	mg/kg	4.1 U	4.7 U	1.8 U	0.1 U
Aroclor 1248	mg/kg	4.1 U	4.7 U	1.8 U	0.1 U
Aroclor 1254	mg/kg	41	23 J	6.1	0.1 U
Aroclor 1260	mg/kg	4.1 U	4.7 U	1.8 U	0.1 U
Aroclor 1262	mg/kg	4.1 U	4.7 U	1.8 U	0.1 U
Aroclor 1268	mg/kg	4.1 U	4.7 U	1.8 U	0.1 U

Data Review Qualification Actions
Case: St. Johnsbury Armory
SDG: 23H3270

Parameter	Analyte	Samples	Evaluation Criteria	Action Needed	Comments
PCBs					
	Aroclor 1248	P-FD-08	Field duplicate imprecision.	J	
	Aroclor 1254	P-FD-07	Dual column imprecision.	J	

Tier 1 Stage 2A Data Review Checklist

Project: St. Johnsbury Armory Site, St. Johnsbury, Vermont
Project #: S00001.017
Case#: NA
Date: 10/03/2023
Methods: PCBs (8082A)
Laboratory: Pace Analytical (formerly Con-test), East Longmeadow, MA
SDG: 23H3270
Reviewer: Linda Terzis

1. **Case Narrative and Data Package Completeness (COC and Analyte List Review)**
Nine (9) field duplicate samples were listed on the COC for SDG 23H3270. The samples were collected on 08/14/2023 through 08/17/2023 and were received at the laboratory on 08/22/2023 at temperatures ranging from 2.2 to 5.6 °C.

Sample ID	Laboratory ID	Analyses
P-FD-07	23H3270-01	PCBs
P-FD-08	23H3270-02	PCBs
P-FD-09	23H3270-03	PCBs
P-FD-10	23H3270-04	PCBs
P-FD-11	23H3270-05	PCBs
P-FD-12	23H3270-06	PCBs
P-FD-13	23H3270-07	PCBs
P-FD-14	23H3270-08	PCBs
P-FD-15	23H3270-09	PCBs

A complete laboratory report was received for SDG 23H3270.

2. **Holding Time and Sample Preservation Compliance**

Receipt temperature met the acceptable level of ≤ 6 °C.

PCBs: Holding time limits are not applicable for building material samples, based on Table 3 of the Quality Assurance Project Plan Addendum (QAPPA) for the St. Johnsbury Armory site (July 2023). No actions are required.

3. **Calibration Issues**

Not assessed for S2AVM.

4. **Lab and Field Blanks**

PCBs: Results for the laboratory method blanks associated with the samples of this SDG were non-detect. No blank actions are required.

An equipment blank was not required during sample collection for the site.

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

5. **Interference Check Sample (metals only)**

   Not assessed for S2AVM.

6. **Surrogates (PCBs only)**

   PCBs: Surrogate recoveries were within the Program QAPP limits (30-150%) for all samples except where required sample dilutions caused the surrogates to dilute out of the samples. Dilution factors ranged from 1/4 to 1/50. Surrogates were diluted out of samples that had sample dilutions > 1/20. No actions are required.

7. **Laboratory Control Samples**

   PCBs: Percent recoveries of Aroclors 1016 and 1260 in the PCB LCS/LCSD pairs associated with the samples met the Program QAPP limits of 40-140% recovery and relative percent difference (RPD) ≤ 30%. No action is required.

8. **Matrix Spikes**

   PCBs: Only Aroclors 1016 and 1260 were spiked in the MS/MSD; therefore, based on professional judgment, if actions are required, they are applied as follows:

   If 1016 %R or %RPD out: Qualify 1016, 1221, 1232, 1242
   If 1260 %R or %RPD out: Qualify 1248, 1254, 1260, 1262,1268

   MS/MSD analyses were not performed on samples of this SDG. No action is required.

9. **Laboratory Duplicates**

   PCBs: Not applicable to this analysis.

10. **Serial Dilution (metals only)**

    PCBs: Not applicable to this analysis.

11. **Field Duplicate Precision**

    Criteria based on the EPA Region I Environmental Data Review Supplement (September 2020): RPD ≤ 50% (soils) for results ≥ 5x QL or absolute difference of ≤ 4x QL for results < 5X QL.

    The following field duplicate pairs, evaluated in other SDGS, are associated with the samples of this site.

    - P-146-EWP2 / P-FD-07 (23H3259-06 / 23H3270-01) – evaluated in SDG 23H3259. Field duplicate precision met and no actions required.
    - P-158-R11EDW / P-FD-08 (23H3259-18 / 23H3270-02) – evaluated in SDG 23H3259. Aroclor 1248 results qualified as estimated (J/UJ) in the field duplicate pair samples due to field duplicate imprecision.
    - P-263-EX / P-FD-09 (23H3268-03 / 23H3270-03) – evaluated in SDG 23H3268. Field duplicate criteria met and no actions required.

- P-176-EX / P-FD-10 (23H3260-16 / 23H3270-04) – evaluated in SDG 23H3260. Field duplicate precision met and no actions required.
- P-131-R37S / P-FD-11 (23H3258-11 / 23H3270 -05) – evaluated in SDG 23H3258. Field duplicate criteria met and no actions required.
- P-003-R03W / P-FD-12 (23H3248-03 / 23H3270-06) – evaluated in SDG 23H3248. Field duplicate precision met and no actions required.
- P-009-R04W / P-FD-13 (23H3248-09 / 23H3270-07) – evaluated in SDG 23H3248. Field duplicate precision met and no actions required.
- P-252-R17S / P-FD-14 (23H3267-12 / 23H3270-08) – evaluated in SDG 23H3267. Field duplicate precision met and no actions are required.
- P-269-R23SS / P-FD-15 (23H3268-09 / 23H3270-09) – evaluated in SDG 23H3268. Field duplicate precision met and no actions are required.

Field duplicate precision evaluations for the field duplicate pairs above are included in the attachments of this data validation report.

12. Internal Standards

Not applicable to these analyses.

13. Dual Column Precision (PCBs only)

Dual column precision criteria (≤ 25% RPD per the NFGs) were met for all Aroclor detections > QL except for the Aroclor 1254 detection in sample P-FD-013 (23H3270-07), where the RPD was > 25% (30%). Based on the NFGs (2020), the detected result for Aroclor 1254 in sample P-FD-13 is qualified as estimated (J) due to dual column imprecision. Note that result for Aroclor 1248 in sample P-FD-03 is also qualified as estimated (J) due to field duplicate imprecision, as previously discussed above.

14. Performance Evaluation (PE) Samples

A PE sample was not submitted with the samples of this SDG. No actions are required.

15. Quantitation Limits

PCBs: Laboratory quantitation limits (QLs) for non-detect Aroclor results exceeded the PAL of ≤ 1 mg/kg for total PCBs, per Table 4 of the QAPPA, for several samples due to required sample dilutions. Dilutions ranged from 1/4 to 1/50.

16. Other

The EPA Region I Environmental Data Review Supplement (2020) percent solids criterion of ≥ 30% for soil samples does not apply to building material samples.

Overall bias is considered indeterminate when cumulative nonconformances do not show a consistent bias or in cases of the presence of conflicting high and low biases.

Field Duplicate Evaluation

SDG: 23H3259 PCBs

Analyte	Original Result mg/kg	Qual	Duplicate Result mg/kg	Qual	RPD ≤ 50%	Abs Diff	Comment
Sample ID	**P-146-EWP2**		**P-FD-07**				
	23H3259-06		**23H3270-01**				
Aroclor 1016	0.4	U	1	U	85.71		Ok - both ND
Aroclor 1221	0.4	U	1	U	85.71		Ok - both ND
Aroclor 1232	0.4	U	1	U	85.71		Ok - both ND
Aroclor 1242	0.4	U	1	U	85.71		Ok - both ND
Aroclor 1248	0.4	U	1	U	85.71		Ok - both ND
Aroclor 1254	4.9		5.8		16.82		Ok - RPD < 50%
Aroclor 1260	0.4	U	1	U	85.71		Ok - both ND
Aroclor 1262	0.4	U	1	U	85.71		Ok - both ND
Aroclor 1268	0.4	U	1	U	85.71		Ok - both ND

Note that P-146-EWP2 is located in SDG 23H3259.

Field Duplicate Evaluation

SDG: 23H3259 PCBs

Analyte	Original Result mg/kg	Qual	Duplicate Result mg/kg	Qual	RPD ≤ 50%	Abs Diff	Comment[1]
Sample ID	**P-158-R11EDW**		**P-FD-08**				
	23H3259-18		**23H3270-02**				
Aroclor 1016	0.5	U	0.44	U	-12.77		Ok - both ND
Aroclor 1221	0.5	U	0.44	U	-12.77		Ok - both ND
Aroclor 1232	0.5	U	0.44	U	-12.77		Ok - both ND
Aroclor 1242	0.5	U	0.44	U	-12.77		Ok - both ND
Aroclor 1248	0.5	U	3.1		144.44	2.60	**J/UJ - abs diff > 4x RL**
Aroclor 1254	2.7		2.7		0.00		Ok - RPD < 50%
Aroclor 1260	0.5	U	0.44	U	-12.77		Ok - both ND
Aroclor 1262	0.5	U	0.44	U	-12.77		Ok - both ND
Aroclor 1268	0.5	U	0.44	U	-12.77		Ok - both ND

[1] Professional judgement used to apply actions to the field duplicate pair only.
Note that P-158-R11EDW is located in SDG 23H3259.

Field Duplicate Evaluation

SDG: 23H3268 PCBs

Analyte	Original Result mg/kg	Qual	Duplicate Result mg/kg	Qual	RPD ≤ 50%	Abs Diff	Comment
Sample ID	**P-263-EX**		**P-FD-09**				
	23H3268-03		**23H3270-03**				
Aroclor 1016	8.7	U	7.7	U	-12.20		Ok - both ND
Aroclor 1221	8.7	U	7.7	U	-12.20		Ok - both ND
Aroclor 1232	8.7	U	7.7	U	-12.20		Ok - both ND
Aroclor 1242	8.7	U	7.7	U	-12.20		Ok - both ND
Aroclor 1248	8.7	U	7.7	U	-12.20		Ok - both ND
Aroclor 1254	160		140		-13.33		Ok - RPD < 50%
Aroclor 1260	8.7	U	7.7	U	-12.20		Ok - both ND
Aroclor 1262	8.7	U	7.7	U	-12.20		Ok - both ND
Aroclor 1268	8.7	U	7.7	U	-12.20		Ok - both ND

Note that P-263-EX is located in SDG 23H3268.

Field Duplicate Evaluation

SDG: 23H3268 PCBs

Analyte	Original Result mg/kg	Qual	Duplicate Result mg/kg	Qual	RPD ≤ 50%	Abs Diff	Comment
Sample ID	**P-269-R23SS**		**P-FD-15**				
	23H3268-09		**23H3270-09**				
Aroclor 1016	0.1	U	0.1	U	0.00		Ok - both ND
Aroclor 1221	0.1	U	0.1	U	0.00		Ok - both ND
Aroclor 1232	0.1	U	0.1	U	0.00		Ok - both ND
Aroclor 1242	0.1	U	0.1	U	0.00		Ok - both ND
Aroclor 1248	0.1	U	0.1	U	0.00		Ok - both ND
Aroclor 1254	0.1	U	0.1	U	0.00		Ok - both ND
Aroclor 1260	0.1	U	0.1	U	0.00		Ok - both ND
Aroclor 1262	0.1	U	0.1	U	0.00		Ok - both ND
Aroclor 1268	0.1	U	0.1	U	0.00		Ok - both ND

Note that P-269-R23SS is located in SDG 23H3268.

Field Duplicate Evaluation

SDG: 23H3260 PCBs

Analyte	Original Result mg/kg	Qual	Duplicate Result mg/kg	Qual	RPD ≤ 50%	Abs Diff	Comment
Sample ID	**P-176-EX**		**P-FD-10**				
	23H3260-16		**23H3270-04**				
Aroclor 1016	0.47	U	0.35	U	-29.27		Ok - both ND
Aroclor 1221	0.47	U	0.35	U	-29.27		Ok - both ND
Aroclor 1232	0.47	U	0.35	U	-29.27		Ok - both ND
Aroclor 1242	0.47	U	0.35	U	-29.27		Ok - both ND
Aroclor 1248	0.47	U	0.35	U	-29.27		Ok - both ND
Aroclor 1254	0.62		0.56		-10.17	-0.06	Ok - abs diff < 4x RL
Aroclor 1260	0.47	U	0.35	U	-29.27		Ok - both ND
Aroclor 1262	0.47	U	0.35	U	-29.27		Ok - both ND
Aroclor 1268	0.47	U	0.35	U	-29.27		Ok - both ND

Note that P-176-EX is located in SDG 23H3260.

Field Duplicate Evaluation

SDG: 23H3258 PCBs

Analyte	Original Result mg/kg	Qual	Duplicate Result mg/kg	Qual	RPD ≤ 50%	Abs Diff	Comment
Sample ID	**P-131-R37S**		**P-FD-11**				
	23H3258-11		**23H3270-05**				
Aroclor 1016	24	U	22	U	-8.70		Ok - both ND
Aroclor 1221	24	U	22	U	-8.70		Ok - both ND
Aroclor 1232	24	U	22	U	-8.70		Ok - both ND
Aroclor 1242	24	U	22	U	-8.70		Ok - both ND
Aroclor 1248	24	U	22	U	-8.70		Ok - both ND
Aroclor 1254	270		210		-25.00		Ok - RPD < 50%
Aroclor 1260	24	U	22	U	-8.70		Ok - both ND
Aroclor 1262	24	U	22	U	-8.70		Ok - both ND
Aroclor 1268	24	U	22	U	-8.70		Ok - both ND

Note that P-131-R37S is located in SDG 23H3258.

Field Duplicate Evaluation

SDG: 23H3248 PCBs

Analyte	Original Result mg/kg	Qual	Duplicate Result mg/kg	Qual	RPD ≤ 50%	Abs Diff	Comment
Sample ID	**P-003-R03W**		**P-FD-12**				
	23H3248-03		**23H3270-06**				
Aroclor 1016	4.2	U	4.1	U	-2.41		Ok - both ND
Aroclor 1221	4.2	U	4.1	U	-2.41		Ok - both ND
Aroclor 1232	4.2	U	4.1	U	-2.41		Ok - both ND
Aroclor 1242	4.2	U	4.1	U	-2.41		Ok - both ND
Aroclor 1248	4.2	U	4.1	U	-2.41		Ok - both ND
Aroclor 1254	43		41		-4.76		Ok - RPD < 50%
Aroclor 1260	4.2	U	4.1	U	-2.41		Ok - both ND
Aroclor 1262	4.2	U	4.1	U	-2.41		Ok - both ND
Aroclor 1268	4.2	U	4.1	U	-2.41		Ok - both ND

Note that P-003-R03W is located in SDG 23H3248.

Field Duplicate Evaluation

SDG: 23H3248 PCBs

Analyte	Original Result mg/kg	Qual	Duplicate Result mg/kg	Qual	RPD ≤ 50%	Abs Diff	Comment
Sample ID	**P-009-R04W**		**P-FD-13**				
	23H3248-09		**23H3270-07**				
Aroclor 1016	4.4	U	4.7	U	6.59		Ok - both ND
Aroclor 1221	4.4	U	4.7	U	6.59		Ok - both ND
Aroclor 1232	4.4	U	4.7	U	6.59		Ok - both ND
Aroclor 1242	4.4	U	4.7	U	6.59		Ok - both ND
Aroclor 1248	4.4	U	4.7	U	6.59		Ok - both ND
Aroclor 1254	24		23		-4.26		Ok - RPD < 50%
Aroclor 1260	4.4	U	4.7	U	6.59		Ok - both ND
Aroclor 1262	4.4	U	4.7	U	6.59		Ok - both ND
Aroclor 1268	4.4	U	4.7	U	6.59		Ok - both ND

Note that P-009-R04W is located in SDG 23H3248.

Field Duplicate Evaluation

SDG: 23H3267 PCBs

Analyte	Original Result mg/kg	Qual	Duplicate Result mg/kg	Qual	RPD ≤ 50%	Abs Diff	Comment
Sample ID	**P-252-R17S**		**P-FD-14**				
	23H3267-12		**23H3270-08**				
Aroclor 1016	1.9	U	1.8	U	-5.41		Ok - both ND
Aroclor 1221	1.9	U	1.8	U	-5.41		Ok - both ND
Aroclor 1232	1.9	U	1.8	U	-5.41		Ok - both ND
Aroclor 1242	1.9	U	1.8	U	-5.41		Ok - both ND
Aroclor 1248	1.9	U	1.8	U	-5.41		Ok - both ND
Aroclor 1254	12		6.1		-65.19	-5.90	Ok - abs diff < 4x RL
Aroclor 1260	1.9	U	1.8	U	-5.41		Ok - both ND
Aroclor 1262	1.9	U	1.8	U	-5.41		Ok - both ND
Aroclor 1268	1.9	U	1.8	U	-5.41		Ok - both ND

Note that P-252-R17S is located in SDG 23H3267.

23H3270

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	Bridget Fortier (bfortier@nobis-group.com)

Requested Turnaround Time

7-Day ☑ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
1	p-FD-07	8/15/2023	8:02	GRAB	O	U		1				x
2	p-FD-08	8/16/2023	16:00	GRAB	O	U		1				x
3	p-FD-09	8/16/2023	16:01	GRAB	O	U		1				x
4	p-FD-010	8/16/2023	16:02	GRAB	O	U		1				x
5	p-FD-011	8/15/2023	16:03	GRAB	O	U		1				x
6	p-FD-012	8/14/2023	16:01	GRAB	O	U		1				x
7	p-FD-013	8/14/2023	16:00	GRAB	O	U		1				x
8	p-FD-014	8/16/2023	16:04	GRAB	O	U		1				x
9	p-FD-015	8/17/2023	8:00	GRAB	O	U		1				x

Relinquished by: (signature)	Date/Time: RST 8-22-23	
Received by: (signature)	Date/Time: 1255 8-22-23	
Relinquished by: (signature)	Date/Time: 1746 8-22-23	
Received by: (signature) 3.8, 2.2, 3.9	Date/Time: 8/22/23	
Relinquished by: (signature) 2.6, 5.6	Date/Time: 1746	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Client Comments: MS/MSDs: P-019-R06S, P-043-R09WT, P-257-S12S, P-258-R11WDW, P-259-R15E, P-151-EP1, P-136-GN, P-069-R22EC, P-081-R22SB, P-114-R28WB, P-237-R33NB, P-177-Ex, P-264-Ex, P-189-Ex, P-270-R27SS

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA LAP, LLC Accredited

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other

☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Table of Contents

RF

December 18, 2023
Nobis File No. S00001.017

Ms. Christine Beling
USEPA - Region I
Land, Chemicals, and Redevelopment Division
5 Post Office Square, Suite 100
Boston, MA 02109-3912

Re: USEPA Contract No. 68HE0122D0001
USEPA Task Order No. 68HE0122F0044
Targeted Brownfield Assessment (TBA) Site
St. Johnsbury Armory Site
St. Johnsbury, Vermont
Sample Delivery Group (SDG) No. 23J0273

Pace Analytical (formerly Con-test), East Longmeadow, MA

Tier 1 Stage 2A Organic Data Review

Polychlorinated Biphenyls (PCBs by 8082A):

9/Caulk Samples: P-275-EX, P-276-EX, P-277-EX, P-278-EX, P-279-EX, P-280-EX, P-281-EX, P-282-EX, P-283-EX
11/Building Material Samples: P-284-R6, P-285-R6, P-286-R10, P-287-R13, P-288-R13, P-289-R14, P-290-R12, P-291-R12, P-292-R12, P-293-R18, P-294-R18
2/Field Duplicate Pairs: P-286-R10 / P-FD-016 (23J0273-12 / 23J0277-05) and P-289-R14 / P-FD-017 (23J0273-15 / 23J0277-06)

Dear Ms. Beling:

Nobis Group (Nobis), under a USEPA contract as a subcontractor to KGSNE JV II, LLC (KGSNE), performed a Tier 1 Stage 2A manual data review (S2AVM) on the organic analytical data for the samples listed above. The samples were collected by Nobis at the St. Johnsbury Armory site located in St. Johnsbury, Vermont, on October 2, 2023. The samples were analyzed for PCB Aroclors by EPA Method 8082A by Pace Analytical (formerly Con-test).

The Tier 1 Stage 2A manual data review was performed in accordance with the Region I - EPA New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures (September 2020); USEPA's National Functional Guidelines for Organic Superfund Methods Data Review (November 2020); the Program Quality Assurance Project Plan (Program QAPP) dated October 2022, the Quality Assurance Project Plan Addendum (QAPPA) (July 2023) and the QAPPA Update (October 2023) for St. Johnsbury Armory, which append the October 2022 Program QAPP.

The data were evaluated based on the following parameters:

* • Overall Evaluation of Data and Potential Usability Issues
* • Data Completeness
* • Preservation and Technical Holding Times
* • Blanks

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

*	•	Surrogates (PCBs only)
NA	•	Internal Standards
NA	•	Matrix Spike Analysis
NA	•	Laboratory Duplicates
*	•	Laboratory Control Samples (LCS)/Standard Reference Material (SRM) Recovery (metals only)
*	•	Field Duplicates
NA	•	ICP Serial Dilutions (metals only)
NA	•	Performance Evaluation (PE) Samples
	•	Target Analyte Identification
	•	Reported Quantitation Limits

* All criteria were met for this parameter or qualification was not required.
NA – Not applicable.

Overall Evaluation of Data and Potential Usability Issues

The site sampling objectives are:

- Perform a supplemental hazardous building material survey (HBMS) to address data gaps identified by Atlas Technical Consultants (ATC).
- Further delineate the distribution of hazardous materials to support future building renovation and reuse or demolition and disposal.
- Evaluate sub-slab soils for possible contamination by PCBs.

Note that quantitation limits for non-detect results exceeded the project action limit (PAL) of ≤ 1 mg/kg for total PCBs in 3 building material samples and 2 caulk samples due to required sample dilutions.

The data meet the project quality criteria and can be used without restriction except as summarized below. The attachments provide details and supporting documentation.

PCBs:
Results were qualified due to dual column imprecision.

Please contact Linda Terzis at lterzis@nobis-group.com should you have any questions or comments regarding this information.

Sincerely,

NOBIS GROUP®

Linda Terzis
Data Validator

Gary Glennon
Data Validator

Tables: Data Summary Tables – Tier 1 Stage 2A (S2AVM) Validated Data
Data Qualification Actions Table

Attachments: Data Review Checklist

Support Documentation
COC

cc: Denis McGrath (Nobis Group)
Tim Andrews (Nobis Group)

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23J0273-10	23J0273-11	23J0273-12	23J0273-13	23J0273-14
Field Sample ID		P-284-R6	P-285-R6	P-286-R10	P-287-R13	P-288-R13
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	10/02/23	10/02/23	10/02/23	10/02/23	10/02/23
Aroclor 1016	mg/kg	0.89 U	0.98 U	0.9 U	0.96 U	0.88 U
Aroclor 1221	mg/kg	0.89 U	0.98 U	0.9 U	0.96 U	0.88 U
Aroclor 1232	mg/kg	0.89 U	0.98 U	0.9 U	0.96 U	0.88 U
Aroclor 1242	mg/kg	0.89 U	0.98 U	0.9 U	0.96 U	0.88 U
Aroclor 1248	mg/kg	0.89 U	0.98 U	0.9 U	0.96 U	0.88 U
Aroclor 1254	mg/kg	2.6	2.2 J	1.6	4.3	2.2
Aroclor 1260	mg/kg	0.89 U	0.98 U	0.9 U	0.96 U	0.88 U
Aroclor 1262	mg/kg	0.89 U	0.98 U	0.9 U	0.96 U	0.88 U
Aroclor 1268	mg/kg	0.89 U	0.98 U	0.9 U	0.96 U	0.88 U

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23J0273-15	23J0273-16	23J0273-17	23J0273-18	23J0273-19
Field Sample ID		P-289-R14	P-290-R12	P-291-R12	P-292-R12	P-293-R18
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	10/02/23	10/02/23	10/02/23	10/02/23	10/02/23
Aroclor 1016	mg/kg	2 U	0.93 U	0.74 U	0.97 U	970 U
Aroclor 1221	mg/kg	2 U	0.93 U	0.74 U	0.97 U	970 U
Aroclor 1232	mg/kg	2 U	0.93 U	0.74 U	0.97 U	970 U
Aroclor 1242	mg/kg	2 U	0.93 U	0.74 U	0.97 U	970 U
Aroclor 1248	mg/kg	2 U	0.93 U	0.74 U	0.97 U	970 U
Aroclor 1254	mg/kg	11	3.3	2.7	3.4	5700
Aroclor 1260	mg/kg	2 U	0.93 U	0.74 U	0.97 U	970 U
Aroclor 1262	mg/kg	2 U	0.93 U	0.74 U	0.97 U	970 U
Aroclor 1268	mg/kg	2 U	0.93 U	0.74 U	0.97 U	970 U

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material
Lab Sample ID		23J0273-20
Field Sample ID		P-294-R18
Sample Type		N
Parent Sample ID		
Sample Date	**Units**	10/02/23
Aroclor 1016	mg/kg	800 U
Aroclor 1221	mg/kg	800 U
Aroclor 1232	mg/kg	800 U
Aroclor 1242	mg/kg	800 U
Aroclor 1248	mg/kg	800 U
Aroclor 1254	mg/kg	4600
Aroclor 1260	mg/kg	800 U
Aroclor 1262	mg/kg	800 U
Aroclor 1268	mg/kg	800 U

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Caulk				
Lab Sample ID		23J0273-01	23J0273-02	23J0273-03	23J0273-04	23J0273-05
Field Sample ID		P-275-EX	P-276-EX	P-277-EX	P-278-EX	P-279-EX
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	10/02/23	10/02/23	10/02/23	10/02/23	10/02/23
Aroclor 1016	mg/kg	0.7 U	3.6 U	3.7 U	0.77 U	0.76 U
Aroclor 1221	mg/kg	0.7 U	3.6 U	3.7 U	0.77 U	0.76 U
Aroclor 1232	mg/kg	0.7 U	3.6 U	3.7 U	0.77 U	0.76 U
Aroclor 1242	mg/kg	0.7 U	3.6 U	3.7 U	0.77 U	0.76 U
Aroclor 1248	mg/kg	0.7 U	3.6 U	3.7 U	0.77 U	0.76 U
Aroclor 1254	mg/kg	5.9	17	10	1.4	1.6
Aroclor 1260	mg/kg	0.7 U	3.6 U	3.7 U	0.77 U	0.76 U
Aroclor 1262	mg/kg	0.7 U	3.6 U	3.7 U	0.77 U	0.76 U
Aroclor 1268	mg/kg	0.7 U	3.6 U	3.7 U	0.77 U	0.76 U

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Caulk			
Lab Sample ID		23J0273-06RE1	23J0273-07	23J0273-08	23J0273-09
Field Sample ID		P-280-EX	P-281-EX	P-282-EX	P-283-EX
Sample Type		N	N	N	N
Parent Sample ID					
Sample Date	**Units**	10/02/23	10/02/23	10/02/23	10/02/23
Aroclor 1016	mg/kg	0.78 U	0.75 U	0.73 U	0.71 U
Aroclor 1221	mg/kg	0.78 U	0.75 U	0.73 U	0.71 U
Aroclor 1232	mg/kg	0.78 U	0.75 U	0.73 U	0.71 U
Aroclor 1242	mg/kg	0.78 U	0.75 U	0.73 U	0.71 U
Aroclor 1248	mg/kg	0.78 U	0.75 U	0.73 U	0.71 U
Aroclor 1254	mg/kg	0.78 U	0.75 U	0.8	0.71 U
Aroclor 1260	mg/kg	0.78 U	0.75 U	0.73 U	0.71 U
Aroclor 1262	mg/kg	0.78 U	0.75 U	0.73 U	0.71 U
Aroclor 1268	mg/kg	0.78 U	0.75 U	0.73 U	0.71 U

Data Review Qualification Actions
Case: St. Johnsbury Armory
SDG: 23J0273

Parameter	Analyte	Samples	Evaluation Criteria	Action Needed	Comments
PCBs					
	Aroclor 1254	P-285-R6	Dual column imprecision	J	

nobis

Tier 1 Stage 2A Data Review Checklist

Project: St. Johnsbury Armory Site, St. Johnsbury, Vermont
Project #: S00001.017
Case#: NA
Date: 12/13/2023
Methods: PCBs (8082A)
Laboratory: Pace Analytical (formerly Con-test), East Longmeadow, MA
SDG: 23J0273
Reviewer: Linda Terzis

1. **Case Narrative and Data Package Completeness (COC and Analyte List Review)**
Nine (9) caulk samples and eleven (11) building material samples were listed on the COC for SDG 23J0273. The samples were collected on 10/02/2023 and were received at the laboratory on 10/03/2023 at 3.2 °C.

Sample ID	Matrix	Laboratory ID	Analyses
P-275-EX	Caulk	23J0273-01	PCBs
P-276-EX	Caulk	23J0273-02	PCBs
P-277-EX	Caulk	23J0273-03	PCBs
P-278-EX	Caulk	23J0273-04	PCBs
P-279-EX	Caulk	23J0273-05	PCBs
P-280-EX	Caulk	23J0273-06	PCBs
P-281-EX	Caulk	23J0273-07	PCBs
P-282-EX	Caulk	23J0273-08	PCBs
P-283-EX	Caulk	23J0273-09	PCBs
P-284-R6	Building Material	23J0273-10	PCBs
P-285-R6	Building Material	23J0273-11	PCBs
P-286-R10	Building Material	23J0273-12	PCBs
P-287-R13	Building Material	23J0273-13	PCBs
P-288-R13	Building Material	23J0273-14	PCBs
P-289-R14	Building Material	23J0273-15	PCBs
P-290-R12	Building Material	23J0273-16	PCBs
P-291-R12	Building Material	23J0273-17	PCBs
P-292-R12	Building Material	23J0273-18	PCBs
P-293-R18	Building Material	23J0273-19	PCBs
P-294-R18	Building Material	23J0273-20	PCBs

A complete laboratory report was received for SDG 23J0273.

2. **Holding Time and Sample Preservation Compliance**

Receipt temperature met the acceptable level of ≤ 6 °C.

PCBs: Holding time limits are not applicable for building material and caulk samples, based on Table 3 of the Quality Assurance Project Plan Addendum (QAPPA) for the St. Johnsbury Armory site (July 2023). No actions are required.

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

3. **Calibration Issues**

   Not assessed for S2AVM.

4. **Lab and Field Blanks**

   PCBs: Results for the laboratory method blanks associated with the samples of this SDG were non-detect. No blank actions are required.

   An equipment blank was not required during sample collection for the site.

5. **Interference Check Sample (metals only)**

   Not applicable for this analysis.

6. **Surrogates (PCBs only)**

   PCBs: Surrogate recoveries were within the Program QAPP limits (30-150%) for all samples except samples P-293-R18 (23J0273-19) and P-294-R18 (23J0273-20), where the surrogates diluted out due to the high dilutions required (1/10,000) to report the high concentrations of Aroclor 1254 detected in the samples. No actions are required.

7. **Laboratory Control Samples**

   PCBs: Percent recoveries of Aroclors 1016 and 1260 in all PCB LCS/LCSD pairs met the Program QAPP limits of 40-140% recovery and relative percent difference (RPD) ≤ 30%. No action is required.

8. **Matrix Spikes**

   MS/MSD analyses were not performed for this SDG. No actions are required.

9. **Laboratory Duplicates**

   Not applicable for this analysis.

10. **Serial Dilution (metals only)**

    Not applicable for this analysis.

11. **Field Duplicate Precision**

    Criteria based on the EPA Region I Environmental Data Review Supplement (September 2020): RPD ≤ 50% (soils) for results ≥ 5x QL or absolute difference of ≤ 4x QL for results < 5X QL.

    The following field duplicate pairs are associated with the samples of this SDG.

    - P-286-R10 / P-FD-016 (23J0273-12 / 23J0277-05)
    - P-289-R14 / P-FD-017 (23J0273-15 / 23J0277-06)

PCBs: Field duplicate precision criteria were met for both field duplicate pairs. No actions are required.

12. Internal Standards

Not applicable for this analysis.

13. Dual Column Precision (PCBs only)

Dual column precision criteria (≤ 25% RPD per the National Functional Guidelines [NFGs, 2020]) were met for all Aroclor detections except for the Aroclor 1254 detection in sample P-285-R6 (23J0273-11), where the RPD was 25.6%. Based on the NFGs (2020), the detected Aroclor 1254 result in sample P-285-R6 is qualified as estimated (J) due to dual column imprecision.

14. Performance Evaluation (PE) Samples

A PE sample was not submitted with the samples of this SDG. No actions are required.

15. Quantitation Limits

PCBs: Laboratory quantitation limits (QLs) for non-detect Aroclor results exceeded the PAL of ≤ 1 mg/kg for total PCBs, per Table 4 of the QAPPA, for 3 building material and 2 caulk samples due to required sample dilutions. Dilutions ranged from 1/20 to 1/10,000. Site objectives may be impacted.

16. Other

The EPA Region I Environmental Data Review Supplement (2020) percent solids criterion of ≥ 30% for soil samples does not apply to building material and caulk samples.

Overall bias is considered indeterminate when cumulative nonconformances do not show a consistent bias or in cases of the presence of conflicting high and low biases.

Field Duplicate Evaluation

SDG: 23J0273 PCBs

Analyte	Original Result mg/kg	Qual	Duplicate Result mg/kg	Qual	RPD ≤ 50%	Abs Diff	Comment
Sample ID	**P-286-R10**		**P-FD-016**				
	23J0273-12		**23J0277-05**				
Aroclor 1016	0.90	U	0.97	U	7.49		Ok - both ND
Aroclor 1221	0.90	U	0.97	U	7.49		Ok - both ND
Aroclor 1232	0.90	U	0.97	U	7.49		Ok - both ND
Aroclor 1242	0.90	U	0.97	U	7.49		Ok - both ND
Aroclor 1248	0.90	U	0.97	U	7.49		Ok - both ND
Aroclor 1254	1.6		1.9		17.14	0.30	Ok - abs diff < 4x QL
Aroclor 1260	0.90	U	0.97	U	7.49		Ok - both ND
Aroclor 1262	0.90	U	0.97	U	7.49		Ok - both ND
Aroclor 1268	0.90	U	0.97	U	7.49		Ok - both ND
Dilution Factor:	10		10				

Note that P-FD-016 is located in SDG 23J0277.

Field Duplicate Evaluation

SDG: 23J0273 PCBs

Analyte	Original Result mg/kg	Qual	Duplicate Result mg/kg	Qual	RPD ≤ 50%	Abs Diff	Comment
Sample ID	**P-289-R14**		**P-FD-017**				
	23J0273-15		**23J0277-06**				
Aroclor 1016	2	U	0.96	U	-70.27		Ok - both ND
Aroclor 1221	2	U	0.96	U	-70.27		Ok - both ND
Aroclor 1232	2	U	0.96	U	-70.27		Ok - both ND
Aroclor 1242	2	U	0.96	U	-70.27		Ok - both ND
Aroclor 1248	2	U	0.96	U	-70.27		Ok - both ND
Aroclor 1254	11		9.3		-16.75	-1.70	Ok - abs diff < 4x QL
Aroclor 1260	2	U	0.96	U	-70.27		Ok - both ND
Aroclor 1262	2	U	0.96	U	-70.27		Ok - both ND
Aroclor 1268	2	U	0.96	U	-70.27		Ok - both ND
Dilution Factor:	20		10				

Note that P-FD-017 is located in SDG 23J0277.

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

23J0273
RF

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number:	
Invoice Recipient:	
Sampled By:	John Maddigan

Requested Turnaround Time
7-Day ☐ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush Approval Required
1-Day ☐ 3-Day ☑
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
1	P-275-Ex	10/2/2023	13:25	GRAB	O	U		1				x
2	P-276-Ex	10/2/2023	13:19	GRAB	O	U		1				x
3	P-277-Ex	10/2/2023	13:15	GRAB	O	U		1				x
4	P-278-Ex	10/2/2023	12:34	GRAB	O	U		1				x
5	P-279-Ex	10/2/2023	12:29	GRAB	O	U		1				x
6	P-280-Ex	10/2/2023	12:23	GRAB	O	U		1				x
7	P-281-Ex	10/2/2023	12:06	GRAB	O	U		1				x
8	P-282-Ex	10/2/2023	12:04	GRAB	O	U		1				x
9	P-283-Ex	10/2/2023	12:03	GRAB	O	U		1				x
10	P-284-R6	10/2/2023	11:32	GRAB	O	U		1				x

Relinquished by: (signature) John Maddigan	Date/Time: 10/2/23 14:18
Received by: (signature) 3.2°C	Date/Time: 10-3-23 0940
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments:

Detection Limit Requirements
MA
CT
Other

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. Th Chain of Custody is a legal document that must be complete and accurate and is used to determine wh analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pa Analytical values your partnership on each project and will try to assist with missing information, but w not be held accountable.

[2] Preservation Code
Courier Use Only
Total Number Of:
VIALS
GLASS
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Table of Contents

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	John Maddigan

Requested Turnaround Time
7-Day ☐ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush Approval Required
1-Day ☐ 3-Day ☑
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
11	P-285-R6	10/2/2023	11:28	GRAB	O	U		1				x
12	P-286-R10	10/2/2023	11:25	GRAB	O	U		1				x
13	P-287-R13	10/2/2023	11:14	GRAB	O	U		1				x
14	P-288-R13	10/2/2023	11:12	GRAB	O	U		1				x
15	P-289-R14	10/2/2023	11:10	GRAB	O	U		1				x
16	P-290-R12	10/2/2023	11:03	GRAB	O	U		1				x
17	P-291-R12	10/2/2023	11:01	GRAB	O	U		1				x
18	P-292-R12	10/2/2023	10:58	GRAB	O	U		1				x
19	P-293-R18	10/2/2023	10:53	GRAB	O	U		1				x
20	P-294-R18	10/2/2023	10:49	GRAB	O	U		1				x

Relinquished by: (signature) John Maddigan	Date/Time: 10/2/23 14:18
Received by: (signature) 3.2°C	Date/Time: 10.3.23 0940
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments:

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. Th Chain of Custody is a legal document that must be complete and accurate and is used to determine wh analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pa Analytical values your partnership on each project and will try to assist with missing information, but w not be held accountable.

[2] Preservation Code
Courier Use Only
Total Number Of:
VIALS
GLASS
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Table of Contents

December 18, 2023
Nobis File No. S00001.017

Ms. Christine Beling
USEPA - Region I
Land, Chemicals, and Redevelopment Division
5 Post Office Square, Suite 100
Boston, MA 02109-3912

Re: USEPA Contract No. 68HE0122D0001
USEPA Task Order No. 68HE0122F0044
Targeted Brownfield Assessment (TBA) Site
St. Johnsbury Armory Site
St. Johnsbury, Vermont
Sample Delivery Group (SDG) No. 23J0277

Pace Analytical (formerly Con-test), East Longmeadow, MA

Tier 1 Stage 2A Organic Data Review

Polychlorinated Biphenyls (PCBs by 8082A):

6/Building Material Samples: P-295-R18, P-296-R15, P-297-R15, P-298-R15, P-FD-016, P-FD-017
2/Field Duplicate Pairs: P-286-R10 / P-FD-016 (23J0273-12 / 23J0277-05) and P-289-R14 / P-FD-017 (23J0273-15 / 23J0277-06)

Dear Ms. Beling:

Nobis Group (Nobis), under a USEPA contract as a subcontractor to KGSNE JV II, LLC (KGSNE), performed a Tier 1 Stage 2A manual data review (S2AVM) on the organic analytical data for the samples listed above. The samples were collected by Nobis at the St. Johnsbury Armory site located in St. Johnsbury, Vermont, on October 2, 2023. The samples were analyzed for PCB Aroclors by EPA Method 8082A by Pace Analytical (formerly Con-test).

The Tier 1 Stage 2A manual data review was performed in accordance with the Region I - EPA New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures (September 2020); USEPA's National Functional Guidelines for Organic Superfund Methods Data Review (November 2020); the Program Quality Assurance Project Plan (Program QAPP) dated October 2022, the Quality Assurance Project Plan Addendum (QAPPA) (July 2023) and the QAPPA Update (October 2023) for St. Johnsbury Armory, which append the October 2022 Program QAPP.

The data were evaluated based on the following parameters:

*	•	Overall Evaluation of Data and Potential Usability Issues
*	•	Data Completeness
*	•	Preservation and Technical Holding Times
*	•	Blanks
*	•	Surrogates (PCBs only)
NA	•	Internal Standards
*	•	Matrix Spike Analysis

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

NA	•	Laboratory Duplicates
*	•	Laboratory Control Samples (LCS)/Standard Reference Material (SRM) Recovery (metals only)
*	•	Field Duplicates
NA	•	ICP Serial Dilutions (metals only)
NA	•	Performance Evaluation (PE) Samples
	•	Target Analyte Identification
	•	Reported Quantitation Limits

* All criteria were met for this parameter or qualification was not required.
NA – Not applicable.

Overall Evaluation of Data and Potential Usability Issues

The site sampling objectives are:

- Perform a supplemental hazardous building material survey (HBMS) to address data gaps identified by Atlas Technical Consultants (ATC).
- Further delineate the distribution of hazardous materials to support future building renovation and reuse or demolition and disposal.
- Evaluate sub-slab soils for possible contamination by PCBs.

Note that quantitation limits for non-detect results exceeded the project action limit (PAL) of ≤ 1 mg/kg for total PCBs in 1 building material sample due to the required sample dilution.

The data meet the project quality criteria and can be used without restriction except as summarized below. The attachments provide details and supporting documentation.

PCBs:
Results were qualified due to dual column imprecision.

Please contact Linda Terzis at lterzis@nobis-group.com should you have any questions or comments regarding this information.

Sincerely,

NOBIS GROUP®

Linda Terzis
Data Validator

Gary Glennon
Data Validator

Tables: Data Summary Tables – Tier 1 Stage 2A (S2AVM) Validated Data
Data Qualification Actions Table

Attachments: Data Review Checklist
Support Documentation
COC

cc: Denis McGrath (Nobis Group)
Tim Andrews (Nobis Group)

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23J0277-01	23J0277-02	23J0277-03	23J0277-04	23J0277-05
Field Sample ID		P-295-R18	P-296-R15	P-297-R15	P-298-R15	P-FD-016
Sample Type		N	N	N	N	FD
Parent Sample ID						P-286-R10
Sample Date	**Units**	10/02/23	10/02/23	10/02/23	10/02/23	10/02/23
Aroclor 1016	mg/kg	960 U	0.93 U	0.93 U	0.9 U	0.97 U
Aroclor 1221	mg/kg	960 U	0.93 U	0.93 U	0.9 U	0.97 U
Aroclor 1232	mg/kg	960 U	0.93 U	0.93 U	0.9 U	0.97 U
Aroclor 1242	mg/kg	960 U	0.93 U	0.93 U	0.9 U	0.97 U
Aroclor 1248	mg/kg	960 U	0.93 U	0.93 U	0.9 U	0.97 U
Aroclor 1254	mg/kg	6800	7.6	13	12	1.9
Aroclor 1260	mg/kg	960 U	0.93 U	0.93 U	0.9 U	0.97 U
Aroclor 1262	mg/kg	960 U	0.93 U	0.93 U	0.9 U	0.97 U
Aroclor 1268	mg/kg	960 U	0.93 U	0.93 U	0.9 U	0.97 U

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material
Lab Sample ID		23J0277-06
Field Sample ID		P-FD-017
Sample Type		FD
Parent Sample ID		P-289-R14
Sample Date	**Units**	10/02/23
Aroclor 1016	mg/kg	0.96 U
Aroclor 1221	mg/kg	0.96 U
Aroclor 1232	mg/kg	0.96 U
Aroclor 1242	mg/kg	0.96 U
Aroclor 1248	mg/kg	0.96 U
Aroclor 1254	mg/kg	9.3 J
Aroclor 1260	mg/kg	0.96 U
Aroclor 1262	mg/kg	0.96 U
Aroclor 1268	mg/kg	0.96 U

Data Review Qualification Actions
Case: St. Johnsbury Armory
SDG: 23J0277

Parameter	Analyte	Samples	Evaluation Criteria	Action Needed	Comments
PCBs					
	Aroclor 1254	P-FD-017	Dual column imprecision	J	

nobis

Tier 1 Stage 2A Data Review Checklist

Project: St. Johnsbury Armory Site, St. Johnsbury, Vermont
Project #: S00001.017
Case#: NA
Date: 12/13/2023
Methods: PCBs (8082A)
Laboratory: Pace Analytical (formerly Con-test), East Longmeadow, MA
SDG: 23J0277
Reviewer: Linda Terzis

1. **Case Narrative and Data Package Completeness (COC and Analyte List Review)**
Six (6) building material samples, including 2 field duplicate samples, were listed on the COC for SDG 23J0277. The samples were collected on 10/02/2023 and were received at the laboratory on 10/03/2023 at 3.2 °C.

Sample ID	Laboratory ID	Analyses
P-295-R18	23J0277-01	PCBs
P-296-R15	23J0277-02	PCBs
P-297-R15	23J0277-03	PCBs
P-298-R15	23J0277-04	PCBs
P-FD-016	23J0277-05	PCBs
P-FD-017	23J0277-06	PCBs

A complete laboratory report was received for SDG 23J0277.

2. **Holding Time and Sample Preservation Compliance**

Receipt temperature met the acceptable level of ≤ 6 °C.

PCBs: Holding time limits are not applicable for building material samples, based on Table 3 of the Quality Assurance Project Plan Addendum (QAPPA) for the St. Johnsbury Armory site (July 2023). No actions are required.

3. **Calibration Issues**

Not assessed for S2AVM.

4. **Lab and Field Blanks**

PCBs: Results for the laboratory method blank associated with the samples of this SDG were non-detect. No blank actions are required.

An equipment blank was not required during sample collection for the site.

5. **Interference Check Sample (metals only)**

Not applicable for this analysis.

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

6. **Surrogates (PCBs only)**

PCBs: Surrogate recoveries were within the Program QAPP limits (30-150%) for all samples except sample P-295-R18 (23J0277-1), where the surrogates diluted out due to the high dilution required (1/10,000) to report the high concentrations of Aroclor 1254 detected in the sample. No actions are required.

7. **Laboratory Control Samples**

PCBs: Percent recoveries of Aroclors 1016 and 1260 in the PCB LCS/LCSD pair met the Program QAPP limits of 40-140% recovery and relative percent difference (RPD) ≤ 30%. No action is required.

8. **Matrix Spikes**

PCBs: Only Aroclors 1016 and 1260 were spiked in the MS/MSD; therefore, based on professional judgment, if actions are required, they are applied as follows:

If 1016 %R or %RPD out: Qualify 1016, 1221, 1232, 1242
If 1260 %R or %RPD out: Qualify 1248, 1254, 1260, 1262,1268

MS/MSD analyses were performed on sample P-296-R15 (23J0277-2).

Percent recoveries of Aroclors 1016 and 1260 exceeded the Program QAPP limits of 40-140% in the MS and MSD analyses on both analytical columns. Professional judgement based on the NFGs (2020) and the EPA Region 1 Supplement (2020) was used to accept the non-detect results for Aroclors 1016, 1221, 1232, and 1242 unqualified since the potential bias is high. The recoveries of Aroclor 1260 likely exceeded the 40-140% limits in the MS/MSD analyses due to the presence of high concentrations of Aroclor 1254 detected in the parent sample. Therefore, no action is taken for the exceeded MS/MSD criteria. The RPDs were ≤ 30%, as specified in the Program QAPP.

9. **Laboratory Duplicates**

Not applicable for this analysis.

10. **Serial Dilution (metals only)**

Not applicable for this analysis.

11. **Field Duplicate Precision**

Criteria based on the EPA Region I Environmental Data Review Supplement (September 2020): RPD ≤ 50% (soils) for results ≥ 5x QL or absolute difference of ≤ 4x QL for results < 5X QL.

The following field duplicate pairs are associated with the samples of this SDG.

- P-286-R10 / P-FD-016 (23J0273-12 / 23J0277-05)
- P-289-R14 / P-FD-017 (23J0273-15 / 23J0277-06)

PCBs: Field duplicate precision criteria were met for both field duplicate pairs. No actions are required.

12. Internal Standards

Not applicable for this analysis.

13. Dual Column Precision (PCBs only)

Dual column precision criteria (≤ 25% RPD per the National Functional Guidelines [NFGs, 2020]) were met for all Aroclor detections except for the Aroclor 1254 detection in sample P-FD-017 (23J0277-06), where the RPD was 28.2%. Based on the NFGs, the detected Aroclor 1254 result in sample P-FD-017 is qualified as estimated (J) due to dual column imprecision.

14. Performance Evaluation (PE) Samples

A PE sample was not submitted with the samples of this SDG. No actions are required.

15. Quantitation Limits

PCBs: Laboratory quantitation limits (QLs) for non-detect Aroclor results exceeded the PAL of ≤ 1 mg/kg for total PCBs, per Table 4 of the QAPPA, for 1 sample due to the required sample dilution of 1/10,000. Site objectives may be impacted.

16. Other

The EPA Region I Environmental Data Review Supplement (2020) percent solids criterion of ≥ 30% for soil samples does not apply to building material samples.

Overall bias is considered indeterminate when cumulative nonconformances do not show a consistent bias or in cases of the presence of conflicting high and low biases.

Field Duplicate Evaluation

SDG: 23J0277 PCBs

Analyte	Original Result mg/kg	Qual	Duplicate Result mg/kg	Qual	RPD ≤ 50%	Abs Diff	Comment
Sample ID	**P-286-R10**		**P-FD-016**				
	23J0273-12		**23J0277-05**				
Aroclor 1016	0.90	U	0.97	U	7.49		Ok - both ND
Aroclor 1221	0.90	U	0.97	U	7.49		Ok - both ND
Aroclor 1232	0.90	U	0.97	U	7.49		Ok - both ND
Aroclor 1242	0.90	U	0.97	U	7.49		Ok - both ND
Aroclor 1248	0.90	U	0.97	U	7.49		Ok - both ND
Aroclor 1254	1.6		1.9		17.14	0.30	Ok - abs diff < 4x QL
Aroclor 1260	0.90	U	0.97	U	7.49		Ok - both ND
Aroclor 1262	0.90	U	0.97	U	7.49		Ok - both ND
Aroclor 1268	0.90	U	0.97	U	7.49		Ok - both ND
Dilution Factor:	10		10				

Note that P-286-R10 is located in SDG 23J0273.

Field Duplicate Evaluation

SDG: 23J0277 PCBs

Analyte	Original Result mg/kg	Qual	Duplicate Result mg/kg	Qual	RPD ≤ 50%	Abs Diff	Comment
Sample ID	**P-289-R14**		**P-FD-017**				
	23J0273-15		**23J0277-06**				
Aroclor 1016	2	U	0.96	U	-70.27		Ok - both ND
Aroclor 1221	2	U	0.96	U	-70.27		Ok - both ND
Aroclor 1232	2	U	0.96	U	-70.27		Ok - both ND
Aroclor 1242	2	U	0.96	U	-70.27		Ok - both ND
Aroclor 1248	2	U	0.96	U	-70.27		Ok - both ND
Aroclor 1254	11		9.3		-16.75	-1.70	Ok - abs diff < 4x QL
Aroclor 1260	2	U	0.96	U	-70.27		Ok - both ND
Aroclor 1262	2	U	0.96	U	-70.27		Ok - both ND
Aroclor 1268	2	U	0.96	U	-70.27		Ok - both ND
Dilution Factor:	20		10				

Note that P-289-R14 is located in SDG 23J0273.

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

23J0277
RF

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	John Maddigan

Requested Turnaround Time
7-Day ☐ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☑
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
1	P-295-R18	10/2/2023	10:47	GRAB	O	U		1				x
2	P-296-R15	10/2/2023	10:37	GRAB	O	U		1				x
3	P-297-R15	10/2/2023	10:34	GRAB	O	U		1				x
4	P-298-R15	10/2/2023	10:32	GRAB	O	U		1				x
5	P-FD-016	10/2/2023	11:10	GRAB	O	U		1				x
6	P-FD-017	10/2/2023	11:25	GRAB	O	U		1				x

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N
*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature) John Maddigan	Date/Time: 10/2/23 14:18
Received by: (signature) 3.2°C	Date/Time: CHO 10-3-23
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments:

Detection Limit Requirements
MA
CT
Other

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. T Chain of Custody is a legal document that must be complete and accurate and is used to determine w analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. P Analytical values your partnership on each project and will try to assist with missing information, but not be held accountable.

Table of Contents

December 18, 2023
Nobis File No. S00001.017

Ms. Christine Beling
USEPA - Region I
Land, Chemicals, and Redevelopment Division
5 Post Office Square, Suite 100
Boston, MA 02109-3912

Re: USEPA Contract No. 68HE0122D0001
USEPA Task Order No. 68HE0122F0044
Targeted Brownfield Assessment (TBA) Site
St. Johnsbury Armory Site
St. Johnsbury, Vermont
Sample Delivery Group (SDG) No. 23J4090

Pace Analytical (formerly Con-test), East Longmeadow, MA

Tier 1 Stage 2A Organic Data Review

Polychlorinated Biphenyls (PCBs by 8082A):

7/Building Material Samples: P-299-EX, P-300-EX, P-301-EX, P-302-EX, P-303-EX, P-304-EX, P-FD-018
1/Field Duplicate Pair: P-304-EX / P-FD-018

Dear Ms. Beling:

Nobis Group (Nobis), under a USEPA contract as a subcontractor to KGSNE JV II, LLC (KGSNE), performed a Tier 1 Stage 2A manual data review (S2AVM) on the organic analytical data for the samples listed above. The samples were collected by Nobis at the St. Johnsbury Armory site located in St. Johnsbury, Vermont, on October 25, 2023. The samples were analyzed for PCB Aroclors by EPA Method 8082A by Pace Analytical (formerly Con-test).

The Tier 1 Stage 2A manual data review was performed in accordance with the Region I - EPA New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures (September 2020); USEPA's National Functional Guidelines for Organic Superfund Methods Data Review (November 2020); the Program Quality Assurance Project Plan (Program QAPP) dated October 2022, the Quality Assurance Project Plan Addendum (QAPPA) (July 2023) and the QAPPA Update (October 2023) for St. Johnsbury Armory, which append the October 2022 Program QAPP.

The data were evaluated based on the following parameters:

*	•	Overall Evaluation of Data and Potential Usability Issues
*	•	Data Completeness
*	•	Preservation and Technical Holding Times
*	•	Blanks
*	•	Surrogates (PCBs only)
NA	•	Internal Standards
NA	•	Matrix Spike Analysis
NA	•	Laboratory Duplicates

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

*	•	Laboratory Control Samples (LCS)/Standard Reference Material (SRM) Recovery (metals only)
*	•	Field Duplicates
NA	•	ICP Serial Dilutions (metals only)
NA	•	Performance Evaluation (PE) Samples
*	•	Target Analyte Identification
*	•	Reported Quantitation Limits

* All criteria were met for this parameter or qualification was not required.
NA – Not applicable.

Overall Evaluation of Data and Potential Usability Issues

The site sampling objectives are:

- Perform a supplemental hazardous building material survey (HBMS) to address data gaps identified by Atlas Technical Consultants (ATC).
- Further delineate the distribution of hazardous materials to support future building renovation and reuse or demolition and disposal.
- Evaluate sub-slab soils for possible contamination by PCBs.

The data meet the project quality criteria and can be used without restriction except as summarized below. The attachments provide details and supporting documentation.

PCBs:
Qualification of the data was not required.

Please contact Linda Terzis at lterzis@nobis-group.com should you have any questions or comments regarding this information.

Sincerely,

NOBIS GROUP®

Linda Terzis
Data Validator

Gary Glennon
Data Validator

Tables: Data Summary Tables – Tier 1 Stage 2A (S2AVM) Validated Data
Data Qualification Actions Table

Attachments: Data Review Checklist
Support Documentation
COC

cc: Denis McGrath (Nobis Group)
Tim Andrews (Nobis Group)

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material				
Lab Sample ID		23J4090-01RE1	23J4090-02RE1	23J4090-03RE1	23J4090-04RE1	23J4090-05RE1
Field Sample ID		P-299-EX	P-300-EX	P-301-EX	P-302-EX	P-303-EX
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	10/25/23	10/25/23	10/25/23	10/25/23	10/25/23
Aroclor 1016	mg/kg	0.087 U	0.098 U	0.096 U	0.096 U	0.097 U
Aroclor 1221	mg/kg	0.087 U	0.098 U	0.096 U	0.096 U	0.097 U
Aroclor 1232	mg/kg	0.087 U	0.098 U	0.096 U	0.096 U	0.097 U
Aroclor 1242	mg/kg	0.087 U	0.098 U	0.096 U	0.096 U	0.097 U
Aroclor 1248	mg/kg	0.087 U	0.098 U	0.096 U	0.096 U	0.097 U
Aroclor 1254	mg/kg	0.087 U	0.098 U	0.096 U	0.096 U	0.097 U
Aroclor 1260	mg/kg	0.087 U	0.098 U	0.096 U	0.096 U	0.097 U
Aroclor 1262	mg/kg	0.087 U	0.098 U	0.096 U	0.096 U	0.097 U
Aroclor 1268	mg/kg	0.087 U	0.098 U	0.096 U	0.096 U	0.097 U

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material	
Lab Sample ID		23J4090-06RE1	23J4090-07RE1
Field Sample ID		P-304-EX	P-FD-018
Sample Type		N	FD
Parent Sample ID			P-304-EX
Sample Date	**Units**	10/25/23	10/25/23
Aroclor 1016	mg/kg	0.092 U	0.098 U
Aroclor 1221	mg/kg	0.092 U	0.098 U
Aroclor 1232	mg/kg	0.092 U	0.098 U
Aroclor 1242	mg/kg	0.092 U	0.098 U
Aroclor 1248	mg/kg	0.092 U	0.098 U
Aroclor 1254	mg/kg	0.092 U	0.098 U
Aroclor 1260	mg/kg	0.092 U	0.098 U
Aroclor 1262	mg/kg	0.092 U	0.098 U
Aroclor 1268	mg/kg	0.092 U	0.098 U

Data Review Qualification Actions
Case: St. Johnsbury Armory
SDG: 23J4090

Parameter	Analyte	Samples	Evaluation Criteria	Action Needed	Comments
PCBs					
	Qualification of the data was not required.				

Tier 1 Stage 2A Data Review Checklist

Project: St. Johnsbury Armory Site, St. Johnsbury, Vermont
Project #: S00001.017
Case#: NA
Date: 12/13/2023
Methods: PCBs (8082A)
Laboratory: Pace Analytical (formerly Con-test), East Longmeadow, MA
SDG: 23J4090
Reviewer: Linda Terzis

1. **Case Narrative and Data Package Completeness (COC and Analyte List Review)**
Seven (7) building material samples, including one field duplicate sample, were listed on the COC for SDG 23J4090. The samples were collected on 10/25/2023 and were received at the laboratory on 10/31/2023 at 2.0 °C.

Sample ID	Laboratory ID	Analyses
P-299-EX	23J4090-01	PCBs
P-300-EX	23J4090-02	PCBs
P-301-EX	23J4090-03	PCBs
P-302-EX	23J4090-04	PCBs
P-303-EX	23J4090-05	PCBs
P-304-EX	23J4090-06	PCBs
P-FD-018	23J4090-07	PCBs

A complete laboratory report was received for SDG 23J4090.

2. **Holding Time and Sample Preservation Compliance**

Receipt temperature met the acceptable level of ≤ 6 °C.

PCBs: Holding time limits are not applicable for building material samples, based on Table 3 of the Quality Assurance Project Plan Addendum (QAPPA) for the St. Johnsbury Armory site (July 2023). No actions are required.

3. **Calibration Issues**

Not assessed for S2AVM.

4. **Lab and Field Blanks**

PCBs: Results for the laboratory method blank associated with the samples of this SDG were non-detect. No blank actions are required.

An equipment blank was not required during sample collection for the site.

5. **Interference Check Sample (metals only)**

Not applicable for this analysis.

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

Surrogates (PCBs only)

PCBs: Surrogate recoveries were within the Program QAPP limits (30-150%) for all samples. No actions are required.

6. **Laboratory Control Samples**

PCBs: Percent recoveries of Aroclors 1016 and 1260 in the PCB LCS/LCSD pair met the Program QAPP limits of 40-140% recovery and relative percent difference (RPD) ≤ 30%. No action is required.

7. **Matrix Spikes**

MS/MSD analyses were not performed for this SDG. No actions are required.

8. **Laboratory Duplicates**

Not applicable for this analysis.

9. **Serial Dilution (metals only)**

Not applicable for this analysis.

10. **Field Duplicate Precision**

Criteria based on the EPA Region I Environmental Data Review Supplement (September 2020): RPD ≤ 50% (soils) for results ≥ 5x QL or absolute difference of ≤ 4x QL for results < 5X QL.

The following field duplicate pair is associated with the samples of this SDG.

- P-304-EX / P-FD-018 (23J4090-06 / 23J4090-018)

PCBs: Field duplicate precision criteria were met. No actions are required.

11. **Internal Standards**

Not applicable for this analysis.

12. **Dual Column Precision (PCBs only)**

PCB results were non-detect in all samples. Dual column precision criteria (≤ 25% RPD per the National Functional Guidelines [NFGs, 2020]) were met and no actions are required.

13. **Performance Evaluation (PE) Samples**

A PE sample was not submitted with the samples of this SDG. No actions are required.

14. **Quantitation Limits**

PCBs: Laboratory quantitation limits (QLs) for non-detect Aroclor results met the PAL of ≤ 1 mg/kg for total PCBs, per Table 4 of the QAPPA.

15. Other

The EPA Region I Environmental Data Review Supplement (2020) percent solids criterion of ≥ 30% for soil samples does not apply to building material samples.

Overall bias is considered indeterminate when cumulative nonconformances do not show a consistent bias or in cases of the presence of conflicting high and low biases.

Field Duplicate Evaluation

SDG: 23J4090 PCBs

Analyte	Original Result mg/kg	Qual	Duplicate Result mg/kg	Qual	RPD ≤ 50%	Abs Diff	Comment
Sample ID	**P-304-EX**		**P-FD-018**				
	23J4090-06		**23J4090-07**				
Aroclor 1016	0.092	U	0.098	U	6.32		Ok - both ND
Aroclor 1221	0.092	U	0.098	U	6.32		Ok - both ND
Aroclor 1232	0.092	U	0.098	U	6.32		Ok - both ND
Aroclor 1242	0.092	U	0.098	U	6.32		Ok - both ND
Aroclor 1248	0.092	U	0.098	U	6.32		Ok - both ND
Aroclor 1254	0.092	U	0.098	U	6.32		Ok - both ND
Aroclor 1260	0.092	U	0.098	U	6.32		Ok - both ND
Aroclor 1262	0.092	U	0.098	U	6.32		Ok - both ND
Aroclor 1268	0.092	U	0.098	U	6.32		Ok - both ND

23J4090 RF

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344
https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number:	
Invoice Recipient:	
Sampled By:	John Maddigan

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
1	P-299-Ex	10/25/2023	11:20	GRAB	O	U		1				x
2	P-300-Ex	10/25/2023	11:10	GRAB	O	U		1				x
3	P-301-Ex	10/25/2023	11:30	GRAB	O	U		1				x
4	P-302-Ex	10/25/2023	11:40	GRAB	O	U		1				x
5	P-303-Ex	10/25/2023	11:50	GRAB	O	U		1				x
6	P-304-Ex	10/25/2023	12:00	GRAB	O	U		1				x
7	P-FD-018	10/25/2023	12:10	GRAB	O	U		1				x

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time: 10/27/23 4:30PM	Client Comments:
Received by: (signature)	Date/Time: 10/31/23 1435	
Relinquished by: (signature)	Date/Time: 10/31/23 1912	
Received by: (signature)	Date/Time: 10/31/23 1912	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

December 18, 2023
Nobis File No. S00001.017

Ms. Christine Beling
USEPA - Region I
Land, Chemicals, and Redevelopment Division
5 Post Office Square, Suite 100
Boston, MA 02109-3912

Re: USEPA Contract No. 68HE0122D0001
USEPA Task Order No. 68HE0122F0044
Targeted Brownfield Assessment (TBA) Site
St. Johnsbury Armory Site
St. Johnsbury, Vermont
Sample Delivery Group (SDG) No. 23J4095

Pace Analytical (formerly Con-test), East Longmeadow, MA

Tier 1 Stage 1 Inorganic Data Review

Toxicity Characteristic Leaching Procedure (TCLP) Lead by (1311/6010D):

6/Building Material Samples: WC-LEAD-COMP-1, WC-LEAD-COMP-2, WC-LEAD-COMP-3, WC-LEAD-COMP-4, WC-LEAD-COMP-5, WC-LEAD-COMP-FIELD DUP
1/Field Duplicate Pair: WC-LEAD-COMP-5 / WC-LEAD-COMP-FIELD DUP

Dear Ms. Beling:

Nobis Group (Nobis), under a USEPA contract as a subcontractor to KGSNE JV II, LLC (KGSNE), performed a Tier 1/Stage 1 manual data review (S1VM) on the inorganic analytical data for the samples listed above. The samples were collected by Nobis at the St. Johnsbury Armory site located in St. Johnsbury, Vermont, on October 25, 2023. The samples were analyzed for TCLP Lead by EPA Methods 1311/6010D by Pace Analytical (formerly Con-test).

The Tier 1/Stage 1 manual data review was performed in accordance with the Region I - EPA New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures (September 2020); USEPA's National Functional Guidelines for Inorganic Superfund Methods Data Review (November 2020); the Program Quality Assurance Project Plan (Program QAPP) dated October 2022, the Quality Assurance Project Plan Addendum (QAPPA) (July 2023) and the QAPPA Update (October 2023) for St. Johnsbury Armory, which append the October 2022 Program QAPP.

The data were evaluated based on the following parameters:

* • Overall Evaluation of Data and Potential Usability Issues
* • Data Completeness
* • Preservation and Technical Holding Times
* • Reported Quantitation Limits

* All criteria were met for this parameter or qualification was not required.
NA – Not applicable.

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

Overall Evaluation of Data and Potential Usability Issues

The site sampling objectives are:

- Perform a supplemental hazardous building material survey (HBMS) to address data gaps identified by Atlas Technical Consultants (ATC).
- Further delineate the distribution of hazardous materials to support future building renovation and reuse or demolition and disposal.
- Evaluate sub-slab soils for possible contamination by PCBs.

The data meet the project quality criteria and can be used without restriction except as summarized below. The attachments provide details and supporting documentation.

TCLP Lead:
Qualification of the data was not required.

Please contact Linda Terzis at lterzis@nobis-group.com should you have any questions or comments regarding this information.

Sincerely,

NOBIS GROUP®

Linda Terzis
Data Validator

Gary Glennon
Data Validator

Tables: Data Summary Tables – Tier 1/Stage 1 (S1VM) Validated Data
Data Qualification Actions Table

Attachments: Data Review Checklist
Support Documentation
COC

cc: Denis McGrath (Nobis Group)
Tim Andrews (Nobis Group)

DATA SUMMARY TABLE

Analysis		TCLP Metals in Building Material				
Lab Sample ID		23J4095-01	23J4095-02	23J4095-03	23J4095-04	23J4095-05
Field Sample ID		WC-LEAD-COMP-1	WC-LEAD-COMP-2	WC-LEAD-COMP-3	WC-LEAD-COMP-4	WC-LEAD-COMP-5
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	10/25/23	10/25/23	10/25/23	10/25/23	10/25/23
Lead	mg/L	5.7	15	28	0.21	0.63

DATA SUMMARY TABLE

Analysis		TCLP Metals in Building Material
Lab Sample ID		23J4095-06
Field Sample ID		WC-LEAD-COMP-FIELD DUP
Sample Type		FD
Parent Sample ID		WC-LEAD-COMP-5
Sample Date	**Units**	10/25/23
Lead	mg/L	0.99

Data Review Qualification Actions
Case: St. Johnsbury Armory
SDG: 23J4095

Parameter	Analyte	Samples	Evaluation Criteria	Action Needed	Comments
TCLP Lead					
	Qualification of the data was not required.				

Tier 1 Stage 1 Data Review Checklist

Project: St. Johnsbury Armory Site, St. Johnsbury, Vermont
Project #: S00001.017
Case#: NA
Date: 12/12/2023
Methods: Toxicity Characteristic Leaching Procedure (TCLP) Metals (Lead) (1311/6010D)
Laboratory: Pace Analytical (formerly Con-test), East Longmeadow, MA
SDG: 23J4095
Reviewer: Linda Terzis

1. **Case Narrative and Data Package Completeness (COC and Analyte List Review)**
Six (6) building material (paint) samples, including one field duplicate sample, were listed on the COC for SDG 23J4095. The samples were collected on 10/25/2023 and were received at the laboratory on 10/31/2023 at 3.6 °C.

Sample ID	Laboratory ID	Analyses
WC-LEAD-COMP-1	23J4095-01	TCLP Lead
WC-LEAD-COMP-2	23J4095-02	TCLP Lead
WC-LEAD-COMP-3	23J4095-03	TCLP Lead
WC-LEAD-COMP-4	23J4095-04	TCLP Lead
WC-LEAD-COMP-5	23J4095-05	TCLP Lead
WC-LEAD-COMP-FIELD DUP	23J4095-06	TCLP Lead

A complete laboratory report was received for SDG 23J4095.

2. **Holding Time and Sample Preservation Compliance**

Receipt temperature met the acceptable level of ≤ 6 °C.

TCLP Lead: Holding time limits are not applicable for building material samples; however, the samples were prepared and analyzed within 16 days of collection. Soil holding time for leaching and analysis is 180 days from collection. No actions are required.

3. **Calibration Issues**

Not assessed for S1VM validation.

4. **Lab and Field Blanks**

Not assessed for S1VM validation.

5. **Interference Check Sample (metals only)**

Not assessed for S1VM validation.

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

6. **Surrogates (PCBs only)**

   Not applicable for this analysis.

7. **Laboratory Control Samples**

   Not assessed for S1VM validation.

8. **Matrix Spikes**

   Not assessed for S1VM validation.

9. **Laboratory Duplicates**

   Not assessed for S1VM validation

10. **Serial Dilution (metals only)**

    Not assessed for S1VM validation.

11. **Field Duplicate Precision**

    Criteria based on the EPA Region I Environmental Data Review Supplement (September 2020): RPD ≤ 50% (soils) for results ≥ 5x QL or absolute difference of ≤ 4x QL for results < 5X QL.

    Field duplicate pair WC-LEAD-COMP-5 / WC-LEAD-COMP-FIELD DUP is associated with the samples of this SDG.

    Not assessed for S1VM validation.

12. **Internal Standards**

    Not applicable for this analysis.

13. **Dual Column Precision (PCBs only)**

    Not applicable for this analysis.

14. **Performance Evaluation (PE) Samples**

    Not assessed for S1VM validation.

15. **Quantitation Limits**

    A project action level (PAL) for TCLP lead for waste characterization was not specified in the Program QAPP or QAPPAs for the site. Laboratory quantitation limits (QLs) for TCLP lead are 0.1 mg/L. Note there are no non-detect results for TCLP lead in the samples. No actions are required.

16. **Other**

    The EPA Region I Environmental Data Review Supplement (2020) percent solids criterion of ≥ 30% for soil samples does not apply to building material samples.

Overall bias is considered indeterminate when cumulative nonconformances do not show a consistent bias or in cases of the presence of conflicting high and low biases.

23J4095 RF

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	John Maddigan

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☐
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	TCLP Lead
1	WC-Lead-Comp-1	10/25/2023	10:10	COMP	O	U		1				x
2	WC-Lead-Comp-2	10/25/2023	10:15	COMP	O	U		1				x
3	WC-Lead-Comp-3	10/25/2023	10:25	COMP	O	U		1				x
4	WC-Lead-Comp-4	10/25/2023	10:35	COMP	O	U		1				x
5	WC-Lead-Comp-5	10/25/2023	10:45	COMP	O	U		1				x
6	WC-Lead-Comp-Field Dup	10/25/2023	10:50	COMP	O	U		1				x

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N

Glassware in freezer? Y / N

Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time: 10/27/23 4:30PM	Client Comments:
Received by: (signature)	Date/Time: 10/31/23 1432	
Relinquished by: (signature)	Date/Time: 10/31/23 1912	
Received by: (signature)	Date/Time: 10/31/23 1912	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Detection Limit Requirements
MA
CT
Other

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

December 18, 2023
Nobis File No. S00001.017

Ms. Christine Beling
USEPA - Region I
Land, Chemicals, and Redevelopment Division
5 Post Office Square, Suite 100
Boston, MA 02109-3912

Re: USEPA Contract No. 68HE0122D0001
USEPA Task Order No. 68HE0122F0044
Targeted Brownfield Assessment (TBA) Site
St. Johnsbury Armory Site
St. Johnsbury, Vermont
Sample Delivery Group (SDG) No. 23K0792

Pace Analytical (formerly Con-test), East Longmeadow, MA

Tier 1 Stage 2A Organic Data Review

Polychlorinated Biphenyls (PCBs by 8082A):

2/Soil Samples: P-305-EX-000.5, P-306-EX-000.5

Dear Ms. Beling:

Nobis Group (Nobis), under a USEPA contract as a subcontractor to KGSNE JV II, LLC (KGSNE), performed a Tier 1 Stage 2A manual data review (S2AVM) on the organic analytical data for the samples listed above. Note that 18 soil samples included on the COC were placed on hold and therefore, two samples were analyzed and included in this SDG for review. The samples were collected by Nobis at the St. Johnsbury Armory site located in St. Johnsbury, Vermont, on November 1, 2023. The samples were analyzed for PCB Aroclors by EPA Method 8082A by Pace Analytical (formerly Con-test).

The Tier 1 Stage 2A manual data review was performed in accordance with the Region I - EPA New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures (September 2020); USEPA's National Functional Guidelines for Organic Superfund Methods Data Review (November 2020); the Program Quality Assurance Project Plan (Program QAPP) dated October 2022, the Quality Assurance Project Plan Addendum (QAPPA) (July 2023) and the QAPPA Update (October 2023) for St. Johnsbury Armory, which append the October 2022 Program QAPP.

The data were evaluated based on the following parameters:

*	•	Overall Evaluation of Data and Potential Usability Issues
*	•	Data Completeness
*	•	Preservation and Technical Holding Times
*	•	Blanks
*	•	Surrogates (PCBs only)
NA	•	Internal Standards
NA	•	Matrix Spike Analysis
NA	•	Laboratory Duplicates
*	•	Laboratory Control Samples (LCS)/Standard Reference Material (SRM) Recovery (metals only)

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

NA	•	Field Duplicates
NA	•	ICP Serial Dilutions (metals only)
NA	•	Performance Evaluation (PE) Samples
*	•	Target Analyte Identification
*	•	Reported Quantitation Limits

* All criteria were met for this parameter or qualification was not required.
NA – Not applicable.

Overall Evaluation of Data and Potential Usability Issues

The site sampling objectives are:

- Perform a supplemental hazardous building material survey (HBMS) to address data gaps identified by Atlas Technical Consultants (ATC).
- Further delineate the distribution of hazardous materials to support future building renovation and reuse or demolition and disposal.
- Evaluate sub-slab soils for possible contamination by PCBs.

The data meet the project quality criteria and can be used without restriction except as summarized below. The attachments provide details and supporting documentation.

PCBs:
Qualification of the data was not required.

Please contact Linda Terzis at lterzis@nobis-group.com should you have any questions or comments regarding this information.

Sincerely,

NOBIS GROUP®

Linda Terzis
Data Validator

Gary Glennon
Data Validator

Tables: Data Summary Tables – Tier 1 Stage 2A (S2AVM) Validated Data
Data Qualification Actions Table

Attachments: Data Review Checklist
Support Documentation
COC

cc: Denis McGrath (Nobis Group)
Tim Andrews (Nobis Group)

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Soil	
Lab Sample ID		23K0792-01	23K0792-14
Field Sample ID		P-305-EX-000.5	P-306-EX-000.5
Sample Type		N	N
Parent Sample ID			
Sample Date	**Units**	11/01/23	11/01/23
Aroclor 1016	mg/kg	0.084 U	0.078 U
Aroclor 1221	mg/kg	0.084 U	0.078 U
Aroclor 1232	mg/kg	0.084 U	0.078 U
Aroclor 1242	mg/kg	0.084 U	0.078 U
Aroclor 1248	mg/kg	0.084 U	0.078 U
Aroclor 1254	mg/kg	0.084 U	0.078 U
Aroclor 1260	mg/kg	0.084 U	0.078 U
Aroclor 1262	mg/kg	0.084 U	0.078 U
Aroclor 1268	mg/kg	0.084 U	0.078 U

DATA SUMMARY TABLE

Analysis		General Chemistry in Soil	
Lab Sample ID		23K0792-01	23K0792-14
Field Sample ID		P-305-EX-000.5	P-306-EX-000.5
Sample Type		N	N
Parent Sample ID			
Sample Date	**Units**	11/01/23	11/01/23
Solids, Percent	%	91.2	95.6

Data Review Qualification Actions
Case: St. Johnsbury Armory
SDG: 23K0792

Parameter	Analyte	Samples	Evaluation Criteria	Action Needed	Comments
PCBs					
	Qualification of the data was not required.				

Tier 1 Stage 2A Data Review Checklist

Project: St. Johnsbury Armory Site, St. Johnsbury, Vermont
Project #: S00001.017
Case#: NA
Date: 12/06/2023
Methods: PCBs (8082A)
Laboratory: Pace Analytical (formerly Con-test), East Longmeadow, MA
SDG: 23K0792
Reviewer: Linda Terzis

1. **Case Narrative and Data Package Completeness (COC and Analyte List Review)**
Twenty (20) soil samples were listed on the COC for SDG 23K0792. Eighteen (18) of the samples were placed on hold and two samples were scheduled for analysis. The samples were collected on 11/01/2023 and were received at the laboratory on 11/06/2023 at 2.5 °C.

Sample ID	Laboratory ID	Analyses
P-305-EX-000.5	23K0792-01	PCBs
P-306-EX-000.5	23K0792-14	PCBs

A complete laboratory report was received for SDG 23K0792.

2. **Holding Time and Sample Preservation Compliance**

Receipt temperature met the acceptable level of ≤ 6 °C.

PCBs: Samples were extracted within 14 days of collection and analyzed within 40 days of extraction, as specified on Table 2-6-1 of the Program Quality Assurance Project Plan (QAPP) for the St. Johnsbury Armory site (October 2022). No actions are required.

3. **Calibration Issues**

Not assessed for S2AVM.

4. **Lab and Field Blanks**

PCBs: Results for the laboratory method blank associated with the samples of this SDG were non-detect. No blank actions are required.

An equipment blank was not required during sample collection for the site.

5. **Interference Check Sample (metals only)**

Not applicable for this analysis.

6. **Surrogates (PCBs only)**

PCBs: Surrogate recoveries were within the Program QAPP limits (30-150%) for all samples. No actions are required.

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

7. **Laboratory Control Samples**

   PCBs: Percent recoveries of Aroclors 1016 and 1260 in the PCB LCS/LCSD pair met the Program QAPP limits of 40-140% recovery and relative percent difference (RPD) ≤ 30%. No action is required.

8. **Matrix Spikes**

   MS/MSD analyses were not performed for this SDG. No actions are required.

9. **Laboratory Duplicates**

   Not applicable for this analysis.

10. **Serial Dilution (metals only)**

    Not applicable for this analysis.

11. **Field Duplicate Precision**

    Criteria based on the EPA Region I Environmental Data Review Supplement (September 2020): RPD ≤ 50% (soils) for results ≥ 5x QL or absolute difference of ≤ 4x QL for results < 5X QL.

    Field duplicate samples were not submitted with the samples of this SDG. No action is required.

12. **Internal Standards**

    Not applicable for this analysis.

13. **Dual Column Precision (PCBs only)**

    Sample results for PCBs were all non-detect. Dual column precision criteria (≤ 25% RPD per the National Functional Guidelines [NFGs, 2020]) and no actions are required.

14. **Performance Evaluation (PE) Samples**

    A PE sample was not submitted with the samples of this SDG. No actions are required.

15. **Quantitation Limits**

    PCBs: Laboratory quantitation limits (QLs) for non-detect Aroclor results met the PAL of ≤ 1 mg/kg for total PCBs, per Table 4 of the QAPPA.

16. **Other**

    The EPA Region I Environmental Data Review Supplement (2020) percent solids criterion of ≥ 30% for soil samples was met for both samples.

    Overall bias is considered indeterminate when cumulative nonconformances do not show a consistent bias or in cases of the presence of conflicting high and low biases.

23K0792 RF

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344
https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
1	P-305-Ex-000.5	11/1/2023	9:00			U		1				X
2	P-305-Ex-0.501	11/1/2023	9:01			U		1				H
3	P-305-Ex-0101.5	11/1/2023	9:02			U		1				H
4	P-305-Ex-01.502	11/1/2023	9:03			U		1				H
5	P-305-Ex-0202.5	11/1/2023	9:04			U		1				H
6	P-305-Ex-02.503	11/1/2023	9:05			U		1				H
7	P-305-Ex-0303.5	11/1/2023	9:06			U		1				H
8	P-305-Ex-03.504	11/1/2023	9:07			U		1				H
9	P-305-Ex-0404.5	11/1/2023	9:08			U		1				H
10	P-305-Ex-04.505	11/1/2023	9:09			U		1				H

[2] Preservation Code
Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N (6)
Glassware in freezer? Y / N (3)
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time: 11/6/23 1157	
Received by: (signature)	Date/Time: 11/6/23 1157	
Relinquished by: (signature)	Date/Time: 11/6/23 1630	
Received by: (signature)	Date/Time: 11/6/23 1820	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
GT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

23K0792 RF

Pace Analytical

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

ANALYSIS REQUESTED

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction	
11	P-305-Ex-0506	11/1/2023	9:10			U		1				H	
12	P-305-Ex-0607	11/1/2023	9:11			U		1				H	
13	P-305-Ex-0708	11/1/2023	9:12			U		1				H	
14	P-306-Ex-000.5	11/1/2023	9:30			U		1				X	
15	P-306-Ex-0.501	11/1/2023	9:31			U		1				H	
16	P-306-Ex-0101.5	11/1/2023	9:32			U		1				H	
17	P-306-Ex-01.502	11/1/2023	9:33			U		1				H	
18	P-306-Ex-0202.5	11/1/2023	9:34			U		1				H	
19	P-306-Ex-02.503	11/1/2023	9:35			U		1				H	
20	P-306-Ex-0303.5	11/1/2023	9:36			U		3				H	

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[2] Preservation Code

Relinquished by: (signature)	Date/Time: 11/6/23 1157	Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.
Received by: (signature)	Date/Time: 11/6/23 1157	
Relinquished by: (signature)	Date/Time: 11/6/23 1630	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

NELAC and AIHA-LAP, LLC Accredited
Other
☐ Chromatogram
☐ AIHA-LAP,LLC

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

December 18, 2023
Nobis File No. S00001.017

Ms. Christine Beling
USEPA - Region I
Land, Chemicals, and Redevelopment Division
5 Post Office Square, Suite 100
Boston, MA 02109-3912

Re: USEPA Contract No. 68HE0122D0001
USEPA Task Order No. 68HE0122F0044
Targeted Brownfield Assessment (TBA) Site
St. Johnsbury Armory Site
St. Johnsbury, Vermont
Sample Delivery Group (SDG) No. 23K0793

Pace Analytical (formerly Con-test), East Longmeadow, MA

Tier 1 Stage 2A Organic Data Review

Polychlorinated Biphenyls (PCBs by 8082A):

2/Soil Samples: P-307-EX-000.5, P-308-EX-000.5

Dear Ms. Beling:

Nobis Group (Nobis), under a USEPA contract as a subcontractor to KGSNE JV II, LLC (KGSNE), performed a Tier 1 Stage 2A manual data review (S2AVM) on the organic analytical data for the samples listed above. Note that 18 soil samples included on the COC were placed on hold and therefore, two samples were analyzed and included in this SDG for review. The samples were collected by Nobis at the St. Johnsbury Armory site located in St. Johnsbury, Vermont, on November 1, 2023. The samples were analyzed for PCB Aroclors by EPA Method 8082A by Pace Analytical (formerly Con-test).

The Tier 1 Stage 2A manual data review was performed in accordance with the Region I - EPA New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures (September 2020); USEPA's National Functional Guidelines for Organic Superfund Methods Data Review (November 2020); the Program Quality Assurance Project Plan (Program QAPP) dated October 2022, the Quality Assurance Project Plan Addendum (QAPPA) (July 2023) and the QAPPA Update (October 2023) for St. Johnsbury Armory, which append the October 2022 Program QAPP.

The data were evaluated based on the following parameters:

*	•	Overall Evaluation of Data and Potential Usability Issues
*	•	Data Completeness
*	•	Preservation and Technical Holding Times
*	•	Blanks
*	•	Surrogates (PCBs only)
NA	•	Internal Standards
NA	•	Matrix Spike Analysis
NA	•	Laboratory Duplicates
*	•	Laboratory Control Samples (LCS)/Standard Reference Material (SRM) Recovery (metals only)

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

NA	•	Field Duplicates
NA	•	ICP Serial Dilutions (metals only)
NA	•	Performance Evaluation (PE) Samples
*	•	Target Analyte Identification
*	•	Reported Quantitation Limits

* All criteria were met for this parameter or qualification was not required.
NA – Not applicable.

Overall Evaluation of Data and Potential Usability Issues

The site sampling objectives are:

- Perform a supplemental hazardous building material survey (HBMS) to address data gaps identified by Atlas Technical Consultants (ATC).
- Further delineate the distribution of hazardous materials to support future building renovation and reuse or demolition and disposal.
- Evaluate sub-slab soils for possible contamination by PCBs.

The data meet the project quality criteria and can be used without restriction except as summarized below. The attachments provide details and supporting documentation.

PCBs:
Qualification of the data was not required.

Please contact Linda Terzis at lterzis@nobis-group.com should you have any questions or comments regarding this information.

Sincerely,

NOBIS GROUP®

Linda Terzis
Data Validator

Gary Glennon
Data Validator

Tables: Data Summary Tables – Tier 1 Stage 2A (S2AVM) Validated Data
Data Qualification Actions Table

Attachments: Data Review Checklist
Support Documentation
COC

cc: Denis McGrath (Nobis Group)
Tim Andrews (Nobis Group)

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Soil	
Lab Sample ID		23K0793-07	23K0793-20
Field Sample ID		P-307-EX-000.5	P-308-EX-000.5
Sample Type		N	N
Parent Sample ID			
Sample Date	**Units**	11/01/23	11/01/23
Aroclor 1016	mg/kg	0.086 U	0.09 U
Aroclor 1221	mg/kg	0.086 U	0.09 U
Aroclor 1232	mg/kg	0.086 U	0.09 U
Aroclor 1242	mg/kg	0.086 U	0.09 U
Aroclor 1248	mg/kg	0.086 U	0.09 U
Aroclor 1254	mg/kg	0.086 U	0.22
Aroclor 1260	mg/kg	0.086 U	0.09 U
Aroclor 1262	mg/kg	0.086 U	0.09 U
Aroclor 1268	mg/kg	0.086 U	0.09 U

DATA SUMMARY TABLE

Analysis		General Chemistry in Soil	
Lab Sample ID		23K0793-07	23K0793-20
Field Sample ID		P-307-EX-000.5	P-308-EX-000.5
Sample Type		N	N
Parent Sample ID			
Sample Date	**Units**	11/01/23	11/01/23
Solids, Percent	%	89.1	88.9

Data Review Qualification Actions
Case: St. Johnsbury Armory
SDG: 23K0793

Parameter	Analyte	Samples	Evaluation Criteria	Action Needed	Comments
PCBs					
	Qualification of the data was not required.				

Tier 1 Stage 2A Data Review Checklist

Project: St. Johnsbury Armory Site, St. Johnsbury, Vermont
Project #: S00001.017
Case#: NA
Date: 12/06/2023
Methods: PCBs (8082A)
Laboratory: Pace Analytical (formerly Con-test), East Longmeadow, MA
SDG: 23K0793
Reviewer: Linda Terzis

1. **Case Narrative and Data Package Completeness (COC and Analyte List Review)**
Twenty (20) soil samples were listed on the COC for SDG 23K0793. Eighteen (18) of the samples were placed on hold and two samples were scheduled for analysis. The samples were collected on 11/01/2023 and were received at the laboratory on 11/06/2023 at 2.5, 2.8 and 2.9 °C.

Sample ID	Laboratory ID	Analyses
P-307-EX-000.5	23K0793-07	PCBs
P-308-EX-000.5	23K0793-20	PCBs

A complete laboratory report was received for SDG 23K0793.

2. **Holding Time and Sample Preservation Compliance**

Receipt temperature met the acceptable level of ≤ 6 °C.

PCBs: Samples were extracted within 14 days of collection and analyzed within 40 days of extraction, as specified on Table 2-6-1 of the Program Quality Assurance Project Plan (QAPP) for the St. Johnsbury Armory site (October 2022). No actions are required.

3. **Calibration Issues**

Not assessed for S2AVM.

4. **Lab and Field Blanks**

PCBs: Results for the laboratory method blank associated with the samples of this SDG were non-detect. No blank actions are required.

An equipment blank was not required during sample collection for the site.

5. **Interference Check Sample (metals only)**

Not applicable for this analysis.

6. **Surrogates (PCBs only)**

PCBs: Surrogate recoveries were within the Program QAPP limits (30-150%) for all samples. No actions are required.

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

7. **Laboratory Control Samples**

   PCBs: Percent recoveries of Aroclors 1016 and 1260 in the PCB LCS/LCSD pair met the Program QAPP limits of 40-140% recovery and relative percent difference (RPD) ≤ 30%. No action is required.

8. **Matrix Spikes**

   MS/MSD analyses were not performed for this SDG. No actions are required.

9. **Laboratory Duplicates**

   Not applicable for this analysis.

10. **Serial Dilution (metals only)**

    Not applicable for this analysis.

11. **Field Duplicate Precision**

    Criteria based on the EPA Region I Environmental Data Review Supplement (September 2020): RPD ≤ 50% (soils) for results ≥ 5x QL or absolute difference of ≤ 4x QL for results < 5X QL.

    Field duplicate samples were not submitted with the samples of this SDG. No action is required.

12. **Internal Standards**

    Not applicable for this analysis.

13. **Dual Column Precision (PCBs only)**

    Dual column precision criteria (≤ 25% RPD per the National Functional Guidelines [NFGs, 2020]) were met for the Aroclor 1254 detection in sample P-308-EX-000.5 (23K0793-20). No actions are required.

14. **Performance Evaluation (PE) Samples**

    A PE sample was not submitted with the samples of this SDG. No actions are required.

15. **Quantitation Limits**

    PCBs: Laboratory quantitation limits (QLs) for non-detect Aroclor results met the PAL of ≤ 1 mg/kg for total PCBs, per Table 4 of the QAPPA.

16. **Other**

    The EPA Region I Environmental Data Review Supplement (2020) percent solids criterion of ≥ 30% for soil samples was met for both samples.

    Overall bias is considered indeterminate when cumulative nonconformances do not show a consistent bias or in cases of the presence of conflicting high and low biases.

23K0793 RF

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time

7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction	[2] Preservation Code
1	P-306-Ex-03.504	11/1/2023	9:37			U		1				H	
2	P-306-Ex-0404.5	11/1/2023	9:38			U		1				H	
3	P-306-Ex-04.505	11/1/2023	9:39			U		1				H	
4	P-306-Ex-0506	11/1/2023	9:40			U		3				H	
5	P-306-Ex-0607	11/1/2023	9:41			U		1				H	
6	P-306-Ex-0708	11/1/2023	9:42			U		1				H	
7	P-307-Ex-000.5	11/1/2023	10:20			U		1				X	
8	P-307-Ex-0.501	11/1/2023	10:21			U		1				H	
9	P-307-Ex-0101.5	11/1/2023	10:22			U		1				H	
10	P-307-Ex-01.502	11/1/2023	10:23			U		1				H	

Courier Use Only

Total Number Of:

VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time: 11/6/23 1157
Received by: (signature)	Date/Time: 11/6/23 1157
Relinquished by: (signature)	Date/Time: 11/6/23 1630
Received by: (signature) 25, 28, 29	Date/Time: 11/6/23 1634
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

23K0793 RF

Pace Analytical

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time

7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction	[2] Preservation Code
11	P-307-Ex-0202.5	11/1/2023	10:24			U		1				H	
12	P-307-Ex-02.503	11/1/2023	10:25			U		1				H	
13	P-307-Ex-0303.5	11/1/2023	10:26			U		1				H	
14	P-307-Ex-03.504	11/1/2023	10:27			U		1				H	
15	P-307-Ex-0404.5	11/1/2023	10:28			U		1				H	
16	P-307-Ex-04.505	11/1/2023	10:29			U		1				H	
17	P-307-Ex-0506	11/1/2023	10:30			U		1				H	
18	P-307-Ex-0607	11/1/2023	10:31			U		1				H	
19	P-307-Ex-0708	11/1/2023	10:32			U		1				H	
20	P-308-Ex-000.5	11/1/2023	11:00			U		1				X	

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time: 11/6/23 1157	Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.
Received by: (signature)	Date/Time: 11/6/23 1157	
Relinquished by: (signature)	Date/Time: 11/6/23 1630	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

December 18, 2023
Nobis File No. S00001.017

Ms. Christine Beling
USEPA - Region I
Land, Chemicals, and Redevelopment Division
5 Post Office Square, Suite 100
Boston, MA 02109-3912

Re: USEPA Contract No. 68HE0122D0001
USEPA Task Order No. 68HE0122F0044
Targeted Brownfield Assessment (TBA) Site
St. Johnsbury Armory Site
St. Johnsbury, Vermont
Sample Delivery Group (SDG) No. 23K0794

Pace Analytical (formerly Con-test), East Longmeadow, MA

Tier 1 Stage 2A Organic Data Review

Polychlorinated Biphenyls (PCBs by 8082A):

1/Soil Sample: P-309-EX-000.5

Dear Ms. Beling:

Nobis Group (Nobis), under a USEPA contract as a subcontractor to KGSNE JV II, LLC (KGSNE), performed a Tier 1 Stage 2A manual data review (S2AVM) on the organic analytical data for the sample listed above. Note that 19 soil samples included on the COC were placed on hold and therefore, one sample was analyzed and included in this SDG for review. The sample was collected by Nobis at the St. Johnsbury Armory site located in St. Johnsbury, Vermont, on November 1, 2023. The sample was analyzed for PCB Aroclors by EPA Method 8082A by Pace Analytical (formerly Con-test).

The Tier 1 Stage 2A manual data review was performed in accordance with the Region I - EPA New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures (September 2020); USEPA's National Functional Guidelines for Organic Superfund Methods Data Review (November 2020); the Program Quality Assurance Project Plan (Program QAPP) dated October 2022, the Quality Assurance Project Plan Addendum (QAPPA) (July 2023) and the QAPPA Update (October 2023) for St. Johnsbury Armory, which append the October 2022 Program QAPP.

The data were evaluated based on the following parameters:

*	•	Overall Evaluation of Data and Potential Usability Issues
*	•	Data Completeness
*	•	Preservation and Technical Holding Times
*	•	Blanks
*	•	Surrogates (PCBs only)
NA	•	Internal Standards
NA	•	Matrix Spike Analysis
NA	•	Laboratory Duplicates
*	•	Laboratory Control Samples (LCS)/Standard Reference Material (SRM) Recovery (metals only)

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

NA	•	Field Duplicates
NA	•	ICP Serial Dilutions (metals only)
NA	•	Performance Evaluation (PE) Samples
*	•	Target Analyte Identification
*	•	Reported Quantitation Limits

* All criteria were met for this parameter or qualification was not required.
NA – Not applicable.

Overall Evaluation of Data and Potential Usability Issues

The site sampling objectives are:

- Perform a supplemental hazardous building material survey (HBMS) to address data gaps identified by Atlas Technical Consultants (ATC).
- Further delineate the distribution of hazardous materials to support future building renovation and reuse or demolition and disposal.
- Evaluate sub-slab soils for possible contamination by PCBs.

The data meet the project quality criteria and can be used without restriction except as summarized below. The attachments provide details and supporting documentation.

PCBs:
Qualification of the data was not required.

Please contact Linda Terzis at lterzis@nobis-group.com should you have any questions or comments regarding this information.

Sincerely,

NOBIS GROUP®

Linda Terzis
Data Validator

Gary Glennon
Data Validator

Tables: Data Summary Tables – Tier 1 Stage 2A (S2AVM) Validated Data
Data Qualification Actions Table

Attachments: Data Review Checklist
Support Documentation
COC

cc: Denis McGrath (Nobis Group)
Tim Andrews (Nobis Group)

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Soil
Lab Sample ID		23K0794-13
Field Sample ID		P-309-EX-000.5
Sample Type		N
Parent Sample ID		
Sample Date	**Units**	11/01/23
Aroclor 1016	mg/kg	0.084 U
Aroclor 1221	mg/kg	0.084 U
Aroclor 1232	mg/kg	0.084 U
Aroclor 1242	mg/kg	0.084 U
Aroclor 1248	mg/kg	0.084 U
Aroclor 1254	mg/kg	0.084 U
Aroclor 1260	mg/kg	0.084 U
Aroclor 1262	mg/kg	0.084 U
Aroclor 1268	mg/kg	0.084 U

DATA SUMMARY TABLE

Analysis		General Chemistry in Soil
Lab Sample ID		23K0794-13
Field Sample ID		P-309-EX-000.5
Sample Type		N
Parent Sample ID		
Sample Date	**Units**	11/01/23
Solids, Percent	%	91.8

Data Review Qualification Actions
Case: St. Johnsbury Armory
SDG: 23K0794

Parameter	Analyte	Samples	Evaluation Criteria	Action Needed	Comments
PCBs					
	Qualification of the data was not required.				

nobis

Tier 1 Stage 2A Data Review Checklist

Project: St. Johnsbury Armory Site, St. Johnsbury, Vermont
Project #: S00001.017
Case#: NA
Date: 12/06/2023
Methods: PCBs (8082A)
Laboratory: Pace Analytical (formerly Con-test), East Longmeadow, MA
SDG: 23K0794
Reviewer: Linda Terzis

1. **Case Narrative and Data Package Completeness (COC and Analyte List Review)**
Twenty (20) soil samples were listed on the COC for SDG 23K0794. Nineteen (19) of the samples were placed on hold and one sample was scheduled for analysis. The samples were collected on 11/01/2023 and were received at the laboratory on 11/06/2023 at 2.8 and 2.9 °C.

Sample ID	Laboratory ID	Analyses
P-309-EX-000.5	23K0794-13	PCBs

A complete laboratory report was received for SDG 23K0794.

2. **Holding Time and Sample Preservation Compliance**

Receipt temperature met the acceptable level of ≤ 6 °C.

PCBs: The sample was extracted within 14 days of collection and analyzed within 40 days of extraction, as specified on Table 2-6-1 of the Program Quality Assurance Project Plan (QAPP) for the St. Johnsbury Armory site (October 2022). No actions are required.

3. **Calibration Issues**

Not assessed for S2AVM.

4. **Lab and Field Blanks**

PCBs: Results for the laboratory method blank associated with the sample of this SDG were non-detect. No blank actions are required.

An equipment blank was not required during sample collection for the site.

5. **Interference Check Sample (metals only)**

Not applicable for this analysis.

6. **Surrogates (PCBs only)**

PCBs: Surrogate recoveries were within the Program QAPP limits (30-150%) for the sample of this SDG. No actions are required.

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

7. **Laboratory Control Samples**

   PCBs: Percent recoveries of Aroclors 1016 and 1260 in the PCB LCS/LCSD pair met the Program QAPP limits of 40-140% recovery and relative percent difference (RPD) ≤ 30%. No action is required.

8. **Matrix Spikes**

   MS/MSD analyses were not performed for this SDG. No actions are required.

9. **Laboratory Duplicates**

   Not applicable for this analysis.

10. **Serial Dilution (metals only)**

    Not applicable for this analysis.

11. **Field Duplicate Precision**

    Criteria based on the EPA Region I Environmental Data Review Supplement (September 2020): RPD ≤ 50% (soils) for results ≥ 5x QL or absolute difference of ≤ 4x QL for results < 5X QL.

    Field duplicate samples were not submitted with the sample of this SDG. No action is required.

12. **Internal Standards**

    Not applicable for this analysis.

13. **Dual Column Precision (PCBs only)**

    Sample results for PCBs were all non-detect. Dual column precision criteria (≤ 25% RPD per the National Functional Guidelines [NFGs, 2020]) are met and no actions are required.

14. **Performance Evaluation (PE) Samples**

    A PE sample was not submitted with the samples of this SDG. No actions are required.

15. **Quantitation Limits**

    PCBs: Laboratory quantitation limits (QLs) for non-detect Aroclor results met the PAL of ≤ 1 mg/kg for total PCBs, per Table 4 of the QAPPA.

16. **Other**

    The EPA Region I Environmental Data Review Supplement (2020) percent solids criterion of ≥ 30% for soil samples was met for both samples.

    Overall bias is considered indeterminate when cumulative nonconformances do not show a consistent bias or in cases of the presence of conflicting high and low biases.

23K0744 RF

Pace Analytical
Phone: 612-607-6400
Fax: 612-607-6344
https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction										
1	P-308-Ex-0.501	11/1/2023	11:01			U		1				H										
2	P-308-Ex-0101.5	11/1/2023	11:02			U		1				H										
3	P-308-Ex-01.502	11/1/2023	11:03			U		1				H										
4	P-308-Ex-0202.5	11/1/2023	11:04			U		1				H										
5	P-308-Ex-02.503	11/1/2023	11:05			U		1				H										
6	P-308-Ex-0303.5	11/1/2023	11:06			U		1				H										
7	P-308-Ex-03.504	11/1/2023	11:07			U		1				H										
8	P-308-Ex-0404.5	11/1/2023	11:08			U		1				H										
9	P-308-Ex-04.505	11/1/2023	11:09			U		1				H										
10	P-308-Ex-0506	11/1/2023	11:10			U		1				H										

[2] Preservation Code
Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? (Y) N
Glassware in freezer? Y (N)
Prepackaged Cooler? (Y) / N
*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time: 11/6/23 1157
Received by: (signature)	Date/Time: 11/6/23 1157
Relinquished by: (signature)	Date/Time: 11/6/23 1630
Received by: (signature)	Date/Time: 11/6/23 1630
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

23K0794 RF

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction	
11	P-308-Ex-0607	11/1/2023	11:11			U		1				H	
12	P-308-Ex-0708	11/1/2023	11:12			U		1				H	
13	P-309-Ex-000.5	11/1/2023	11:50			U		1				X	
14	P-309-Ex-0.501	11/1/2023	11:51			U		1				H	
15	P-309-Ex-0101.5	11/1/2023	11:52			U		1				H	
16	P-309-Ex-01.502	11/1/2023	11:53			U		1				H	
17	P-309-Ex-0202.5	11/1/2023	11:54			U		1				H	
18	P-309-Ex-02.503	11/1/2023	11:55			U		1				H	
19	P-309-Ex-0303.5	11/1/2023	11:56			U		1				H	
20	P-309-Ex-03.504	11/1/2023	11:57			U		3				H	

Relinquished by: (signature)		Date/Time: 11/6/23 1157
Received by: (signature)		Date/Time: 11/6/23 1157
Relinquished by: (signature)		Date/Time: 11/6/23 1620
Received by: (signature)		Date/Time:
Relinquished by: (signature)		Date/Time:
Received by: (signature)		Date/Time:
Relinquished by: (signature)		Date/Time:
Received by: (signature)		Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

NELAC and AIHA-LAP, LLC Accredited
Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[2] Preservation Code
Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? (Y) N
Glassware in freezer? Y (N)
Prepackaged Cooler? Y (N)
*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

December 18, 2023
Nobis File No. S00001.017

Ms. Christine Beling
USEPA - Region I
Land, Chemicals, and Redevelopment Division
5 Post Office Square, Suite 100
Boston, MA 02109-3912

Re: USEPA Contract No. 68HE0122D0001
USEPA Task Order No. 68HE0122F0044
Targeted Brownfield Assessment (TBA) Site
St. Johnsbury Armory Site
St. Johnsbury, Vermont
Sample Delivery Group (SDG) No. 23K0795

Pace Analytical (formerly Con-test), East Longmeadow, MA

Tier 1 Stage 2A Organic Data Review

Polychlorinated Biphenyls (PCBs by 8082A):

2/Soil Samples: P-FD028, P-FD029
2/Field Duplicate Pairs: P-319-EX-000.5 (in SDG 23K0808) / P-FD028 and P-321-EX-000.5 (in SDG 23K0805) / P-FD029

Dear Ms. Beling:

Nobis Group (Nobis), under a USEPA contract as a subcontractor to KGSNE JV II, LLC (KGSNE), performed a Tier 1 Stage 2A manual data review (S2AVM) on the organic analytical data for the samples listed above. Note that 9 soil samples included on the COC were placed on hold and therefore, two samples were analyzed and included in this SDG for review. The samples were collected by Nobis at the St. Johnsbury Armory site located in St. Johnsbury, Vermont, on November 1 and 2, 2023. The samples were analyzed for PCB Aroclors by EPA Method 8082A by Pace Analytical (formerly Con-test).

The Tier 1 Stage 2A manual data review was performed in accordance with the Region I - EPA New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures (September 2020); USEPA's National Functional Guidelines for Organic Superfund Methods Data Review (November 2020); the Program Quality Assurance Project Plan (Program QAPP) dated October 2022, the Quality Assurance Project Plan Addendum (QAPPA) (July 2023) and the QAPPA Update (October 2023) for St. Johnsbury Armory, which append the October 2022 Program QAPP.

The data were evaluated based on the following parameters:

*	•	Overall Evaluation of Data and Potential Usability Issues
*	•	Data Completeness
*	•	Preservation and Technical Holding Times
*	•	Blanks
*	•	Surrogates (PCBs only)
NA	•	Internal Standards
NA	•	Matrix Spike Analysis

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

NA	•	Laboratory Duplicates
*	•	Laboratory Control Samples (LCS)/Standard Reference Material (SRM) Recovery (metals only)
*	•	Field Duplicates
NA	•	ICP Serial Dilutions (metals only)
NA	•	Performance Evaluation (PE) Samples
*	•	Target Analyte Identification
*	•	Reported Quantitation Limits

* All criteria were met for this parameter or qualification was not required.
NA – Not applicable.

Overall Evaluation of Data and Potential Usability Issues

The site sampling objectives are:

- Perform a supplemental hazardous building material survey (HBMS) to address data gaps identified by Atlas Technical Consultants (ATC).
- Further delineate the distribution of hazardous materials to support future building renovation and reuse or demolition and disposal.
- Evaluate sub-slab soils for possible contamination by PCBs.

The data meet the project quality criteria and can be used without restriction except as summarized below. The attachments provide details and supporting documentation.

PCBs:
Qualification of the data was not required.

Please contact Linda Terzis at lterzis@nobis-group.com should you have any questions or comments regarding this information.

Sincerely,

NOBIS GROUP®

Linda Terzis
Data Validator

Gary Glennon
Data Validator

Tables: Data Summary Tables – Tier 1 Stage 2A (S2AVM) Validated Data
Data Qualification Actions Table

Attachments: Data Review Checklist
Support Documentation
COC

cc: Denis McGrath (Nobis Group)
Tim Andrews (Nobis Group)

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Soil	
Lab Sample ID		23K0795-03	23K0795-04
Field Sample ID		P-FD028	P-FD029
Sample Type		FD	FD
Parent Sample ID		P-319-EX-000.5	P-321-EX-000.5
Sample Date	**Units**	11/02/23	11/02/23
Aroclor 1016	mg/kg	0.084 U	0.081 U
Aroclor 1221	mg/kg	0.084 U	0.081 U
Aroclor 1232	mg/kg	0.084 U	0.081 U
Aroclor 1242	mg/kg	0.084 U	0.081 U
Aroclor 1248	mg/kg	0.084 U	0.081 U
Aroclor 1254	mg/kg	0.084 U	0.34
Aroclor 1260	mg/kg	0.084 U	0.081 U
Aroclor 1262	mg/kg	0.084 U	0.081 U
Aroclor 1268	mg/kg	0.084 U	0.081 U

DATA SUMMARY TABLE

Analysis		General Chemistry in Soil	
Lab Sample ID		23K0795-03	23K0795-04
Field Sample ID		P-FD028	P-FD029
Sample Type		FD	FD
Parent Sample ID		P-319-EX-000.5	P-321-EX-000.5
Sample Date	**Units**	11/02/23	11/02/23
Solids, Percent	%	88.6	93.7

Data Review Qualification Actions
Case: St. Johnsbury Armory
SDG: 23K0795

Parameter	Analyte	Samples	Evaluation Criteria	Action Needed	Comments
PCBs					
	Qualification of the data was not required.				

Tier 1 Stage 2A Data Review Checklist

Project: St. Johnsbury Armory Site, St. Johnsbury, Vermont
Project #: S00001.017
Case#: NA
Date: 12/06/2023
Methods: PCBs (8082A)
Laboratory: Pace Analytical (formerly Con-test), East Longmeadow, MA
SDG: 23K0795
Reviewer: Linda Terzis

1. **Case Narrative and Data Package Completeness (COC and Analyte List Review)**
Nine (9) soil samples were listed on the COC for SDG 23K0795. Seven (7) of the samples were placed on hold and two samples were scheduled for analysis. The samples were collected on 11/01/2023 and 11/02/2023 and were received at the laboratory on 11/06/2023 at 2.5 °C.

Sample ID	Laboratory ID	Analyses
P-FD028	23K0795-03	PCBs
P-FD029	23K0795-04	PCBs

A complete laboratory report was received for SDG 23K0795.

2. **Holding Time and Sample Preservation Compliance**

Receipt temperature met the acceptable level of ≤ 6 °C.

PCBs: Samples were extracted within 14 days of collection and analyzed within 40 days of extraction, as specified on Table 2-6-1 of the Program Quality Assurance Project Plan (QAPP) for the St. Johnsbury Armory site (October 2022). No actions are required.

3. **Calibration Issues**

Not assessed for S2AVM.

4. **Lab and Field Blanks**

PCBs: Results for the laboratory method blank associated with the samples of this SDG were non-detect. No blank actions are required.

An equipment blank was not required during sample collection for the site.

5. **Interference Check Sample (metals only)**

Not applicable for this analysis.

6. **Surrogates (PCBs only)**

PCBs: Surrogate recoveries were within the Program QAPP limits (30-150%) for all samples. No actions are required.

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

7. **Laboratory Control Samples**

PCBs: Percent recoveries of Aroclors 1016 and 1260 in the PCB LCS/LCSD pair met the Program QAPP limits of 40-140% recovery and relative percent difference (RPD) ≤ 30%. No action is required.

8. **Matrix Spikes**

MS/MSD analyses were not performed for this SDG. No actions are required.

9. **Laboratory Duplicates**

Not applicable for this analysis.

10. **Serial Dilution (metals only)**

Not applicable for this analysis.

11. **Field Duplicate Precision**

Criteria based on the EPA Region I Environmental Data Review Supplement (September 2020): RPD ≤ 50% (soils) for results ≥ 5x QL or absolute difference of ≤ 4x QL for results < 5X QL.

The following field duplicate pairs are associated with the samples of this SDG.

- P-319-EX-000.5 / P-FD028 (23K0808-03 / 23K0795-03)
- P-321-EX-000.5 / P-FD029 (23K0805-09 / 23K0795-04)

PCBs: Field duplicate precision criteria were met for both field duplicate pairs. No actions are required.

12. **Internal Standards**

Not applicable for this analysis.

13. **Dual Column Precision (PCBs only)**

Dual column precision criteria (≤ 25% RPD per the National Functional Guidelines [NFGs, 2020]) were met for the Aroclor 1254 detection in sample P-FD029 (23K0795-04). No actions are required.

14. **Performance Evaluation (PE) Samples**

A PE sample was not submitted with the samples of this SDG. No actions are required.

15. **Quantitation Limits**

PCBs: Laboratory quantitation limits (QLs) for non-detect Aroclor results met the PAL of ≤ 1 mg/kg for total PCBs, per Table 4 of the QAPPA.

16. Other

The EPA Region I Environmental Data Review Supplement (2020) percent solids criterion of ≥ 30% for soil samples was met for both samples.

Overall bias is considered indeterminate when cumulative nonconformances do not show a consistent bias or in cases of the presence of conflicting high and low biases.

Field Duplicate Evaluation

SDG: 23K0795 PCBs

Analyte	Original Result mg/kg	Qual	Duplicate Result mg/kg	Qual	RPD ≤ 50%	Abs Diff	Comment
Sample ID	**P-319-EX-000.5**		**P-FD028**				
	23K0808-03		**23K0795-03**				
Aroclor 1016	0.089	U	0.084	U	-5.78		Ok - both ND
Aroclor 1221	0.089	U	0.084	U	-5.78		Ok - both ND
Aroclor 1232	0.089	U	0.084	U	-5.78		Ok - both ND
Aroclor 1242	0.089	U	0.084	U	-5.78		Ok - both ND
Aroclor 1248	0.089	U	0.084	U	-5.78		Ok - both ND
Aroclor 1254	0.089	U	0.084	U	-5.78		Ok - both ND
Aroclor 1260	0.089	U	0.084	U	-5.78		Ok - both ND
Aroclor 1262	0.089	U	0.084	U	-5.78		Ok - both ND
Aroclor 1268	0.089	U	0.084	U	-5.78		Ok - both ND

Note that P-319-EX-000.5 is located in SDG 23K0808.

Field Duplicate Evaluation

SDG: 23K0795 PCBs

Analyte	Original Result mg/kg	Qual	Duplicate Result mg/kg	Qual	RPD ≤ 50%	Abs Diff	Comment[1]
Sample ID	**P-321-EX-000.5**		**P-FD029**				
	23K0805-09		**23K0795-04**				
Aroclor 1016	0.08	U	0.081	U	1.24		Ok - both ND
Aroclor 1221	0.08	U	0.081	U	1.24		Ok - both ND
Aroclor 1232	0.08	U	0.081	U	1.24		Ok - both ND
Aroclor 1242	0.08	U	0.081	U	1.24		Ok - both ND
Aroclor 1248	0.08	U	0.081	U	1.24		Ok - both ND
Aroclor 1254	0.36		0.34		-5.71	-0.02	Ok - abs diff < 4x QL
Aroclor 1260	0.08	U	0.081	U	1.24		Ok - both ND
Aroclor 1262	0.08	U	0.081	U	1.24		Ok - both ND
Aroclor 1268	0.08	U	0.081	U	1.24		Ok - both ND

Note that P-321-EX-000.5 is located in SDG 23K0805.

23K0795 HT

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time

7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction											[2] Preservation Code
												I											
1	P-FD026	11/1/2023	8:07			U		1				H											
2	P-FD027	11/2/2023	16:00			U		1				H											
3	P-FD028	11/2/2023	16:01			U		1				X											
4	P-FD029	11/2/2023	16:02			U		1				X											
5	P-FD030	11/2/2023	16:03			U		1				H											
6	P-FD031	11/2/2023	16:04			U		1				H											
7	P-FD032	11/2/2023	16:05			U		1				H											
8	P-FD033	11/2/2023	16:06			U		1				H											
9	P-FD034	11/2/2023	16:07			U		1				H											

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N
*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time: 11/6/23 1155	Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.
Received by: (signature)	Date/Time: 11/6/23 1457	
Relinquished by: (signature)	Date/Time: 11/6/23 1630	
Received by: (signature) 2.5	Date/Time: 11/6/23 16:30	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other

☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

December 18, 2023
Nobis File No. S00001.017

Ms. Christine Beling
USEPA - Region I
Land, Chemicals, and Redevelopment Division
5 Post Office Square, Suite 100
Boston, MA 02109-3912

Re: USEPA Contract No. 68HE0122D0001
USEPA Task Order No. 68HE0122F0044
Targeted Brownfield Assessment (TBA) Site
St. Johnsbury Armory Site
St. Johnsbury, Vermont
Sample Delivery Group (SDG) No. 23K0796

Pace Analytical (formerly Con-test), East Longmeadow, MA

Tier 1 Stage 2A Organic Data Review

Polychlorinated Biphenyls (PCBs by 8082A):

1/Soil Sample: P-FD024
1/Field Duplicate Pair: P-314-EX-000.5 (in SDG 23K0802) / P-FD024

Dear Ms. Beling:

Nobis Group (Nobis), under a USEPA contract as a subcontractor to KGSNE JV II, LLC (KGSNE), performed a Tier 1 Stage 2A manual data review (S2AVM) on the organic analytical data for the sample listed above. Note that 19 soil samples included on the COC were placed on hold and therefore, one sample was analyzed and included in this SDG for review. The samples were collected by Nobis at the St. Johnsbury Armory site located in St. Johnsbury, Vermont, on November 1, 2023 and November 2, 2023. The sample was analyzed for PCB Aroclors by EPA Method 8082A by Pace Analytical (formerly Con-test).

The Tier 1 Stage 2A manual data review was performed in accordance with the Region I - EPA New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures (September 2020); USEPA's National Functional Guidelines for Organic Superfund Methods Data Review (November 2020); the Program Quality Assurance Project Plan (Program QAPP) dated October 2022, the Quality Assurance Project Plan Addendum (QAPPA) (July 2023) and the QAPPA Update (October 2023) for St. Johnsbury Armory, which append the October 2022 Program QAPP.

The data were evaluated based on the following parameters:

*	•	Overall Evaluation of Data and Potential Usability Issues
*	•	Data Completeness
*	•	Preservation and Technical Holding Times
*	•	Blanks
*	•	Surrogates (PCBs only)
NA	•	Internal Standards
NA	•	Matrix Spike Analysis
NA	•	Laboratory Duplicates

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

*	•	Laboratory Control Samples (LCS)/Standard Reference Material (SRM) Recovery (metals only)
*	•	Field Duplicates
NA	•	ICP Serial Dilutions (metals only)
NA	•	Performance Evaluation (PE) Samples
*	•	Target Analyte Identification
*	•	Reported Quantitation Limits

* All criteria were met for this parameter or qualification was not required.
NA – Not applicable.

Overall Evaluation of Data and Potential Usability Issues

The site sampling objectives are:

- Perform a supplemental hazardous building material survey (HBMS) to address data gaps identified by Atlas Technical Consultants (ATC).
- Further delineate the distribution of hazardous materials to support future building renovation and reuse or demolition and disposal.
- Evaluate sub-slab soils for possible contamination by PCBs.

The data meet the project quality criteria and can be used without restriction except as summarized below. The attachments provide details and supporting documentation.

PCBs:
Qualification of the data was not required.

Please contact Linda Terzis at lterzis@nobis-group.com should you have any questions or comments regarding this information.

Sincerely,

NOBIS GROUP®

Linda Terzis
Data Validator

Gary Glennon
Data Validator

Tables: Data Summary Tables – Tier 1 Stage 2A (S2AVM) Validated Data
Data Qualification Actions Table

Attachments: Data Review Checklist
Support Documentation
COC

cc: Denis McGrath (Nobis Group)
Tim Andrews (Nobis Group)

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Soil
Lab Sample ID		23K0796-19
Field Sample ID		P-FD024
Sample Type		FD
Parent Sample ID		P-314-EX-000.5
Sample Date	**Units**	11/01/23
Aroclor 1016	mg/kg	0.091 U
Aroclor 1221	mg/kg	0.091 U
Aroclor 1232	mg/kg	0.091 U
Aroclor 1242	mg/kg	0.091 U
Aroclor 1248	mg/kg	0.091 U
Aroclor 1254	mg/kg	0.66
Aroclor 1260	mg/kg	0.091 U
Aroclor 1262	mg/kg	0.091 U
Aroclor 1268	mg/kg	0.091 U

DATA SUMMARY TABLE

Analysis		General Chemistry in Soil
Lab Sample ID		23K0796-19
Field Sample ID		P-FD024
Sample Type		FD
Parent Sample ID		P-314-EX-000.5
Sample Date	**Units**	11/01/23
Solids, Percent	%	84.7

Data Review Qualification Actions
Case: St. Johnsbury Armory
SDG: 23K0796

Parameter	Analyte	Samples	Evaluation Criteria	Action Needed	Comments
PCBs					
	Qualification of the data was not required.				

Tier 1 Stage 2A Data Review Checklist

Project: St. Johnsbury Armory Site, St. Johnsbury, Vermont
Project #: S00001.017
Case#: NA
Date: 12/06/2023
Methods: PCBs (8082A)
Laboratory: Pace Analytical (formerly Con-test), East Longmeadow, MA
SDG: 23K0796
Reviewer: Linda Terzis

1. **Case Narrative and Data Package Completeness (COC and Analyte List Review)**
Twenty (20) soil samples were listed on the COC for SDG 23K0796. Nineteen (19) of the samples were placed on hold and one sample was scheduled for analysis. The samples were collected on 11/01/2023 and 11/02/2023, and were received at the laboratory on 11/06/2023 at 2.5 °C.

Sample ID	Laboratory ID	Analyses
P-FD024	23K0796-19	PCBs

A complete laboratory report was received for SDG 23K0796.

2. **Holding Time and Sample Preservation Compliance**

Receipt temperature met the acceptable level of ≤ 6 °C.

PCBs: The sample was extracted within 14 days of collection and analyzed within 40 days of extraction, as specified on Table 2-6-1 of the Program Quality Assurance Project Plan (QAPP) for the St. Johnsbury Armory site (October 2022). No actions are required.

3. **Calibration Issues**

Not assessed for S2AVM.

4. **Lab and Field Blanks**

PCBs: Results for the laboratory method blank associated with the sample of this SDG were non-detect. No blank actions are required.

An equipment blank was not required during sample collection for the site.

5. **Interference Check Sample (metals only)**

Not applicable for this analysis.

6. **Surrogates (PCBs only)**

PCBs: Surrogate recoveries were within the Program QAPP limits (30-150%) for the sample of this SDG. No actions are required.

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

7. **Laboratory Control Samples**

PCBs: Percent recoveries of Aroclors 1016 and 1260 in the PCB LCS/LCSD pair met the Program QAPP limits of 40-140% recovery and relative percent difference (RPD) ≤ 30%. No action is required.

8. **Matrix Spikes**

MS/MSD analyses were not performed for this SDG. No actions are required.

9. **Laboratory Duplicates**

Not applicable for this analysis.

10. **Serial Dilution (metals only)**

Not applicable for this analysis.

11. **Field Duplicate Precision**

Criteria based on the EPA Region I Environmental Data Review Supplement (September 2020): RPD ≤ 50% (soils) for results ≥ 5x QL or absolute difference of ≤ 4x QL for results < 5X QL.

The following field duplicate pair is associated with the samples of this SDG.

- P-314-EX-000.5 / P-FD024 (23K0802-18 / 23K0796-19)

PCBs: Field duplicate precision criteria were met for the field duplicate pair. No actions are required.

12. **Internal Standards**

Not applicable for this analysis.

13. **Dual Column Precision (PCBs only)**

Dual column precision criteria (≤ 25% RPD per the National Functional Guidelines [NFG, 2020]) were met for the Aroclor 1254 detection in sample P-FD024 (23K0796-19). No actions are required.

14. **Performance Evaluation (PE) Samples**

A PE sample was not submitted with the samples of this SDG. No actions are required.

15. **Quantitation Limits**

PCBs: Laboratory quantitation limits (QLs) for non-detect Aroclor results met the PAL of ≤ 1 mg/kg for total PCBs, per Table 4 of the QAPPA.

16. Other

The EPA Region I Environmental Data Review Supplement (2020) percent solids criterion of ≥ 30% for soil samples was met for the sample.

Overall bias is considered indeterminate when cumulative nonconformances do not show a consistent bias or in cases of the presence of conflicting high and low biases.

Field Duplicate Evaluation

SDG: 23K0796 PCBs

Analyte	Original Result mg/kg	Qual	Duplicate Result mg/kg	Qual	RPD ≤ 50%	Abs Diff	Comment
Sample ID	**P-314-EX-000.5**		**P-FD024**				
	23K0802-18		**23K0796-19**				
Aroclor 1016	0.093	U	0.091	U	-2.17		Ok - both ND
Aroclor 1221	0.093	U	0.091	U	-2.17		Ok - both ND
Aroclor 1232	0.093	U	0.091	U	-2.17		Ok - both ND
Aroclor 1242	0.093	U	0.091	U	-2.17		Ok - both ND
Aroclor 1248	0.093	U	0.091	U	-2.17		Ok - both ND
Aroclor 1254	0.29		0.66		77.89	0.370	Ok - abs diff < 4x QL
Aroclor 1260	0.093	U	0.091	U	-2.17		Ok - both ND
Aroclor 1262	0.093	U	0.091	U	-2.17		Ok - both ND
Aroclor 1268	0.093	U	0.091	U	-2.17		Ok - both ND

Note that P-314-EX-000.5 is located in SDG 23K0802.

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time

7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction											
1	P-328-Ex-06.507	11/2/2023	10:58			U		1				H											
2	P-328-Ex-0707.5	11/2/2023	10:59			U		1				H											
3	P-328-Ex-07.508	11/2/2023	11:00			U		1				H											
4	P-328-Ex-0808.5	11/2/2023	11:01			U		1				H											
5	P-328-Ex-08.509	11/2/2023	11:02			U		1				H											
6	P-328-Ex-0909.5	11/2/2023	11:03			U		1				H											
7	P-328-Ex-09.510	11/2/2023	11:04			U		1				H											
8	P-328-Ex-1010.5	11/2/2023	11:05			U		1				H											
9	P-328-Ex-10.511	11/2/2023	11:06			U		1				H											
10	P-328-Ex-1112	11/2/2023	11:07			U		3				H											

[2] Preservation Code

Courier Use Only

Total Number Of:

VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time: 11/6/23 1157
Received by: (signature)	Date/Time: 11/6/23 1157
Relinquished by: (signature)	Date/Time: 11/6/23 1630
Received by: (signature)	Date/Time: 11/6/23 1630
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other

☐ Chromatogram
☐ AIHA-LAP,LLC

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Pace Analytical®
Phone: 612-607-6400
Fax: 612-607-6344
https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction	[2] Preservation Code
11	P-329-Ex	11/2/2023	11:09			U		1				H	
12	P-330-Ex	11/2/2023	11::10			U		1				H	
13	P-331-Ex	11/2/2023	11:11			U		1				H	
14	P-FD019	11/1/2023	8:00			U		1				H	
15	P-FD020	11/1/2023	8:01			U		1				H	
16	P-FD021	11/1/2023	8:02			U		1				H	
17	P-FD022	11/1/2023	8:03			U		1				H	
18	P-FD023	11/1/2023	8:04			U		1				H	
19	P-FD024	11/1/2023	8:05			U		1				X	
20	P-FD025	11/1/2023	8:06			U		1				H	

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature) — Date/Time: 11/6/23 1157
Received by: (signature) — Date/Time: 11/6/23 1157
Relinquished by: (signature) — Date/Time: 11/6/23 1630
Received by: (signature) — Date/Time: 11/6/23 1630
Relinquished by: (signature) — Date/Time:
Received by: (signature) — Date/Time:
Relinquished by: (signature) — Date/Time:
Received by: (signature) — Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

December 18, 2023
Nobis File No. S00001.017

Ms. Christine Beling
USEPA - Region I
Land, Chemicals, and Redevelopment Division
5 Post Office Square, Suite 100
Boston, MA 02109-3912

Re: USEPA Contract No. 68HE0122D0001
USEPA Task Order No. 68HE0122F0044
Targeted Brownfield Assessment (TBA) Site
St. Johnsbury Armory Site
St. Johnsbury, Vermont
Sample Delivery Group (SDG) No. 23K0797

Pace Analytical (formerly Con-test), East Longmeadow, MA

Tier 1 Stage 2A Organic Data Review

Polychlorinated Biphenyls (PCBs by 8082A):

2/Soil Samples: P-325-EX-000.5, P-326-EX-000.5

Dear Ms. Beling:

Nobis Group (Nobis), under a USEPA contract as a subcontractor to KGSNE JV II, LLC (KGSNE), performed a Tier 1 Stage 2A manual data review (S2AVM) on the organic analytical data for the samples listed above. Note that 18 soil samples included on the COC were placed on hold and therefore, two samples were analyzed and included in this SDG for review. The samples were collected by Nobis at the St. Johnsbury Armory site located in St. Johnsbury, Vermont, on November 2, 2023. The samples were analyzed for PCB Aroclors by EPA Method 8082A by Pace Analytical (formerly Con-test).

The Tier 1 Stage 2A manual data review was performed in accordance with the Region I - EPA New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures (September 2020); USEPA's National Functional Guidelines for Organic Superfund Methods Data Review (November 2020); the Program Quality Assurance Project Plan (Program QAPP) dated October 2022, the Quality Assurance Project Plan Addendum (QAPPA) (July 2023) and the QAPPA Update (October 2023) for St. Johnsbury Armory, which append the October 2022 Program QAPP.

The data were evaluated based on the following parameters:

*	•	Overall Evaluation of Data and Potential Usability Issues
*	•	Data Completeness
*	•	Preservation and Technical Holding Times
*	•	Blanks
*	•	Surrogates (PCBs only)
NA	•	Internal Standards
*	•	Matrix Spike Analysis
NA	•	Laboratory Duplicates
*	•	Laboratory Control Samples (LCS)/Standard Reference Material (SRM) Recovery (metals only)

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

NA	•	Field Duplicates
NA	•	ICP Serial Dilutions (metals only)
NA	•	Performance Evaluation (PE) Samples
*	•	Target Analyte Identification
*	•	Reported Quantitation Limits

* All criteria were met for this parameter or qualification was not required.
NA – Not applicable.

Overall Evaluation of Data and Potential Usability Issues

The site sampling objectives are:

- Perform a supplemental hazardous building material survey (HBMS) to address data gaps identified by Atlas Technical Consultants (ATC).
- Further delineate the distribution of hazardous materials to support future building renovation and reuse or demolition and disposal.
- Evaluate sub-slab soils for possible contamination by PCBs.

The data meet the project quality criteria and can be used without restriction except as summarized below. The attachments provide details and supporting documentation.

PCBs:
Qualification of the data was not required.

Please contact Linda Terzis at lterzis@nobis-group.com should you have any questions or comments regarding this information.

Sincerely,

NOBIS GROUP®

Linda Terzis
Data Validator

Gary Glennon
Data Validator

Tables: Data Summary Tables – Tier 1 Stage 2A (S2AVM) Validated Data
Data Qualification Actions Table

Attachments: Data Review Checklist
Support Documentation
COC

cc: Denis McGrath (Nobis Group)
Tim Andrews (Nobis Group)

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Soil	
Lab Sample ID		23K0797-01	23K0797-14
Field Sample ID		P-325-EX-000.5	P-326-EX-000.5
Sample Type		N	N
Parent Sample ID			
Sample Date	**Units**	11/02/23	11/02/23
Aroclor 1016	mg/kg	0.083 U	0.084 U
Aroclor 1221	mg/kg	0.083 U	0.084 U
Aroclor 1232	mg/kg	0.083 U	0.084 U
Aroclor 1242	mg/kg	0.083 U	0.084 U
Aroclor 1248	mg/kg	0.083 U	0.084 U
Aroclor 1254	mg/kg	0.096	0.17
Aroclor 1260	mg/kg	0.083 U	0.084 U
Aroclor 1262	mg/kg	0.083 U	0.084 U
Aroclor 1268	mg/kg	0.083 U	0.084 U

DATA SUMMARY TABLE

Analysis		General Chemistry in Soil	
Lab Sample ID		23K0797-01	23K0797-14
Field Sample ID		P-325-EX-000.5	P-326-EX-000.5
Sample Type		N	N
Parent Sample ID			
Sample Date	**Units**	11/02/23	11/02/23
Solids, Percent	%	94	92.2

Data Review Qualification Actions
Case: St. Johnsbury Armory
SDG: 23K0797

Parameter	Analyte	Samples	Evaluation Criteria	Action Needed	Comments
PCBs					
	Qualification of the data was not required.				

nobis

Tier 1 Stage 2A Data Review Checklist

Project: St. Johnsbury Armory Site, St. Johnsbury, Vermont
Project #: S00001.017
Case#: NA
Date: 12/11/2023
Methods: PCBs (8082A)
Laboratory: Pace Analytical (formerly Con-test), East Longmeadow, MA
SDG: 23K0797
Reviewer: Linda Terzis

1. **Case Narrative and Data Package Completeness (COC and Analyte List Review)**
Twenty (20) soil samples were listed on the COC for SDG 23K0797. Eighteen (18) of the samples were placed on hold and two samples were scheduled for analysis. The samples were collected on 11/02/2023 and were received at the laboratory on 11/06/2023 at temperatures ranging from 2.5 to 4.0 °C.

Sample ID	Laboratory ID	Analyses
P-325-EX-000.5	23K0797-01	PCBs
P-326-EX-000.5	23K0797-14	PCBs

A complete laboratory report was received for SDG 23K0797.

2. **Holding Time and Sample Preservation Compliance**

Receipt temperature met the acceptable level of ≤ 6 °C.

PCBs: The samples were extracted within 14 days of collection and analyzed within 40 days of extraction, as specified on Table 2-6-1 of the Program Quality Assurance Project Plan (QAPP) for the St. Johnsbury Armory site (October 2022). No actions are required.

3. **Calibration Issues**

Not assessed for S2AVM.

4. **Lab and Field Blanks**

PCBs: Results for the laboratory method blank associated with the samples of this SDG were non-detect. No blank actions are required.

An equipment blank was not required during sample collection for the site.

5. **Interference Check Sample (metals only)**

Not applicable for this analysis.

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

6. **Surrogates (PCBs only)**

PCBs: Surrogate recoveries were within the Program QAPP limits (30-150%) for the samples of this SDG. No actions are required.

7. **Laboratory Control Samples**

PCBs: Percent recoveries of Aroclors 1016 and 1260 in the PCB LCS/LCSD pair met the Program QAPP limits of 40-140% recovery and relative percent difference (RPD) ≤ 30%. No action is required.

8. **Matrix Spikes**

PCBs: Only Aroclors 1016 and 1260 were spiked in the MS/MSD; therefore, based on professional judgment, if actions are required, they are applied as follows:

If 1016 %R or %RPD out: Qualify 1016, 1221, 1232, 1242
If 1260 %R or %RPD out: Qualify 1248, 1254, 1260, 1262,1268

MS/MSD analyses were performed on sample P-325-EX-000.5 (23K0797-01).

Percent recoveries of Aroclors 1016 and 1260 were within the Program QAPP limits of 40-140% in the MS and MSD analyses on both analytical columns. RPDs were ≤ 30%, as specified in the Program QAPP. No actions are required.

MS/MSD analyses were also performed on sample P-326-EX-000.5 (23K0797-14).

Percent recoveries of Aroclors 1016 and 1260 were within the Program QAPP limits of 40-140% in the MS and MSD analyses on both analytical columns. RPDs were ≤ 30%, as specified in the Program QAPP. No actions are required.

9. **Laboratory Duplicates**

Not applicable for this analysis.

10. **Serial Dilution (metals only)**

Not applicable for this analysis.

11. **Field Duplicate Precision**

Criteria based on the EPA Region I Environmental Data Review Supplement (September 2020): RPD ≤ 50% (soils) for results ≥ 5x QL or absolute difference of ≤ 4x QL for results < 5X QL.

Field duplicate samples were not submitted with this SDG. No actions are taken.

12. **Internal Standards**

Not applicable for this analysis.

13. Dual Column Precision (PCBs only)

Dual column precision criteria (≤ 25% RPD per the National Functional Guidelines [NFGs, 2020]) were met for the Aroclor 1254 detections in both samples. No actions are required.

14. Performance Evaluation (PE) Samples

A PE sample was not submitted with the samples of this SDG. No actions are required.

15. Quantitation Limits

PCBs: Laboratory quantitation limits (QLs) for non-detect Aroclor results met the PAL of ≤ 1 mg/kg for total PCBs, per Table 4 of the QAPPA.

16. Other

The EPA Region I Environmental Data Review Supplement (2020) percent solids criterion of ≥ 30% for soil samples was met for the samples.

Overall bias is considered indeterminate when cumulative nonconformances do not show a consistent bias or in cases of the presence of conflicting high and low biases.

23K0147 KT

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time

7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction	[2] Preservation Code
1	P-325-Ex-000.5	11/2/2023	10:10			U		3				X	
2	P-325-Ex-0.501	11/2/2023	10:11			U		1				H	
3	P-325-Ex-0101.5	11/2/2023	10:12			U		1				H	
4	P-325-Ex-01.502	11/2/2023	10:13			U		1				H	
5	P-325-Ex-0202.5	11/2/2023	10:14			U		1				H	
6	P-325-Ex-02.503	11/2/2023	10:15			U		1				H	
7	P-325-Ex-0303.5	11/2/2023	10:16			U		1				H	
8	P-325-Ex-03.504	11/2/2023	10:17			U		1				H	
9	P-325-Ex-0404.5	11/2/2023	10:18			U		1				H	
10	P-325-Ex-04.505	11/2/2023	10:19			U		1				H	

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)		Date/Time: 11/6/23 1157
Received by: (signature)		Date/Time: 11/6/23 1157
Relinquished by: (signature)		Date/Time: 11/6/23 1630
Received by: (signature)	29	Date/Time: 11/6/23 1630
Relinquished by: (signature)	28.4	Date/Time:
Received by: (signature)	25.	Date/Time:
Relinquished by: (signature)		Date/Time:
Received by: (signature)		Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Pace Analytical®
Phone: 612-607-6400
Fax: 612-607-6344
https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction	[2] Preservation Code
11	P-325-Ex-0506	11/2/2023	10:20			U		1				H	
12	P-325-Ex-0607	11/2/2023	10:21			U		1				H	
13	P-325-Ex-0708	11/2/2023	10:22			U		1				H	
14	P-326-Ex-000.5	11/2/2023	10:30			U		3				X	
15	P-326-Ex-0.501	11/2/2023	10:31			U		1				H	
16	P-326-Ex-0101.5	11/2/2023	10:32			U		1				H	
17	P-326-Ex-01.502	11/2/2023	10:33			U		1				H	
18	P-326-Ex-0202.5	11/2/2023	10:34			U		1				H	
19	P-326-Ex-02.503	11/2/2023	10:35			U		1				H	
20	P-326-Ex-0303.5	11/2/2023	10:36			U		1				H	

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time: 11/6/23 1157	Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.
Received by: (signature)	Date/Time: 11/6/23 1157	
Relinquished by: (signature)	Date/Time: 11/6/23 1630	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

December 18, 2023
Nobis File No. S00001.017

Ms. Christine Beling
USEPA - Region I
Land, Chemicals, and Redevelopment Division
5 Post Office Square, Suite 100
Boston, MA 02109-3912

Re: USEPA Contract No. 68HE0122D0001
USEPA Task Order No. 68HE0122F0044
Targeted Brownfield Assessment (TBA) Site
St. Johnsbury Armory Site
St. Johnsbury, Vermont
Sample Delivery Group (SDG) No. 23K0798

Pace Analytical (formerly Con-test), East Longmeadow, MA

Tier 1 Stage 2A Organic Data Review

Polychlorinated Biphenyls (PCBs by 8082A):

2/Soil Samples: P-310-EX-000.5, P-311-EX-000.5

Dear Ms. Beling:

Nobis Group (Nobis), under a USEPA contract as a subcontractor to KGSNE JV II, LLC (KGSNE), performed a Tier 1 Stage 2A manual data review (S2AVM) on the organic analytical data for the samples listed above. Note that 18 soil samples included on the COC were placed on hold and therefore, two samples were analyzed and included in this SDG for review. The samples were collected by Nobis at the St. Johnsbury Armory site located in St. Johnsbury, Vermont, on November 1, 2023. The samples were analyzed for PCB Aroclors by EPA Method 8082A by Pace Analytical (formerly Con-test).

The Tier 1 Stage 2A manual data review was performed in accordance with the Region I - EPA New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures (September 2020); USEPA's National Functional Guidelines for Organic Superfund Methods Data Review (November 2020); the Program Quality Assurance Project Plan (Program QAPP) dated October 2022, the Quality Assurance Project Plan Addendum (QAPPA) (July 2023) and the QAPPA Update (October 2023) for St. Johnsbury Armory, which append the October 2022 Program QAPP.

The data were evaluated based on the following parameters:

*	•	Overall Evaluation of Data and Potential Usability Issues
*	•	Data Completeness
*	•	Preservation and Technical Holding Times
*	•	Blanks
*	•	Surrogates (PCBs only)
NA	•	Internal Standards
NA	•	Matrix Spike Analysis
NA	•	Laboratory Duplicates
*	•	Laboratory Control Samples (LCS)/Standard Reference Material (SRM) Recovery (metals only)

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

NA	•	Field Duplicates
NA	•	ICP Serial Dilutions (metals only)
NA	•	Performance Evaluation (PE) Samples
*	•	Target Analyte Identification
*	•	Reported Quantitation Limits

* All criteria were met for this parameter or qualification was not required.
NA – Not applicable.

Overall Evaluation of Data and Potential Usability Issues

The site sampling objectives are:

- Perform a supplemental hazardous building material survey (HBMS) to address data gaps identified by Atlas Technical Consultants (ATC).
- Further delineate the distribution of hazardous materials to support future building renovation and reuse or demolition and disposal.
- Evaluate sub-slab soils for possible contamination by PCBs.

The data meet the project quality criteria and can be used without restriction except as summarized below. The attachments provide details and supporting documentation.

PCBs:
Qualification of the data was not required.

Please contact Linda Terzis at lterzis@nobis-group.com should you have any questions or comments regarding this information.

Sincerely,

NOBIS GROUP®

Linda Terzis
Data Validator

Gary Glennon
Data Validator

Tables: Data Summary Tables – Tier 1 Stage 2A (S2AVM) Validated Data
Data Qualification Actions Table

Attachments: Data Review Checklist
Support Documentation
COC

cc: Denis McGrath (Nobis Group)
Tim Andrews (Nobis Group)

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Soil	
Lab Sample ID		23K0798-06	23K0798-19
Field Sample ID		P-310-EX-000.5	P-311-EX-000.5
Sample Type		N	N
Parent Sample ID			
Sample Date	**Units**	11/01/23	11/01/23
Aroclor 1016	mg/kg	0.081 U	0.082 U
Aroclor 1221	mg/kg	0.081 U	0.082 U
Aroclor 1232	mg/kg	0.081 U	0.082 U
Aroclor 1242	mg/kg	0.081 U	0.082 U
Aroclor 1248	mg/kg	0.081 U	0.082 U
Aroclor 1254	mg/kg	0.081 U	0.082 U
Aroclor 1260	mg/kg	0.081 U	0.082 U
Aroclor 1262	mg/kg	0.081 U	0.082 U
Aroclor 1268	mg/kg	0.081 U	0.082 U

DATA SUMMARY TABLE

Analysis		General Chemistry in Soil	
Lab Sample ID		23K0798-06	23K0798-19
Field Sample ID		P-310-EX-000.5	P-311-EX-000.5
Sample Type		N	N
Parent Sample ID			
Sample Date	**Units**	11/01/23	11/01/23
Solids, Percent	%	97.6	94.7

Data Review Qualification Actions
Case: St. Johnsbury Armory
SDG: 23K0798

Parameter	Analyte	Samples	Evaluation Criteria	Action Needed	Comments
PCBs					
	Qualification of the data was not required.				

Tier 1 Stage 2A Data Review Checklist

Project: St. Johnsbury Armory Site, St. Johnsbury, Vermont
Project #: S00001.017
Case#: NA
Date: 12/11/2023
Methods: PCBs (8082A)
Laboratory: Pace Analytical (formerly Con-test), East Longmeadow, MA
SDG: 23K0798
Reviewer: Linda Terzis

1. **Case Narrative and Data Package Completeness (COC and Analyte List Review)**
Twenty (20) soil samples were listed on the COC for SDG 23K0798. Eighteen (18) of the samples were placed on hold and two samples were scheduled for analysis. The samples were collected on 11/01/2023 and were received at the laboratory on 11/06/2023 at 2.8 and 2.9 °C.

Sample ID	Laboratory ID	Analyses
P-310-EX-000.5	23K0798-06	PCBs
P-311-EX-000.5	23K0798-19	PCBs

A complete laboratory report was received for SDG 23K0798.

2. **Holding Time and Sample Preservation Compliance**

Receipt temperature met the acceptable level of ≤ 6 °C.

PCBs: The samples were extracted within 14 days of collection and analyzed within 40 days of extraction, as specified on Table 2-6-1 of the Program Quality Assurance Project Plan (QAPP) for the St. Johnsbury Armory site (October 2022). No actions are required.

3. **Calibration Issues**

Not assessed for S2AVM.

4. **Lab and Field Blanks**

PCBs: Results for the laboratory method blank associated with the samples of this SDG were non-detect. No blank actions are required.

An equipment blank was not required during sample collection for the site.

5. **Interference Check Sample (metals only)**

Not applicable for this analysis.

6. **Surrogates (PCBs only)**

PCBs: Surrogate recoveries were within the Program QAPP limits (30-150%) for the samples of this SDG. No actions are required.

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

7. **Laboratory Control Samples**

PCBs: Percent recoveries of Aroclors 1016 and 1260 in the PCB LCS/LCSD pair met the Program QAPP limits of 40-140% recovery and relative percent difference (RPD) ≤ 30%. No action is required.

8. **Matrix Spikes**

PCBs: Only Aroclors 1016 and 1260 were spiked in the MS/MSD; therefore, based on professional judgment, if actions are required, they are applied as follows:

If 1016 %R or %RPD out: Qualify 1016, 1221, 1232, 1242
If 1260 %R or %RPD out: Qualify 1248, 1254, 1260, 1262,1268

MS/MSD analyses were not performed for this SDG. No actions are required.

9. **Laboratory Duplicates**

Not applicable for this analysis.

10. **Serial Dilution (metals only)**

Not applicable for this analysis.

11. **Field Duplicate Precision**

Criteria based on the EPA Region I Environmental Data Review Supplement (September 2020): RPD ≤ 50% (soils) for results ≥ 5x QL or absolute difference of ≤ 4x QL for results < 5X QL.

Field duplicate samples were not submitted with this SDG. No actions are taken.

12. **Internal Standards**

Not applicable for this analysis.

13. **Dual Column Precision (PCBs only)**

There were no detected PCB Aroclor results in the samples. Dual column precision criteria (≤ 25% RPD per the National Functional Guidelines [NFGs, 2020]) are met and no actions are required.

14. **Performance Evaluation (PE) Samples**

A PE sample was not submitted with the samples of this SDG. No actions are required.

15. **Quantitation Limits**

PCBs: Laboratory quantitation limits (QLs) for non-detect Aroclor results met the PAL of ≤ 1 mg/kg for total PCBs, per Table 4 of the QAPPA.

16. Other

The EPA Region I Environmental Data Review Supplement (2020) percent solids criterion of ≥ 30% for soil samples was met for the samples.

Overall bias is considered indeterminate when cumulative nonconformances do not show a consistent bias or in cases of the presence of conflicting high and low biases.

23K0798 RF

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time

7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction											[2] Preservation Code
1	P-309-Ex-0404.5	11/1/2023	11:58			U		1				H											
2	P-309-Ex-04.505	11/1/2023	11:59			U		1				H											
3	P-309-Ex-0506	11/1/2023	12:00			U		1				H											
4	P-309-Ex-0607	11/1/2023	12:01			U		1				H											
5	P-309-Ex-0708	11/1/2023	12:02			U		1				H											
6	P-310-Ex-000.5	11/1/2023	12:40			U		1				X											
7	P-310-Ex-0.501	11/1/2023	12:41			U		1				H											
8	P-310-Ex-0101.5	11/1/2023	12:42			U		1				H											
9	P-310-Ex-01.502	11/1/2023	12:43			U		1				H											
10	P-310-Ex-0202.5	11/1/2023	12:44			U		1				H											

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time: 11/6/23 1557
Received by: (signature)	Date/Time: 11/6/23 1157
Relinquished by: (signature)	Date/Time: 11/6/23 1630
Received by: (signature) 28, 29	Date/Time: 11/6/23 1830
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Pace Analytical®
Phone: 612-607-6400
Fax: 612-607-6344

23K0798 RF

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction	[2] Preservation Code
11	P-310-Ex-02.503	11/1/2023	12:45			U		1				H	
12	P-310-Ex-0303.5	11/1/2023	12:46			U		1				H	
13	P-310-Ex-03.504	11/1/2023	12:47			U		1				H	
14	P-310-Ex-0404.5	11/1/2023	12:48			U		1				H	
15	P-310-Ex-04.505	11/1/2023	12:49			U		1				H	
16	P-310-Ex-0506	11/1/2023	12:50			U		3				H	
17	P-310-Ex-0607	11/1/2023	12:51			U		1				H	
18	P-310-Ex-0708	11/1/2023	12:52			U		1				H	
19	P-311-Ex-000.5	11/1/2023	13:20			U		1				X	
20	P-311-Ex-0.501	11/1/2023	13:21			U		1				H	

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time: 11/6/23 15	
Received by: (signature)	Date/Time: 11/6/23 1157	
Relinquished by: (signature)	Date/Time: 11/6/23 1630	
Received by: (signature)	Date/Time: 11/8 1630	28
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

December 18, 2023
Nobis File No. S00001.017

Ms. Christine Beling
USEPA - Region I
Land, Chemicals, and Redevelopment Division
5 Post Office Square, Suite 100
Boston, MA 02109-3912

Re: USEPA Contract No. 68HE0122D0001
USEPA Task Order No. 68HE0122F0044
Targeted Brownfield Assessment (TBA) Site
St. Johnsbury Armory Site
St. Johnsbury, Vermont
Sample Delivery Group (SDG) No. 23K0799

Pace Analytical (formerly Con-test), East Longmeadow, MA

Tier 1 Stage 2A Organic Data Review

Polychlorinated Biphenyls (PCBs by 8082A):

2/Soil Samples: P-327-EX-000.5, P-328-EX-0606.5

Dear Ms. Beling:

Nobis Group (Nobis), under a USEPA contract as a subcontractor to KGSNE JV II, LLC (KGSNE), performed a Tier 1 Stage 2A manual data review (S2AVM) on the organic analytical data for the samples listed above. Note that 18 soil samples included on the COC were placed on hold and therefore, two samples were analyzed and included in this SDG for review. The samples were collected by Nobis at the St. Johnsbury Armory site located in St. Johnsbury, Vermont, on November 2, 2023. The samples were analyzed for PCB Aroclors by EPA Method 8082A by Pace Analytical (formerly Con-test).

The Tier 1 Stage 2A manual data review was performed in accordance with the Region I - EPA New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures (September 2020); USEPA's National Functional Guidelines for Organic Superfund Methods Data Review (November 2020); the Program Quality Assurance Project Plan (Program QAPP) dated October 2022, the Quality Assurance Project Plan Addendum (QAPPA) (July 2023) and the QAPPA Update (October 2023) for St. Johnsbury Armory, which append the October 2022 Program QAPP.

The data were evaluated based on the following parameters:

*	•	Overall Evaluation of Data and Potential Usability Issues
*	•	Data Completeness
*	•	Preservation and Technical Holding Times
*	•	Blanks
*	•	Surrogates (PCBs only)
NA	•	Internal Standards
NA	•	Matrix Spike Analysis
NA	•	Laboratory Duplicates
*	•	Laboratory Control Samples (LCS)/Standard Reference Material (SRM) Recovery (metals only)

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

NA	•	Field Duplicates
NA	•	ICP Serial Dilutions (metals only)
NA	•	Performance Evaluation (PE) Samples
*	•	Target Analyte Identification
*	•	Reported Quantitation Limits

* All criteria were met for this parameter or qualification was not required.
NA – Not applicable.

Overall Evaluation of Data and Potential Usability Issues

The site sampling objectives are:

- Perform a supplemental hazardous building material survey (HBMS) to address data gaps identified by Atlas Technical Consultants (ATC).
- Further delineate the distribution of hazardous materials to support future building renovation and reuse or demolition and disposal.
- Evaluate sub-slab soils for possible contamination by PCBs.

The data meet the project quality criteria and can be used without restriction except as summarized below. The attachments provide details and supporting documentation.

PCBs:
Qualification of the data was not required.

Please contact Linda Terzis at lterzis@nobis-group.com should you have any questions or comments regarding this information.

Sincerely,

NOBIS GROUP®

Linda Terzis
Data Validator

Gary Glennon
Data Validator

Tables: Data Summary Tables – Tier 1 Stage 2A (S2AVM) Validated Data
Data Qualification Actions Table

Attachments: Data Review Checklist
Support Documentation
COC

cc: Denis McGrath (Nobis Group)
Tim Andrews (Nobis Group)

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Soil	
Lab Sample ID		23K0799-07	23K0799-20
Field Sample ID		P-327-EX-000.5	P-328-EX-0606.5
Sample Type		N	N
Parent Sample ID			
Sample Date	**Units**	11/02/23	11/02/23
Aroclor 1016	mg/kg	0.081 U	0.1 U
Aroclor 1221	mg/kg	0.081 U	0.1 U
Aroclor 1232	mg/kg	0.081 U	0.1 U
Aroclor 1242	mg/kg	0.081 U	0.1 U
Aroclor 1248	mg/kg	0.081 U	0.1 U
Aroclor 1254	mg/kg	0.081 U	0.1 U
Aroclor 1260	mg/kg	0.081 U	0.1 U
Aroclor 1262	mg/kg	0.081 U	0.1 U
Aroclor 1268	mg/kg	0.081 U	0.1 U

DATA SUMMARY TABLE

Analysis		General Chemistry in Soil	
Lab Sample ID		23K0799-07	23K0799-20
Field Sample ID		P-327-EX-000.5	P-328-EX-0606.5
Sample Type		N	N
Parent Sample ID			
Sample Date	**Units**	11/02/23	11/02/23
Solids, Percent	%	98.5	79.2

Data Review Qualification Actions
Case: St. Johnsbury Armory
SDG: 23K0799

Parameter	Analyte	Samples	Evaluation Criteria	Action Needed	Comments
PCBs					
	Qualification of the data was not required.				

Tier 1 Stage 2A Data Review Checklist

Project: St. Johnsbury Armory Site, St. Johnsbury, Vermont
Project #: S00001.017
Case#: NA
Date: 12/11/2023
Methods: PCBs (8082A)
Laboratory: Pace Analytical (formerly Con-test), East Longmeadow, MA
SDG: 23K0799
Reviewer: Linda Terzis

1. **Case Narrative and Data Package Completeness (COC and Analyte List Review)**
Twenty (20) soil samples were listed on the COC for SDG 23K0799. Eighteen (18) of the samples were placed on hold and two samples were scheduled for analysis. The samples were collected on 11/02/2023 and were received at the laboratory on 11/06/2023 at 2.9 and 4.0 °C.

Sample ID	Laboratory ID	Analyses
P-327-EX-000.5	23K0799-07	PCBs
P-328-EX-0606.5	23K0799-20	PCBs

A complete laboratory report was received for SDG 23K0799.

2. **Holding Time and Sample Preservation Compliance**

Receipt temperature met the acceptable level of ≤ 6 °C.

PCBs: The samples were extracted within 14 days of collection and analyzed within 40 days of extraction, as specified on Table 2-6-1 of the Program Quality Assurance Project Plan (QAPP) for the St. Johnsbury Armory site (October 2022). No actions are required.

3. **Calibration Issues**

Not assessed for S2AVM.

4. **Lab and Field Blanks**

PCBs: Results for the laboratory method blank associated with the samples of this SDG were non-detect. No blank actions are required.

An equipment blank was not required during sample collection for the site.

5. **Interference Check Sample (metals only)**

Not applicable for this analysis.

6. **Surrogates (PCBs only)**

PCBs: Surrogate recoveries were within the Program QAPP limits (30-150%) for the samples of this SDG. No actions are required.

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

7. **Laboratory Control Samples**

PCBs: Percent recoveries of Aroclors 1016 and 1260 in the PCB LCS/LCSD pair met the Program QAPP limits of 40-140% recovery and relative percent difference (RPD) ≤ 30%. No action is required.

8. **Matrix Spikes**

PCBs: Only Aroclors 1016 and 1260 were spiked in the MS/MSD; therefore, based on professional judgment, if actions are required, they are applied as follows:

If 1016 %R or %RPD out: Qualify 1016, 1221, 1232, 1242
If 1260 %R or %RPD out: Qualify 1248, 1254, 1260, 1262,1268

MS/MSD analyses were not performed for this SDG. No actions are required.

9. **Laboratory Duplicates**

Not applicable for this analysis.

10. **Serial Dilution (metals only)**

Not applicable for this analysis.

11. **Field Duplicate Precision**

Criteria based on the EPA Region I Environmental Data Review Supplement (September 2020): RPD ≤ 50% (soils) for results ≥ 5x QL or absolute difference of ≤ 4x QL for results < 5X QL.

Field duplicate samples were not submitted with this SDG. No actions are taken.

12. **Internal Standards**

Not applicable for this analysis.

13. **Dual Column Precision (PCBs only)**

There were no detected PCB Aroclor results in the samples. Dual column precision criteria (≤ 25% RPD per the National Functional Guidelines [NFGs, 2020]) are met and no actions are required.

14. **Performance Evaluation (PE) Samples**

A PE sample was not submitted with the samples of this SDG. No actions are required.

15. **Quantitation Limits**

PCBs: Laboratory quantitation limits (QLs) for non-detect Aroclor results met the PAL of ≤ 1 mg/kg for total PCBs, per Table 4 of the QAPPA.

16. Other

The EPA Region I Environmental Data Review Supplement (2020) percent solids criterion of ≥ 30% for soil samples was met for the samples.

Overall bias is considered indeterminate when cumulative nonconformances do not show a consistent bias or in cases of the presence of conflicting high and low biases.

L3KPFM Kt

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time

7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction											[2] Preservation Code
1	P-326-Ex-03.504	11/2/2023	10:37			U		1				H											
2	P-326-Ex-0404.5	11/2/2023	10:38			U		1				H											
3	P-326-Ex-04.505	11/2/2023	10:39			U		1				H											
4	P-326-Ex-0506	11/2/2023	10:40			U		1				H											
5	P-326-Ex-0607	11/2/2023	10:41			U		1				H											
6	P-326-Ex-0708	11/2/2023	10:42			U		1				H											
7	P-327-Ex-000.5	11/2/2023	10:45			U		1				X											
8	P-327-Ex-0.501	11/2/2023	10:46			U		1				H											
9	P-327-Ex-0101.5	11/2/2023	10:47			U		1				H											
10	P-327-Ex-01.502	11/2/2023	10:48			U		1				H											

Relinquished by: (signature)	Date/Time: 11/6/23 1157
Received by: (signature)	Date/Time: 11/6/23 1157
Relinquished by: (signature)	Date/Time: 11/6/23 1630
Received by: (signature)	Date/Time: 11/6/23 1630
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other

☐ Chromatogram
☐ *AIHA-LAP,LLC*

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Pace Analytical®
Phone: 612-607-6400
Fax: 612-607-6344
https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction	[2] Preservation Code
11	P-327-Ex-0202.5	11/2/2023	10:49			U		1				H	
12	P-327-Ex-02.503	11/2/2023	10:50			U		1				H	
13	P-327-Ex-0303.5	11/2/2023	10:51			U		1				H	
14	P-327-Ex-03.504	11/2/2023	10:52			U		1				H	
15	P-327-Ex-0404.5	11/2/2023	10:53			U		1				H	
16	P-327-Ex-04.505	11/2/2023	10:54			U		1				H	
17	P-327-Ex-0506	11/2/2023	10:55			U		1				H	
18	P-327-Ex-0607	11/2/2023	10:56			U		1				H	
19	P-327-Ex-0708	11/2/2023	10:57			U		1				H	
20	P-328-Ex-0606.5	11/2/2023	10:58			U		1				X	

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? (Y) N
Glassware in freezer? (Y) N
Prepackaged Cooler? (Y) N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time: 11/6/23 1157	Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.
Received by: (signature)	Date/Time: 11/6/23 1157	
Relinquished by: (signature)	Date/Time: 11/6/23 1630	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

December 18, 2023
Nobis File No. S00001.017

Ms. Christine Beling
USEPA - Region I
Land, Chemicals, and Redevelopment Division
5 Post Office Square, Suite 100
Boston, MA 02109-3912

Re: USEPA Contract No. 68HE0122D0001
USEPA Task Order No. 68HE0122F0044
Targeted Brownfield Assessment (TBA) Site
St. Johnsbury Armory Site
St. Johnsbury, Vermont
Sample Delivery Group (SDG) No. 23K0800

Pace Analytical (formerly Con-test), East Longmeadow, MA

Tier 1 Stage 2A Organic Data Review

Polychlorinated Biphenyls (PCBs by 8082A):

1/Soil Sample: P-312-EX-000.5

Dear Ms. Beling:

Nobis Group (Nobis), under a USEPA contract as a subcontractor to KGSNE JV II, LLC (KGSNE), performed a Tier 1 Stage 2A manual data review (S2AVM) on the organic analytical data for the sample listed above. Note that 19 soil samples included on the COC were placed on hold and therefore, one sample was analyzed and included in this SDG for review. The samples were collected by Nobis at the St. Johnsbury Armory site located in St. Johnsbury, Vermont, on November 1, 2023. The sample was analyzed for PCB Aroclors by EPA Method 8082A by Pace Analytical (formerly Con-test).

The Tier 1 Stage 2A manual data review was performed in accordance with the Region I - EPA New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures (September 2020); USEPA's National Functional Guidelines for Organic Superfund Methods Data Review (November 2020); the Program Quality Assurance Project Plan (Program QAPP) dated October 2022, the Quality Assurance Project Plan Addendum (QAPPA) (July 2023) and the QAPPA Update (October 2023) for St. Johnsbury Armory, which append the October 2022 Program QAPP.

The data were evaluated based on the following parameters:

*	•	Overall Evaluation of Data and Potential Usability Issues
*	•	Data Completeness
*	•	Preservation and Technical Holding Times
*	•	Blanks
*	•	Surrogates (PCBs only)
NA	•	Internal Standards
NA	•	Matrix Spike Analysis
NA	•	Laboratory Duplicates
*	•	Laboratory Control Samples (LCS)/Standard Reference Material (SRM) Recovery (metals only)

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

NA	•	Field Duplicates
NA	•	ICP Serial Dilutions (metals only)
NA	•	Performance Evaluation (PE) Samples
*	•	Target Analyte Identification
*	•	Reported Quantitation Limits

* All criteria were met for this parameter or qualification was not required.
NA – Not applicable.

Overall Evaluation of Data and Potential Usability Issues

The site sampling objectives are:

- Perform a supplemental hazardous building material survey (HBMS) to address data gaps identified by Atlas Technical Consultants (ATC).
- Further delineate the distribution of hazardous materials to support future building renovation and reuse or demolition and disposal.
- Evaluate sub-slab soils for possible contamination by PCBs.

The data meet the project quality criteria and can be used without restriction except as summarized below. The attachments provide details and supporting documentation.

PCBs:
Qualification of the data was not required.

Please contact Linda Terzis at lterzis@nobis-group.com should you have any questions or comments regarding this information.

Sincerely,

NOBIS GROUP®

Linda Terzis
Data Validator

Gary Glennon
Data Validator

Tables: Data Summary Tables – Tier 1 Stage 2A (S2AVM) Validated Data
Data Qualification Actions Table

Attachments: Data Review Checklist
Support Documentation
COC

cc: Denis McGrath (Nobis Group)
Tim Andrews (Nobis Group)

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Soil
Lab Sample ID		23K0800-12
Field Sample ID		P-312-EX-000.5
Sample Type		N
Parent Sample ID		
Sample Date	**Units**	11/01/23
Aroclor 1016	mg/kg	0.084 U
Aroclor 1221	mg/kg	0.084 U
Aroclor 1232	mg/kg	0.084 U
Aroclor 1242	mg/kg	0.084 U
Aroclor 1248	mg/kg	0.084 U
Aroclor 1254	mg/kg	0.084 U
Aroclor 1260	mg/kg	0.084 U
Aroclor 1262	mg/kg	0.084 U
Aroclor 1268	mg/kg	0.084 U

DATA SUMMARY TABLE

Analysis		General Chemistry in Soil
Lab Sample ID		23K0800-12
Field Sample ID		P-312-EX-000.5
Sample Type		N
Parent Sample ID		
Sample Date	**Units**	11/01/23
Solids, Percent	%	91.5

Data Review Qualification Actions
Case: St. Johnsbury Armory
SDG: 23K0800

Parameter	Analyte	Samples	Evaluation Criteria	Action Needed	Comments
PCBs					
	Qualification of the data was not required.				

Tier 1 Stage 2A Data Review Checklist

Project: St. Johnsbury Armory Site, St. Johnsbury, Vermont
Project #: S00001.017
Case#: NA
Date: 12/11/2023
Methods: PCBs (8082A)
Laboratory: Pace Analytical (formerly Con-test), East Longmeadow, MA
SDG: 23K0800
Reviewer: Linda Terzis

1. **Case Narrative and Data Package Completeness (COC and Analyte List Review)**
Twenty (20) soil samples were listed on the COC for SDG 23K0800. Nineteen (19) of the samples were placed on hold and one sample was scheduled for analysis. The samples were collected on 11/01/2023 and were received at the laboratory on 11/06/2023 at 2.8 and 2.9 °C.

Sample ID	Laboratory ID	Analyses
P-312-EX-000.5	23K0800-12	PCBs

A complete laboratory report was received for SDG 23K0800.

2. **Holding Time and Sample Preservation Compliance**

Receipt temperature met the acceptable level of ≤ 6 °C.

PCBs: The sample was extracted within 14 days of collection and analyzed within 40 days of extraction, as specified on Table 2-6-1 of the Program Quality Assurance Project Plan (QAPP) for the St. Johnsbury Armory site (October 2022). No actions are required.

3. **Calibration Issues**

Not assessed for S2AVM.

4. **Lab and Field Blanks**

PCBs: Results for the laboratory method blank associated with the sample of this SDG were non-detect. No blank actions are required.

An equipment blank was not required during sample collection for the site.

5. **Interference Check Sample (metals only)**

Not applicable for this analysis.

6. **Surrogates (PCBs only)**

PCBs: Surrogate recoveries were within the Program QAPP limits (30-150%) for the sample of this SDG. No actions are required.

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

7. **Laboratory Control Samples**

PCBs: Percent recoveries of Aroclors 1016 and 1260 in the PCB LCS/LCSD pair met the Program QAPP limits of 40-140% recovery and relative percent difference (RPD) ≤ 30%. No action is required.

8. **Matrix Spikes**

MS/MSD analyses were not performed for this SDG. No actions are required.

9. **Laboratory Duplicates**

Not applicable for this analysis.

10. **Serial Dilution (metals only)**

Not applicable for this analysis.

11. **Field Duplicate Precision**

Criteria based on the EPA Region I Environmental Data Review Supplement (September 2020): RPD ≤ 50% (soils) for results ≥ 5x QL or absolute difference of ≤ 4x QL for results < 5X QL.

A field duplicate sample was not submitted with the samples of this SDG. No actions are required.

12. **Internal Standards**

Not applicable for this analysis.

13. **Dual Column Precision (PCBs only)**

There were no PCB Aroclor detections in the sample. Dual column precision criteria (≤ 25% RPD per the National Functional Guidelines [NFGs, 2020]) are met and no actions are required.

14. **Performance Evaluation (PE) Samples**

A PE sample was not submitted with the samples of this SDG. No actions are required.

15. **Quantitation Limits**

PCBs: Laboratory quantitation limits (QLs) for non-detect Aroclor results met the PAL of ≤ 1 mg/kg for total PCBs, per Table 4 of the QAPPA.

16. **Other**

The EPA Region I Environmental Data Review Supplement (2020) percent solids criterion of ≥ 30% for soil samples was met for the sample.

Overall bias is considered indeterminate when cumulative nonconformances do not show a consistent bias or in cases of the presence of conflicting high and low biases.

23K0800 RF

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction	I
1	P-311-Ex-0101.5	11/1/2023	13:22			U		1				H	
2	P-311-Ex-01.502	11/1/2023	13:23			U		1				H	
3	P-311-Ex-0202.5	11/1/2023	13:24			U		1				H	
4	P-311-Ex-02.503	11/1/2023	13:25			U		1				H	
5	P-311-Ex-0303.5	11/1/2023	13:26			U		1				H	
6	P-311-Ex-03.504	11/1/2023	13:27			U		1				H	
7	P-311-Ex-0404.5	11/1/2023	13:28			U		1				H	
8	P-311-Ex-04.505	11/1/2023	13:29			U		1				H	
9	P-311-Ex-0506	11/1/2023	13:30			U		3				H	
10	P-311-Ex-0607	11/1/2023	13:31			U		1				H	

[2] Preservation Code

Courier Use Only

Total Number Of:

VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? (Y) N

Glassware in freezer? Y / N

Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time: 11/6/23 1157
Received by: (signature)	Date/Time: 11/6/23 1157
Relinquished by: (signature)	Date/Time: 11/6/23 1630
Received by: (signature) 28, 29	Date/Time: 11/6/23 1830
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA:
CT:
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

23K0800 RF

Pace Analytical

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction	[2] Preservation Code
11	P-311-Ex-0708	11/1/2023	13:32			U		1				H	
12	P-312-Ex-000.5	11/1/2023	13:40			U		1				X	
13	P-312-Ex-0.501	11/1/2023	13:41			U		1				H	
14	P-312-Ex-0101.5	11/1/2023	13:42			U		1				H	
15	P-312-Ex-01.502	11/1/2023	13:43			U		1				H	
16	P-312-Ex-0202.5	11/1/2023	13:44			U		1				H	
17	P-312-Ex-02.503	11/1/2023	13:45			U		1				H	
18	P-312-Ex-0303.5	11/1/2023	13:46			U		1				H	
19	P-312-Ex-03.504	11/1/2023	13:47			U		1				H	
20	P-312-Ex-0404.5	11/1/2023	13:48			U		1				H	

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? (Y) N
Glassware in freezer? Y (N)
Prepackaged Cooler? Y (N)

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time:	11/6/23 1157
Received by: (signature)	Date/Time:	11/6/23 1157
Relinquished by: (signature)	Date/Time:	11/6/23 1630
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

NELAC and AIHA-LAP, LLC Accredited

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

December 18, 2023
Nobis File No. S00001.017

Ms. Christine Beling
USEPA - Region I
Land, Chemicals, and Redevelopment Division
5 Post Office Square, Suite 100
Boston, MA 02109-3912

Re: USEPA Contract No. 68HE0122D0001
USEPA Task Order No. 68HE0122F0044
Targeted Brownfield Assessment (TBA) Site
St. Johnsbury Armory Site
St. Johnsbury, Vermont
Sample Delivery Group (SDG) No. 23K0801

Pace Analytical (formerly Con-test), East Longmeadow, MA

Tier 1 Stage 2A Organic Data Review

Polychlorinated Biphenyls (PCBs by 8082A):

1/Soil Sample: P-324-EX-000.5

Dear Ms. Beling:

Nobis Group (Nobis), under a USEPA contract as a subcontractor to KGSNE JV II, LLC (KGSNE), performed a Tier 1 Stage 2A manual data review (S2AVM) on the organic analytical data for the sample listed above. Note that 19 soil samples included on the COC were placed on hold and therefore, one sample was analyzed and included in this SDG for review. The samples were collected by Nobis at the St. Johnsbury Armory site located in St. Johnsbury, Vermont, on November 2, 2023. The sample was analyzed for PCB Aroclors by EPA Method 8082A by Pace Analytical (formerly Con-test).

The Tier 1 Stage 2A manual data review was performed in accordance with the Region I - EPA New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures (September 2020); USEPA's National Functional Guidelines for Organic Superfund Methods Data Review (November 2020); the Program Quality Assurance Project Plan (Program QAPP) dated October 2022, the Quality Assurance Project Plan Addendum (QAPPA) (July 2023) and the QAPPA Update (October 2023) for St. Johnsbury Armory, which append the October 2022 Program QAPP.

The data were evaluated based on the following parameters:

*	•	Overall Evaluation of Data and Potential Usability Issues
*	•	Data Completeness
*	•	Preservation and Technical Holding Times
*	•	Blanks
*	•	Surrogates (PCBs only)
NA	•	Internal Standards
NA	•	Matrix Spike Analysis
NA	•	Laboratory Duplicates
*	•	Laboratory Control Samples (LCS)/Standard Reference Material (SRM) Recovery (metals only)

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

NA	•	Field Duplicates
NA	•	ICP Serial Dilutions (metals only)
NA	•	Performance Evaluation (PE) Samples
*	•	Target Analyte Identification
*	•	Reported Quantitation Limits

* All criteria were met for this parameter or qualification was not required.
NA – Not applicable.

Overall Evaluation of Data and Potential Usability Issues

The site sampling objectives are:

- Perform a supplemental hazardous building material survey (HBMS) to address data gaps identified by Atlas Technical Consultants (ATC).
- Further delineate the distribution of hazardous materials to support future building renovation and reuse or demolition and disposal.
- Evaluate sub-slab soils for possible contamination by PCBs.

The data meet the project quality criteria and can be used without restriction except as summarized below. The attachments provide details and supporting documentation.

PCBs:
Qualification of the data was not required.

Please contact Linda Terzis at lterzis@nobis-group.com should you have any questions or comments regarding this information.

Sincerely,

NOBIS GROUP®

Linda Terzis
Data Validator

Gary Glennon
Data Validator

Tables: Data Summary Tables – Tier 1 Stage 2A (S2AVM) Validated Data
Data Qualification Actions Table

Attachments: Data Review Checklist
Support Documentation
COC

cc: Denis McGrath (Nobis Group)
Tim Andrews (Nobis Group)

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Soil
Lab Sample ID		23K0801-08
Field Sample ID		P-324-EX-000.5
Sample Type		N
Parent Sample ID		
Sample Date	**Units**	11/02/23
Aroclor 1016	mg/kg	0.083 U
Aroclor 1221	mg/kg	0.083 U
Aroclor 1232	mg/kg	0.083 U
Aroclor 1242	mg/kg	0.083 U
Aroclor 1248	mg/kg	0.083 U
Aroclor 1254	mg/kg	0.083 U
Aroclor 1260	mg/kg	0.083 U
Aroclor 1262	mg/kg	0.083 U
Aroclor 1268	mg/kg	0.083 U

DATA SUMMARY TABLE

Analysis		General Chemistry in Soil
Lab Sample ID		23K0801-08
Field Sample ID		P-324-EX-000.5
Sample Type		N
Parent Sample ID		
Sample Date	**Units**	11/02/23
Solids, Percent	%	93.1

Data Review Qualification Actions
Case: St. Johnsbury Armory
SDG: 23K0801

Parameter	Analyte	Samples	Evaluation Criteria	Action Needed	Comments
PCBs					
	Qualification of the data was not required.				

Tier 1 Stage 2A Data Review Checklist

Project: St. Johnsbury Armory Site, St. Johnsbury, Vermont
Project #: S00001.017
Case#: NA
Date: 12/11/2023
Methods: PCBs (8082A)
Laboratory: Pace Analytical (formerly Con-test), East Longmeadow, MA
SDG: 23K0801
Reviewer: Linda Terzis

1. **Case Narrative and Data Package Completeness (COC and Analyte List Review)**
Twenty (20) soil samples were listed on the COC for SDG 23K0801. Nineteen (19) of the samples were placed on hold and one sample was scheduled for analysis. The samples were collected on 11/02/2023 and were received at the laboratory on 11/06/2023 at 2.5, 2.9, and 4.0 °C.

Sample ID	Laboratory ID	Analyses
P-324-EX-000.5	23K0801-08	PCBs

A complete laboratory report was received for SDG 23K0801.

2. **Holding Time and Sample Preservation Compliance**

Receipt temperature met the acceptable level of ≤ 6 °C.

PCBs: The sample was extracted within 14 days of collection and analyzed within 40 days of extraction, as specified on Table 2-6-1 of the Program Quality Assurance Project Plan (QAPP) for the St. Johnsbury Armory site (October 2022). No actions are required.

3. **Calibration Issues**

Not assessed for S2AVM.

4. **Lab and Field Blanks**

PCBs: Results for the laboratory method blank associated with the sample of this SDG were non-detect. No blank actions are required.

An equipment blank was not required during sample collection for the site.

5. **Interference Check Sample (metals only)**

Not applicable for this analysis.

6. **Surrogates (PCBs only)**

PCBs: Surrogate recoveries were within the Program QAPP limits (30-150%) for the sample of this SDG. No actions are required.

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

7. **Laboratory Control Samples**

PCBs: Percent recoveries of Aroclors 1016 and 1260 in the PCB LCS/LCSD pair met the Program QAPP limits of 40-140% recovery and relative percent difference (RPD) ≤ 30%. No action is required.

8. **Matrix Spikes**

MS/MSD analyses were not performed for this SDG. No actions are required.

9. **Laboratory Duplicates**

Not applicable for this analysis.

10. **Serial Dilution (metals only)**

Not applicable for this analysis.

11. **Field Duplicate Precision**

Criteria based on the EPA Region I Environmental Data Review Supplement (September 2020): RPD ≤ 50% (soils) for results ≥ 5x QL or absolute difference of ≤ 4x QL for results < 5X QL.

A field duplicate sample was not submitted with the samples of this SDG. No actions are required.

12. **Internal Standards**

Not applicable for this analysis.

13. **Dual Column Precision (PCBs only)**

There were no PCB Aroclor detections in the sample. Dual column precision criteria (≤ 25% RPD per the National Functional Guidelines [NFGs, 2020]) are met and no actions are required.

14. **Performance Evaluation (PE) Samples**

A PE sample was not submitted with the samples of this SDG. No actions are required.

15. **Quantitation Limits**

PCBs: Laboratory quantitation limits (QLs) for non-detect Aroclor results met the PAL of ≤ 1 mg/kg for total PCBs, per Table 4 of the QAPPA.

16. **Other**

The EPA Region I Environmental Data Review Supplement (2020) percent solids criterion of ≥ 30% for soil samples was met for the sample.

Overall bias is considered indeterminate when cumulative nonconformances do not show a consistent bias or in cases of the presence of conflicting high and low biases.

23K0801 KF

Pace Analytical®
Phone: 612-607-6400
Fax: 612-607-6344
https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction												[2] Preservation Code
1	P-323-Ex-0303.5	11/2/2023	9:36			U		1				H												I
2	P-323-Ex-03.504	11/2/2023	9:37			U		1				H												
3	P-323-Ex-0404.5	11/2/2023	9:38			U		1				H												
4	P-323-Ex-04.505	11/2/2023	9:39			U		1				H												
5	P-323-Ex-0506	11/2/2023	9:40			U		1				H												
6	P-323-Ex-0607	11/2/2023	9:41			U		3				H												
7	P-323-Ex-0708	11/2/2023	9:42			U		1				H												
8	P-324-Ex-000.5	11/2/2023	9:50			U		1				X												
9	P-324-Ex-0.501	11/2/2023	9:52			U		1				H												
10	P-324-Ex-0101.5	11/2/2023	9:53			U		1				H												

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time:	11/6/23 1157
Received by: (signature)	Date/Time:	11/6/23 1152
Relinquished by: (signature)	Date/Time:	11/6/23 1630
Received by: (signature)	Date/Time:	11/6/23 1825
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Pace Analytical®
Phone: 612-607-6400
Fax: 612-607-6344
https://www.pacelabs.com/

CHAIN OF CUSTODY RECORD

Doc # 381 Rev 4_01/08/2020

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
11	P-324-Ex-01.502	11/2/2023	9:53			U		1				H
12	P-324-Ex-0202.5	11/2/2023	9:54			U		1				H
13	P-324-Ex-02.503	11/2/2023	9:55			U		1				H
14	P-324-Ex-0303.5	11/2/2023	9:56			U		1				H
15	P-324-Ex-03.504	11/2/2023	9:57			U		1				H
16	P-324-Ex-0404.5	11/2/2023	9:58			U		1				H
17	P-324-Ex-04.505	11/2/2023	9:59			U		1				H
18	P-324-Ex-0506	11/2/2023	10:00			U		1				H
19	P-324-Ex-0607	11/2/2023	10:01			U		1				H
20	P-324-Ex-0708	11/2/2023	10:02			U		1				H

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Relinquished by: (signature)	Date/Time: 11/6/23 1157
Received by: (signature)	Date/Time: 11/6/23 1157
Relinquished by: (signature)	Date/Time: 11/6/23 1630
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
☐ MCP Certification Form Required
☐ CT RCP Required
☐ RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

[2] Preservation Code
Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y N
Glassware in freezer? Y N
Prepackaged Cooler? Y N
*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

December 18, 2023
Nobis File No. S00001.017

Ms. Christine Beling
USEPA - Region I
Land, Chemicals, and Redevelopment Division
5 Post Office Square, Suite 100
Boston, MA 02109-3912

Re: USEPA Contract No. 68HE0122D0001
USEPA Task Order No. 68HE0122F0044
Targeted Brownfield Assessment (TBA) Site
St. Johnsbury Armory Site
St. Johnsbury, Vermont
Sample Delivery Group (SDG) No. 23K0802

Pace Analytical (formerly Con-test), East Longmeadow, MA

Tier 1 Stage 2A Organic Data Review

Polychlorinated Biphenyls (PCBs by 8082A):

2/Soil Samples: P-313-EX-000.5, P-314-EX-000.5
1/Field Duplicate Pair: P314-EX-000.5 / P-FD024 (in SDG 23K0796)

Dear Ms. Beling:

Nobis Group (Nobis), under a USEPA contract as a subcontractor to KGSNE JV II, LLC (KGSNE), performed a Tier 1 Stage 2A manual data review (S2AVM) on the organic analytical data for the samples listed above. Note that 18 soil samples included on the COC were placed on hold and therefore, two samples were analyzed and included in this SDG for review. The samples were collected by Nobis at the St. Johnsbury Armory site located in St. Johnsbury, Vermont, on November 1, 2023. The samples were analyzed for PCB Aroclors by EPA Method 8082A by Pace Analytical (formerly Con-test).

The Tier 1 Stage 2A manual data review was performed in accordance with the Region I - EPA New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures (September 2020); USEPA's National Functional Guidelines for Organic Superfund Methods Data Review (November 2020); the Program Quality Assurance Project Plan (Program QAPP) dated October 2022, the Quality Assurance Project Plan Addendum (QAPPA) (July 2023) and the QAPPA Update (October 2023) for St. Johnsbury Armory, which append the October 2022 Program QAPP.

The data were evaluated based on the following parameters:

*	• Overall Evaluation of Data and Potential Usability Issues
*	• Data Completeness
*	• Preservation and Technical Holding Times
*	• Blanks
*	• Surrogates (PCBs only)
NA	• Internal Standards
*	• Matrix Spike Analysis
NA	• Laboratory Duplicates

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

*	•	Laboratory Control Samples (LCS)/Standard Reference Material (SRM) Recovery (metals only)
*	•	Field Duplicates
NA	•	ICP Serial Dilutions (metals only)
NA	•	Performance Evaluation (PE) Samples
	•	Target Analyte Identification
*	•	Reported Quantitation Limits

* All criteria were met for this parameter or qualification was not required.
NA – Not applicable.

Overall Evaluation of Data and Potential Usability Issues

The site sampling objectives are:

- Perform a supplemental hazardous building material survey (HBMS) to address data gaps identified by Atlas Technical Consultants (ATC).
- Further delineate the distribution of hazardous materials to support future building renovation and reuse or demolition and disposal.
- Evaluate sub-slab soils for possible contamination by PCBs.

The data meet the project quality criteria and can be used without restriction except as summarized below. The attachments provide details and supporting documentation.

PCBs:
Results were qualified for dual column imprecision.

Please contact Linda Terzis at lterzis@nobis-group.com should you have any questions or comments regarding this information.

Sincerely,

NOBIS GROUP®

Linda Terzis
Data Validator

Gary Glennon
Data Validator

Tables: Data Summary Tables – Tier 1 Stage 2A (S2AVM) Validated Data
Data Qualification Actions Table

Attachments: Data Review Checklist
Support Documentation
COC

cc: Denis McGrath (Nobis Group)
Tim Andrews (Nobis Group)

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Soil	
Lab Sample ID		23K0802-05	23K0802-18
Field Sample ID		P-313-EX-000.5	P-314-EX-000.5
Sample Type		N	N
Parent Sample ID			
Sample Date	**Units**	11/01/23	11/01/23
Aroclor 1016	mg/kg	0.09 U	0.093 U
Aroclor 1221	mg/kg	0.09 U	0.093 U
Aroclor 1232	mg/kg	0.09 U	0.093 U
Aroclor 1242	mg/kg	0.09 U	0.093 U
Aroclor 1248	mg/kg	0.09 U	0.093 U
Aroclor 1254	mg/kg	0.13	0.29 J
Aroclor 1260	mg/kg	0.09 U	0.093 U
Aroclor 1262	mg/kg	0.09 U	0.093 U
Aroclor 1268	mg/kg	0.09 U	0.093 U

DATA SUMMARY TABLE

Analysis		General Chemistry in Soil	
Lab Sample ID		23K0802-05	23K0802-18
Field Sample ID		P-313-EX-000.5	P-314-EX-000.5
Sample Type		N	N
Parent Sample ID			
Sample Date	**Units**	11/01/23	11/01/23
Solids, Percent	%	85.8	84.9

Data Review Qualification Actions
Case: St. Johnsbury Armory
SDG: 23K0802

Parameter	Analyte	Samples	Evaluation Criteria	Action Needed	Comments
PCBs					
	Aroclor 1254	P-314-EX-000.5	Dual column precision	J	

Tier 1 Stage 2A Data Review Checklist

Project: St. Johnsbury Armory Site, St. Johnsbury, Vermont
Project #: S00001.017
Case#: NA
Date: 12/13/2023
Methods: PCBs (8082A)
Laboratory: Pace Analytical (formerly Con-test), East Longmeadow, MA
SDG: 23K0802
Reviewer: Linda Terzis

1. **Case Narrative and Data Package Completeness (COC and Analyte List Review)**
Twenty (20) soil samples were listed on the COC for SDG 23K0802. Eighteen (18) of the samples were placed on hold and two samples were scheduled for analysis. The samples were collected on 11/01/2023 and were received at the laboratory on 11/06/2023 at 2.8 and 2.9 °C.

Sample ID	Laboratory ID	Analyses
P-313-EX-000.5	23K0802-05	PCBs
P-314-EX-000.5	23K0802-18	PCBs

A complete laboratory report was received for SDG 23K0802.

2. **Holding Time and Sample Preservation Compliance**

Receipt temperature met the acceptable level of ≤ 6 °C.

PCBs: The samples were extracted within 14 days of collection and analyzed within 40 days of extraction, as specified on Table 2-6-1 of the Program Quality Assurance Project Plan (QAPP) for the St. Johnsbury Armory site (October 2022). No actions are required.

3. **Calibration Issues**

Not assessed for S2AVM.

4. **Lab and Field Blanks**

PCBs: Results for the laboratory method blank associated with the samples of this SDG were non-detect. No blank actions are required.

An equipment blank was not required during sample collection for the site.

5. **Interference Check Sample (metals only)**

Not applicable for this analysis.

6. **Surrogates (PCBs only)**

PCBs: Surrogate recoveries were within the Program QAPP limits (30-150%) for the samples of this SDG. No actions are required.

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

7. **Laboratory Control Samples**

PCBs: Percent recoveries of Aroclors 1016 and 1260 in the PCB LCS/LCSD pair met the Program QAPP limits of 40-140% recovery and relative percent difference (RPD) ≤ 30%. No action is required.

8. **Matrix Spikes**

PCBs: Only Aroclors 1016 and 1260 were spiked in the MS/MSD; therefore, based on professional judgment, if actions are required, they are applied as follows:

If 1016 %R or %RPD out: Qualify 1016, 1221, 1232, 1242
If 1260 %R or %RPD out: Qualify 1248, 1254, 1260, 1262,1268

MS/MSD analyses were performed on sample P-313-EX-000.5 (23K0802-05).

Percent recoveries of Aroclors 1016 and 1260 were within the Program QAPP limits of 40-140% in the MS and MSD analyses on both analytical columns. RPDs were ≤ 30%, as specified in the Program QAPP. No actions are required.

9. **Laboratory Duplicates**

Not applicable for this analysis.

10. **Serial Dilution (metals only)**

Not applicable for this analysis.

11. **Field Duplicate Precision**

Criteria based on the EPA Region I Environmental Data Review Supplement (September 2020): RPD ≤ 50% (soils) for results ≥ 5x QL or absolute difference of ≤ 4x QL for results < 5X QL.

The following field duplicate pair is associated with the samples of this SDG.

- P-314-EX-000.5 / P-FD024 (23K0802-18 / 23K0796-19)

PCBs: Field duplicate precision criteria were met for the field duplicate pair. No actions are required.

12. **Internal Standards**

Not applicable for this analysis.

13. **Dual Column Precision (PCBs only)**

Dual column precision criteria (≤ 25% RPD per the National Functional Guidelines, [NFGs, 2020]) were exceeded for the Aroclor 1254 detection in sample P-314-EX-000.5 (23K0802-18) (32%). Based on the NFGs (2020), the detected result for Aroclor 1254 in sample P-314-EX-000.5 is qualified as estimated (J) due to dual column imprecision.

14. Performance Evaluation (PE) Samples

A PE sample was not submitted with the samples of this SDG. No actions are required.

15. Quantitation Limits

PCBs: Laboratory quantitation limits (QLs) for non-detect Aroclor results met the PAL of ≤ 1 mg/kg for total PCBs, per Table 4 of the QAPPA.

16. Other

The EPA Region I Environmental Data Review Supplement (2020) percent solids criterion of ≥ 30% for soil samples was met for the samples.

Overall bias is considered indeterminate when cumulative nonconformances do not show a consistent bias or in cases of the presence of conflicting high and low biases.

Field Duplicate Evaluation

SDG: 23K0796 PCBs

Analyte	Original Result mg/kg	Qual	Duplicate Result mg/kg	Qual	RPD ≤ 50%	Abs Diff	Comment
Sample ID	**P-314-EX-000.5**		**P-FD024**				
	23K0802-18		**23K0796-19**				
Aroclor 1016	0.093	U	0.091	U	-2.17		Ok - both ND
Aroclor 1221	0.093	U	0.091	U	-2.17		Ok - both ND
Aroclor 1232	0.093	U	0.091	U	-2.17		Ok - both ND
Aroclor 1242	0.093	U	0.091	U	-2.17		Ok - both ND
Aroclor 1248	0.093	U	0.091	U	-2.17		Ok - both ND
Aroclor 1254	0.29		0.66		77.89	0.370	Ok - abs diff < 4x QL
Aroclor 1260	0.093	U	0.091	U	-2.17		Ok - both ND
Aroclor 1262	0.093	U	0.091	U	-2.17		Ok - both ND
Aroclor 1268	0.093	U	0.091	U	-2.17		Ok - both ND

Note that P-FD024 is located in SDG 23K0796.

23K0802 RF

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction	
1	P-312-Ex-04.505	11/1/2023	13:49			U		1				H	
2	P-312-Ex-0506	11/1/2023	13:50			U		1				H	
3	P-312-Ex-0607	11/1/2023	13:51			U		1				H	
4	P-312-Ex-0708	11/1/2023	13:52			U		1				H	
5	P-313-Ex-000.5	11/1/2023	13:55			U		3				X	
6	P-313-Ex-0.501	11/1/2023	13:56			U		1				H	
7	P-313-Ex-0101.5	11/1/2023	13:57			U		1				H	
8	P-313-Ex-01.502	11/1/2023	13:58			U		1				H	
9	P-313-Ex-0202.5	11/1/2023	13:59			U		1				H	
10	P-313-Ex-02.503	11/1/2023	14:00			U		1				H	

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time:	11/6/23 15
Received by: (signature)	Date/Time:	11/6/23 1152
Relinquished by: (signature)	Date/Time:	11/6/23 1630
Received by: (signature)	Date/Time:	11/7/23 630
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
CT
Others

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

23K0802 RF

Pace Analytical

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction	
11	P-313-Ex-0303.5	11/1/2023	14:01			U		1				H	
12	P-313-Ex-03.504	11/1/2023	14:02			U		1				H	
13	P-313-Ex-0404.5	11/1/2023	14:03			U		1				H	
14	P-313-Ex-04.505	11/1/2023	14:04			U		1				H	
15	P-313-Ex-0506	11/1/2023	14:05			U		1				H	
16	P-313-Ex-0607	11/1/2023	14:06			U		1				H	
17	P-313-Ex-0708	11/1/2023	14:07			U		1				H	
18	P-314-Ex-000.5	11/1/2023	14:10			U		1				X	
19	P-314-Ex-0.501	11/1/2023	14:11			U		1				H	
20	P-314-Ex-0101.5	11/1/2023	14:12			U		1				H	

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Relinquished by: (signature)		Date/Time: 11/6/23 1157
Received by: (signature)		Date/Time: 11/6/23 1157
Relinquished by: (signature)		Date/Time: 11/6/23 1600
Received by: (signature)		Date/Time:
Relinquished by: (signature)		Date/Time:
Received by: (signature)		Date/Time:
Relinquished by: (signature)		Date/Time:
Received by: (signature)		Date/Time:

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

NELAC and AIHA-LAP, LLC Accredited
Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

[2] Preservation Code
Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? (Y) N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N
*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

December 18, 2023
Nobis File No. S00001.017

Ms. Christine Beling
USEPA - Region I
Land, Chemicals, and Redevelopment Division
5 Post Office Square, Suite 100
Boston, MA 02109-3912

Re: USEPA Contract No. 68HE0122D0001
USEPA Task Order No. 68HE0122F0044
Targeted Brownfield Assessment (TBA) Site
St. Johnsbury Armory Site
St. Johnsbury, Vermont
Sample Delivery Group (SDG) No. 23K0803

Pace Analytical (formerly Con-test), East Longmeadow, MA

Tier 1 Stage 2A Organic Data Review

Polychlorinated Biphenyls (PCBs by 8082A):

2/Soil Samples: P-322-EX-000.5, P-323-EX-000.5

Dear Ms. Beling:

Nobis Group (Nobis), under a USEPA contract as a subcontractor to KGSNE JV II, LLC (KGSNE), performed a Tier 1 Stage 2A manual data review (S2AVM) on the organic analytical data for the samples listed above. Note that 18 soil samples included on the COC were placed on hold and therefore, two samples were analyzed and included in this SDG for review. The samples were collected by Nobis at the St. Johnsbury Armory site located in St. Johnsbury, Vermont, on November 2, 2023. The samples were analyzed for PCB Aroclors by EPA Method 8082A by Pace Analytical (formerly Con-test).

The Tier 1 Stage 2A manual data review was performed in accordance with the Region I - EPA New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures (September 2020); USEPA's National Functional Guidelines for Organic Superfund Methods Data Review (November 2020); the Program Quality Assurance Project Plan (Program QAPP) dated October 2022, the Quality Assurance Project Plan Addendum (QAPPA) (July 2023) and the QAPPA Update (October 2023) for St. Johnsbury Armory, which append the October 2022 Program QAPP.

The data were evaluated based on the following parameters:

*	•	Overall Evaluation of Data and Potential Usability Issues
*	•	Data Completeness
*	•	Preservation and Technical Holding Times
*	•	Blanks
*	•	Surrogates (PCBs only)
NA	•	Internal Standards
NA	•	Matrix Spike Analysis
NA	•	Laboratory Duplicates
*	•	Laboratory Control Samples (LCS)/Standard Reference Material (SRM) Recovery (metals only)

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

NA	•	Field Duplicates
NA	•	ICP Serial Dilutions (metals only)
NA	•	Performance Evaluation (PE) Samples
*	•	Target Analyte Identification
*	•	Reported Quantitation Limits

* All criteria were met for this parameter or qualification was not required.
NA – Not applicable.

Overall Evaluation of Data and Potential Usability Issues

The site sampling objectives are:

- Perform a supplemental hazardous building material survey (HBMS) to address data gaps identified by Atlas Technical Consultants (ATC).
- Further delineate the distribution of hazardous materials to support future building renovation and reuse or demolition and disposal.
- Evaluate sub-slab soils for possible contamination by PCBs.

The data meet the project quality criteria and can be used without restriction except as summarized below. The attachments provide details and supporting documentation.

PCBs:
Qualification of the data was not required.

Please contact Linda Terzis at lterzis@nobis-group.com should you have any questions or comments regarding this information.

Sincerely,

NOBIS GROUP®

Linda Terzis
Data Validator

Gary Glennon
Data Validator

Tables: Data Summary Tables – Tier 1 Stage 2A (S2AVM) Validated Data
Data Qualification Actions Table

Attachments: Data Review Checklist
Support Documentation
COC

cc: Denis McGrath (Nobis Group)
Tim Andrews (Nobis Group)

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Soil	
Lab Sample ID		23K0803-02	23K0803-15
Field Sample ID		P-322-EX-000.5	P-323-EX-000.5
Sample Type		N	N
Parent Sample ID			
Sample Date	**Units**	11/02/23	11/02/23
Aroclor 1016	mg/kg	0.085 U	0.085 U
Aroclor 1221	mg/kg	0.085 U	0.085 U
Aroclor 1232	mg/kg	0.085 U	0.085 U
Aroclor 1242	mg/kg	0.085 U	0.085 U
Aroclor 1248	mg/kg	0.085 U	0.085 U
Aroclor 1254	mg/kg	0.085 U	0.52
Aroclor 1260	mg/kg	0.085 U	0.085 U
Aroclor 1262	mg/kg	0.085 U	0.085 U
Aroclor 1268	mg/kg	0.085 U	0.085 U

DATA SUMMARY TABLE

Analysis		General Chemistry in Soil	
Lab Sample ID		23K0803-02	23K0803-15
Field Sample ID		P-322-EX-000.5	P-323-EX-000.5
Sample Type		N	N
Parent Sample ID			
Sample Date	**Units**	11/02/23	11/02/23
Solids, Percent	%	92.2	94

Data Review Qualification Actions
Case: St. Johnsbury Armory
SDG: 23K0803

Parameter	Analyte	Samples	Evaluation Criteria	Action Needed	Comments
PCBs					
	Qualification of the data was not required.				

Tier 1 Stage 2A Data Review Checklist

Project: St. Johnsbury Armory Site, St. Johnsbury, Vermont
Project #: S00001.017
Case#: NA
Date: 12/11/2023
Methods: PCBs (8082A)
Laboratory: Pace Analytical (formerly Con-test), East Longmeadow, MA
SDG: 23K0803
Reviewer: Linda Terzis

1. **Case Narrative and Data Package Completeness (COC and Analyte List Review)**
Twenty (20) soil samples were listed on the COC for SDG 23K0803. Eighteen (18) of the samples were placed on hold and two samples were scheduled for analysis. The samples were collected on 11/02/2023 and were received at the laboratory on 11/06/2023 at 2.9 and 4.0 °C.

Sample ID	Laboratory ID	Analyses
P-322-EX-000.5	23K0803-02	PCBs
P-323-EX-000.5	23K0803-15	PCBs

A complete laboratory report was received for SDG 23K0803.

2. **Holding Time and Sample Preservation Compliance**

Receipt temperature met the acceptable level of ≤ 6 °C.

PCBs: The samples were extracted within 14 days of collection and analyzed within 40 days of extraction, as specified on Table 2-6-1 of the Program Quality Assurance Project Plan (QAPP) for the St. Johnsbury Armory site (October 2022). No actions are required.

3. **Calibration Issues**

Not assessed for S2AVM.

4. **Lab and Field Blanks**

PCBs: Results for the laboratory method blank associated with the samples of this SDG were non-detect. No blank actions are required.

An equipment blank was not required during sample collection for the site.

5. **Interference Check Sample (metals only)**

Not applicable for this analysis.

6. **Surrogates (PCBs only)**

PCBs: Surrogate recoveries were within the Program QAPP limits (30-150%) for the samples of this SDG. No actions are required.

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

7. **Laboratory Control Samples**

   PCBs: Percent recoveries of Aroclors 1016 and 1260 in the PCB LCS/LCSD pair met the Program QAPP limits of 40-140% recovery and relative percent difference (RPD) ≤ 30%. No action is required.

8. **Matrix Spikes**

   PCBs: Only Aroclors 1016 and 1260 were spiked in the MS/MSD; therefore, based on professional judgment, if actions are required, they are applied as follows:

   If 1016 %R or %RPD out: Qualify 1016, 1221, 1232, 1242
   If 1260 %R or %RPD out: Qualify 1248, 1254, 1260, 1262,1268

   MS/MSD analyses were performed for this SDG. No action is required.

9. **Laboratory Duplicates**

   Not applicable for this analysis.

10. **Serial Dilution (metals only)**

    Not applicable for this analysis.

11. **Field Duplicate Precision**

    Criteria based on the EPA Region I Environmental Data Review Supplement (September 2020): RPD ≤ 50% (soils) for results ≥ 5x QL or absolute difference of ≤ 4x QL for results < 5X QL.

    Field duplicate samples were not submitted with the samples of this SDG. No action is required.

12. **Internal Standards**

    Not applicable for this analysis.

13. **Dual Column Precision (PCBs only)**

    Dual column precision criteria (≤ 25% RPD per the National Functional Guidelines [NFGs, 2020]) are met and no actions are required.

14. **Performance Evaluation (PE) Samples**

    A PE sample was not submitted with the samples of this SDG. No actions are required.

15. **Quantitation Limits**

    PCBs: Laboratory quantitation limits (QLs) for non-detect Aroclor results met the PAL of ≤ 1 mg/kg for total PCBs, per Table 4 of the QAPPA.

16. Other

The EPA Region I Environmental Data Review Supplement (2020) percent solids criterion of ≥ 30% for soil samples was met for the samples.

Overall bias is considered indeterminate when cumulative nonconformances do not show a consistent bias or in cases of the presence of conflicting high and low biases.

L3K0808 KT

Pace Analytical®
Phone: 612-607-6400
Fax: 612-607-6344
https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time			
7-Day	☐	10-Day	☑
PFAS 10-Day (std)	☐	Due Date:	

Rush-Approval Required			
1-Day	☐	3-Day	☐
2-Day	☐	4-Day	☐

Data Delivery			
Format:	PDF ☑	EXCEL ☑	
Other:	Equis EDD		
CLP Like Data Pkg Required:	☐		
Email To:	tandrews@nobis-group.com		
Fax To #:			

Dissolved Metals Samples	
○	Field Filtered
○	Lab to Filter

Orthophosphate Samples	
○	Field Filtered
○	Lab to Filter

PCB ONLY

SOXHLET ☑

NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction												[2] Preservation Code
1	P-321-Ex-0708	11/2/2023	9:02			U		1				H												
2	P-322-Ex-000.5	11/2/2023	9:10			U		1				X												
3	P-322-Ex-0.501	11/2/2023	9:11			U		1				H												
4	P-322-Ex-0101.5	11/2/2023	9:12			U		1				H												
5	P-322-Ex-01.502	11/2/2023	9:13			U		1				H												
6	P-322-Ex-0202.5	11/2/2023	9:14			U		1				H												
7	P-322-Ex-02.503	11/2/2023	9:15			U		1				H												
8	P-322-Ex-0303.5	11/2/2023	9:16			U		1				H												
9	P-322-Ex-03.504	11/2/2023	9:17			U		1				H												
10	P-322-Ex-0404.5	11/2/2023	9:18			U		1				H												

Courier Use Only

Total Number Of:

VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N

Glassware in freezer? Y / N

Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time: 11/6/23 1157	Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.
Received by: (signature)	Date/Time: 11/6/23 1157	
Relinquished by: (signature)	Date/Time: 11/6/23 1630	
Received by: (signature)	Date/Time: 11/8 1630	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Detection Limit Requirements	
MA	
CT	
Other:	

Special Requirements	
☐	MA MCP Required
	MCP Certification Form Required
☐	CT RCP Required
	RCP Certification Form Required
☐	MA State DW Required
PWSID #	

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government	☐	Municipality	☐	MWRA	☐	WRTA	☐
Federal	☐	21 J	☐	School	☐		
City	☐	Brownfield	☐	MBTA	☐		

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Pace Analytical®
Phone: 612-607-6400
Fax: 612-607-6344
https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1] Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction											[2] Preservation Code
11	P-322-Ex-04.505	11/2/2023	9:19			U		3				H											
12	P-322-Ex-0506	11/2/2023	9:20			U		1				H											
13	P-322-Ex-0607	11/2/2023	9:21			U		1				H											
14	P-322-Ex-0708	11/2/2023	9:22			U		1				H											
15	P-323-Ex-000.5	11/2/2023	9:30			U		1				X											
16	P-323-Ex-0.501	11/2/2023	9:31			U		1				H											
17	P-323-Ex-0101.5	11/2/2023	9:32			U		1				H											
18	P-323-Ex-01.502	11/2/2023	9:33			U		1				H											
19	P-323-Ex-0202.5	11/2/2023	9:34			U		1				H											
20	P-323-Ex-02.503	11/2/2023	9:35			U		1				H											

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? (Y) N
Glassware in freezer? Y (N)
Prepackaged Cooler? Y (N)
*Pace Analytical is not responsible for missing samples from prepacked coolers

	Date/Time:
Relinquished by: (signature)	11/6/23 1157
Received by: (signature)	11/6/23 1157
Relinquished by: (signature)	11/6/23 1630
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
GT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

December 18, 2023
Nobis File No. S00001.017

Ms. Christine Beling
USEPA - Region I
Land, Chemicals, and Redevelopment Division
5 Post Office Square, Suite 100
Boston, MA 02109-3912

Re: USEPA Contract No. 68HE0122D0001
USEPA Task Order No. 68HE0122F0044
Targeted Brownfield Assessment (TBA) Site
St. Johnsbury Armory Site
St. Johnsbury, Vermont
Sample Delivery Group (SDG) No. 23K0804

Pace Analytical (formerly Con-test), East Longmeadow, MA

Tier 1 Stage 2A Organic Data Review

Polychlorinated Biphenyls (PCBs by 8082A):

1/Soil Sample: P-315-EX-000.5

Dear Ms. Beling:

Nobis Group (Nobis), under a USEPA contract as a subcontractor to KGSNE JV II, LLC (KGSNE), performed a Tier 1 Stage 2A manual data review (S2AVM) on the organic analytical data for the sample listed above. Note that 19 soil samples included on the COC were placed on hold and therefore, one sample was analyzed and included in this SDG for review. The samples were collected by Nobis at the St. Johnsbury Armory site located in St. Johnsbury, Vermont, on November 1, 2023. The sample was analyzed for PCB Aroclors by EPA Method 8082A by Pace Analytical (formerly Con-test).

The Tier 1 Stage 2A manual data review was performed in accordance with the Region I - EPA New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures (September 2020); USEPA's National Functional Guidelines for Organic Superfund Methods Data Review (November 2020); the Program Quality Assurance Project Plan (Program QAPP) dated October 2022, the Quality Assurance Project Plan Addendum (QAPPA) (July 2023) and the QAPPA Update (October 2023) for St. Johnsbury Armory, which append the October 2022 Program QAPP.

The data were evaluated based on the following parameters:

*	•	Overall Evaluation of Data and Potential Usability Issues
*	•	Data Completeness
*	•	Preservation and Technical Holding Times
*	•	Blanks
*	•	Surrogates (PCBs only)
NA	•	Internal Standards
NA	•	Matrix Spike Analysis
NA	•	Laboratory Duplicates
*	•	Laboratory Control Samples (LCS)/Standard Reference Material (SRM) Recovery (metals only)

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

NA	•	Field Duplicates
NA	•	ICP Serial Dilutions (metals only)
NA	•	Performance Evaluation (PE) Samples
	•	Target Analyte Identification
*	•	Reported Quantitation Limits

* All criteria were met for this parameter or qualification was not required.
NA – Not applicable.

Overall Evaluation of Data and Potential Usability Issues

The site sampling objectives are:

- Perform a supplemental hazardous building material survey (HBMS) to address data gaps identified by Atlas Technical Consultants (ATC).
- Further delineate the distribution of hazardous materials to support future building renovation and reuse or demolition and disposal.
- Evaluate sub-slab soils for possible contamination by PCBs.

The data meet the project quality criteria and can be used without restriction except as summarized below. The attachments provide details and supporting documentation.

PCBs:
One result was qualified for dual column imprecision.

Please contact Linda Terzis at lterzis@nobis-group.com should you have any questions or comments regarding this information.

Sincerely,

NOBIS GROUP®

Linda Terzis
Data Validator

Gary Glennon
Data Validator

Tables: Data Summary Tables – Tier 1 Stage 2A (S2AVM) Validated Data
Data Qualification Actions Table

Attachments: Data Review Checklist
Support Documentation
COC

cc: Denis McGrath (Nobis Group)
Tim Andrews (Nobis Group)

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Soil
Lab Sample ID		23K0804-11
Field Sample ID		P-315-EX-000.5
Sample Type		N
Parent Sample ID		
Sample Date	**Units**	11/01/23
Aroclor 1016	mg/kg	0.45 U
Aroclor 1221	mg/kg	0.45 U
Aroclor 1232	mg/kg	0.45 U
Aroclor 1242	mg/kg	0.45 U
Aroclor 1248	mg/kg	0.45 U
Aroclor 1254	mg/kg	1.3 J
Aroclor 1260	mg/kg	3.1
Aroclor 1262	mg/kg	0.45 U
Aroclor 1268	mg/kg	0.45 U

DATA SUMMARY TABLE

Analysis		General Chemistry in Soil
Lab Sample ID		23K0804-11
Field Sample ID		P-315-EX-000.5
Sample Type		N
Parent Sample ID		
Sample Date	**Units**	11/01/23
Solids, Percent	%	84.2

Data Review Qualification Actions
Case: St. Johnsbury Armory
SDG: 23K0804

Parameter	Analyte	Samples	Evaluation Criteria	Action Needed	Comments
PCBs					
	Aroclor 1254	P-315-EX-000.5	Dual column precision	J	

Tier 1 Stage 2A Data Review Checklist

Project: St. Johnsbury Armory Site, St. Johnsbury, Vermont
Project #: S00001.017
Case#: NA
Date: 12/11/2023
Methods: PCBs (8082A)
Laboratory: Pace Analytical (formerly Con-test), East Longmeadow, MA
SDG: 23K0804
Reviewer: Linda Terzis

1. **Case Narrative and Data Package Completeness (COC and Analyte List Review)**
Twenty (20) soil samples were listed on the COC for SDG 23K0804. Nineteen (19) of the samples were placed on hold and one sample was scheduled for analysis. The samples were collected on 11/01/2023 and were received at the laboratory on 11/06/2023 at 2.5 and 2.9 °C.

Sample ID	Laboratory ID	Analyses
P-315-EX-000.5	23K0804-11	PCBs

A complete laboratory report was received for SDG 23K0804.

2. **Holding Time and Sample Preservation Compliance**

Receipt temperature met the acceptable level of ≤ 6 °C.

PCBs: The sample was extracted within 14 days of collection and analyzed within 40 days of extraction, as specified on Table 2-6-1 of the Program Quality Assurance Project Plan (QAPP) for the St. Johnsbury Armory site (October 2022). No actions are required.

3. **Calibration Issues**

Not assessed for S2AVM.

4. **Lab and Field Blanks**

PCBs: Results for the laboratory method blank associated with the sample of this SDG were non-detect. No blank actions are required.

An equipment blank was not required during sample collection for the site.

5. **Interference Check Sample (metals only)**

Not applicable for this analysis.

6. **Surrogates (PCBs only)**

PCBs: Surrogate recoveries were within the Program QAPP limits (30-150%) for the sample of this SDG. No actions are required.

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

7. **Laboratory Control Samples**

PCBs: Percent recoveries of Aroclors 1016 and 1260 in the PCB LCS/LCSD pair met the Program QAPP limits of 40-140% recovery and relative percent difference (RPD) ≤ 30%. No action is required.

8. **Matrix Spikes**

MS/MSD analyses were not performed for this SDG. No actions are required.

9. **Laboratory Duplicates**

Not applicable for this analysis.

10. **Serial Dilution (metals only)**

Not applicable for this analysis.

11. **Field Duplicate Precision**

Criteria based on the EPA Region I Environmental Data Review Supplement (September 2020): RPD ≤ 50% (soils) for results ≥ 5x QL or absolute difference of ≤ 4x QL for results < 5X QL.

A field duplicate sample was not submitted with the samples of this SDG. No actions are required.

12. **Internal Standards**

Not applicable for this analysis.

13. **Dual Column Precision (PCBs only)**

Dual column precision criteria (≤ 25% RPD per the National Functional Guidelines [NFGs, 2020]) were exceeded for the detected Aroclor 1254 result in sample P-315-EX-000.5 (26.1%). Based on the NFGs (2020), the detected result for Aroclor 1254 in sample P-315-EX-000.5 (23K0804-11) is qualified as estimated (J) due to dual column imprecision.

14. **Performance Evaluation (PE) Samples**

A PE sample was not submitted with the samples of this SDG. No actions are required.

15. **Quantitation Limits**

PCBs: Laboratory quantitation limits (QLs) for non-detect Aroclor results met the PAL of ≤ 1 mg/kg for total PCBs, per Table 4 of the QAPPA.

16. **Other**

The EPA Region I Environmental Data Review Supplement (2020) percent solids criterion of ≥ 30% for soil samples was met for the sample.

Overall bias is considered indeterminate when cumulative nonconformances do not show a consistent bias or in cases of the presence of conflicting high and low biases.

23K0804 RF

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction										[2] Preservation Code
1	P-314-Ex-01.502	11/1/2023	14:13			U		1				H										
2	P-314-Ex-0202.5	11/1/2023	14:14			U		1				H										
3	P-314-Ex-02.503	11/1/2023	14:15			U		1				H										
4	P-314-Ex-0303.5	11/1/2023	14:16			U		1				H										
5	P-314-Ex-03.504	11/1/2023	14:17			U		1				H										
6	P-314-Ex-0404.5	11/1/2023	14:18			U		1				H										
7	P-314-Ex-04.505	11/1/2023	14:19			U		1				H										
8	P-314-Ex-0506	11/1/2023	14:20			U		1				H										
9	P-314-Ex-0607	11/1/2023	14:21			U		1				H										
10	P-314-Ex-0708	11/1/2023	14:22			U		1				H										

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)		Date/Time: 11/6/23 1157
Received by: (signature)		Date/Time: 11/6/23 1157
Relinquished by: (signature)		Date/Time: 11/6/23 1630
Received by: (signature)		Date/Time: 11/6/23 1630
Relinquished by: (signature)		Date/Time:
Received by: (signature)		Date/Time:
Relinquished by: (signature)		Date/Time:
Received by: (signature)		Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

23K0804 RF

https://www.pacelabs.com/

CHAIN OF CUSTODY RECORD

Doc # 381 Rev 4_01/08/2020

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time

7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
11	P-315-Ex-000.5	11/1/2023	14:25			U		1				X
12	P-315-Ex-0.501	11/1/2023	14:26			U		1				H
13	P-315-Ex-0101.5	11/1/2023	14:27			U		1				H
14	P-315-Ex-01.502	11/1/2023	14:28			U		1				H
15	P-315-Ex-0202.5	11/1/2023	14:29			U		1				H
16	P-315-Ex-02.503	11/1/2023	14:30			U		1				H
17	P-315-Ex-0303.5	11/1/2023	14:31			U		1				H
18	P-315-Ex-03.504	11/1/2023	14:32			U		1				H
19	P-315-Ex-0404.5	11/1/2023	14:33			U		1				H
20	P-315-Ex-04.505	11/1/2023	14:34			U		3				H

Relinquished by: (signature) Date/Time: 11/6/23 1157
Received by: (signature) Date/Time: 11/6/23 1157
Relinquished by: (signature) Date/Time: 11/6/23 1630
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

NELAC and AIHA-LAP, LLC Accredited

Other
☐ Chromatogram
☐ AIHA-LAP,LLC

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

December 18, 2023
Nobis File No. S00001.017

Ms. Christine Beling
USEPA - Region I
Land, Chemicals, and Redevelopment Division
5 Post Office Square, Suite 100
Boston, MA 02109-3912

Re: USEPA Contract No. 68HE0122D0001
USEPA Task Order No. 68HE0122F0044
Targeted Brownfield Assessment (TBA) Site
St. Johnsbury Armory Site
St. Johnsbury, Vermont
Sample Delivery Group (SDG) No. 23K0805

Pace Analytical (formerly Con-test), East Longmeadow, MA

Tier 1 Stage 2A Organic Data Review

Polychlorinated Biphenyls (PCBs by 8082A):

1/Soil Sample: P-321-EX-000.5
1/Field Duplicate Pair: P-321-EX-000.5 / P-FD029 (in SDG 23K0795)

Dear Ms. Beling:

Nobis Group (Nobis), under a USEPA contract as a subcontractor to KGSNE JV II, LLC (KGSNE), performed a Tier 1 Stage 2A manual data review (S2AVM) on the organic analytical data for the sample listed above. Note that 19 soil samples included on the COC were placed on hold and therefore, one sample was analyzed and included in this SDG for review. The samples were collected by Nobis at the St. Johnsbury Armory site located in St. Johnsbury, Vermont, on November 2, 2023. The sample was analyzed for PCB Aroclors by EPA Method 8082A by Pace Analytical (formerly Con-test).

The Tier 1 Stage 2A manual data review was performed in accordance with the Region I - EPA New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures (September 2020); USEPA's National Functional Guidelines for Organic Superfund Methods Data Review (November 2020); the Program Quality Assurance Project Plan (Program QAPP) dated October 2022, the Quality Assurance Project Plan Addendum (QAPPA) (July 2023) and the QAPPA Update (October 2023) for St. Johnsbury Armory, which append the October 2022 Program QAPP.

The data were evaluated based on the following parameters:

*	• Overall Evaluation of Data and Potential Usability Issues
*	• Data Completeness
*	• Preservation and Technical Holding Times
*	• Blanks
*	• Surrogates (PCBs only)
NA	• Internal Standards
NA	• Matrix Spike Analysis
NA	• Laboratory Duplicates

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

*	•	Laboratory Control Samples (LCS)/Standard Reference Material (SRM) Recovery (metals only)
*	•	Field Duplicates
NA	•	ICP Serial Dilutions (metals only)
NA	•	Performance Evaluation (PE) Samples
*	•	Target Analyte Identification
*	•	Reported Quantitation Limits

* All criteria were met for this parameter or qualification was not required.
NA – Not applicable.

Overall Evaluation of Data and Potential Usability Issues

The site sampling objectives are:

- Perform a supplemental hazardous building material survey (HBMS) to address data gaps identified by Atlas Technical Consultants (ATC).
- Further delineate the distribution of hazardous materials to support future building renovation and reuse or demolition and disposal.
- Evaluate sub-slab soils for possible contamination by PCBs.

The data meet the project quality criteria and can be used without restriction except as summarized below. The attachments provide details and supporting documentation.

PCBs:
Qualification of the data was not required.

Please contact Linda Terzis at lterzis@nobis-group.com should you have any questions or comments regarding this information.

Sincerely,

NOBIS GROUP®

Linda Terzis
Data Validator

Gary Glennon
Data Validator

Tables: Data Summary Tables – Tier 1 Stage 2A (S2AVM) Validated Data
Data Qualification Actions Table

Attachments: Data Review Checklist
Support Documentation
COC

cc: Denis McGrath (Nobis Group)
Tim Andrews (Nobis Group)

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Soil
Lab Sample ID		23K0805-09
Field Sample ID		P-321-EX-000.5
Sample Type		N
Parent Sample ID		
Sample Date	**Units**	11/02/23
Aroclor 1016	mg/kg	0.08 U
Aroclor 1221	mg/kg	0.08 U
Aroclor 1232	mg/kg	0.08 U
Aroclor 1242	mg/kg	0.08 U
Aroclor 1248	mg/kg	0.08 U
Aroclor 1254	mg/kg	0.36
Aroclor 1260	mg/kg	0.08 U
Aroclor 1262	mg/kg	0.08 U
Aroclor 1268	mg/kg	0.08 U

DATA SUMMARY TABLE

Analysis		General Chemistry in Soil
Lab Sample ID		23K0805-09
Field Sample ID		P-321-EX-000.5
Sample Type		N
Parent Sample ID		
Sample Date	**Units**	11/02/23
Solids, Percent	%	94

Data Review Qualification Actions
Case: St. Johnsbury Armory
SDG: 23K0805

Parameter	Analyte	Samples	Evaluation Criteria	Action Needed	Comments
PCBs					
	Qualification of the data is not required.				

Tier 1 Stage 2A Data Review Checklist

Project: St. Johnsbury Armory Site, St. Johnsbury, Vermont
Project #: S00001.017
Case#: NA
Date: 12/11/2023
Methods: PCBs (8082A)
Laboratory: Pace Analytical (formerly Con-test), East Longmeadow, MA
SDG: 23K0805
Reviewer: Linda Terzis

1. **Case Narrative and Data Package Completeness (COC and Analyte List Review)**
Twenty (20) soil samples were listed on the COC for SDG 23K0805. Nineteen (19) of the samples were placed on hold and one sample was scheduled for analysis. The samples were collected on 11/02/2023 and were received at the laboratory on 11/06/2023 at 2.5, 2.9, and 4.0 °C.

Sample ID	Laboratory ID	Analyses
P-321-EX-000.5	23K0805-09	PCBs

A complete laboratory report was received for SDG 23K0805.

2. **Holding Time and Sample Preservation Compliance**

Receipt temperature met the acceptable level of ≤ 6 °C.

PCBs: The sample was extracted within 14 days of collection and analyzed within 40 days of extraction, as specified on Table 2-6-1 of the Program Quality Assurance Project Plan (QAPP) for the St. Johnsbury Armory site (October 2022). No actions are required.

3. **Calibration Issues**

Not assessed for S2AVM.

4. **Lab and Field Blanks**

PCBs: Results for the laboratory method blank associated with the sample of this SDG were non-detect. No blank actions are required.

An equipment blank was not required during sample collection for the site.

5. **Interference Check Sample (metals only)**

Not applicable for this analysis.

6. **Surrogates (PCBs only)**

PCBs: Surrogate recoveries were within the Program QAPP limits (30-150%) for the sample of this SDG. No actions are required.

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

7. **Laboratory Control Samples**

PCBs: Percent recoveries of Aroclors 1016 and 1260 in the PCB LCS/LCSD pair met the Program QAPP limits of 40-140% recovery and relative percent difference (RPD) ≤ 30%. No action is required.

8. **Matrix Spikes**

MS/MSD analyses were not performed for this SDG. No actions are required.

9. **Laboratory Duplicates**

Not applicable for this analysis.

10. **Serial Dilution (metals only)**

Not applicable for this analysis.

11. **Field Duplicate Precision**

Criteria based on the EPA Region I Environmental Data Review Supplement (September 2020): RPD ≤ 50% (soils) for results ≥ 5x QL or absolute difference of ≤ 4x QL for results < 5X QL.

The following field duplicate pair is associated with the samples of this SDG.

- P-321-EX-000.5 / P-FD029 (23K0805-09 / 23K0795-04)

PCBs: Field duplicate precision criteria were met for the field duplicate pair. No actions are required.

12. **Internal Standards**

Not applicable for this analysis.

13. **Dual Column Precision (PCBs only)**

Dual column precision criteria (≤ 25% RPD per the National Functional Guidelines [NFGs, 2020]) were met for the detected Aroclor 1254 result in sample P-321-EX-000.5 (5.7%). No actions are required.

14. **Performance Evaluation (PE) Samples**

A PE sample was not submitted with the samples of this SDG. No actions are required.

15. **Quantitation Limits**

PCBs: Laboratory quantitation limits (QLs) for non-detect Aroclor results met the PAL of ≤ 1 mg/kg for total PCBs, per Table 4 of the QAPPA.

16. Other

The EPA Region I Environmental Data Review Supplement (2020) percent solids criterion of ≥ 30% for soil samples was met for the sample.

Overall bias is considered indeterminate when cumulative nonconformances do not show a consistent bias or in cases of the presence of conflicting high and low biases.

Field Duplicate Evaluation

SDG: 23K0795 PCBs

Analyte	Original Result mg/kg	Qual	Duplicate Result mg/kg	Qual	RPD ≤ 50%	Abs Diff	Comment[1]
Sample ID	**P-321-EX-000.5**		**P-FD029**				
	23K0805-09		**23K0795-04**				
Aroclor 1016	0.08	U	0.081	U	1.24		Ok - both ND
Aroclor 1221	0.08	U	0.081	U	1.24		Ok - both ND
Aroclor 1232	0.08	U	0.081	U	1.24		Ok - both ND
Aroclor 1242	0.08	U	0.081	U	1.24		Ok - both ND
Aroclor 1248	0.08	U	0.081	U	1.24		Ok - both ND
Aroclor 1254	0.36		0.34		-5.71	-0.02	Ok - abs diff < 4x QL
Aroclor 1260	0.08	U	0.081	U	1.24		Ok - both ND
Aroclor 1262	0.08	U	0.081	U	1.24		Ok - both ND
Aroclor 1268	0.08	U	0.081	U	1.24		Ok - both ND

Note that P-FD029 is located in SDG 23K0795.

23K0805 RF

Pace Analytical®
Phone: 612-607-6400
Fax: 612-607-6344
https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction											[2] Preservation Code
1	P-320-Ex-02.503	11/2/2023	8:35			U		1				H											
2	P-320-Ex-0303.5	11/2/2023	8:36			U		1				H											
3	P-320-Ex-03.504	11/2/2023	8:37			U		1				H											
4	P-320-Ex-0404.5	11/2/2023	8:38			U		1				H											
5	P-320-Ex-04.505	11/2/2023	8:39			U		1				H											
6	P-320-Ex-0506	11/2/2023	8:40			U		1				H											
7	P-320-Ex-0607	11/2/2023	8:41			U		1				H											
8	P-320-Ex-0708	11/2/2023	8:42			U		1				H											
9	P-321-Ex-000.5	11/2/2023	8:50			U		1				X											
10	P-321-Ex-0.501	11/2/2023	8:51			U		1				H											

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N
*Pace Analytical is not responsible for missing samples from prepacked coolers

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Relinquished by: (signature)	Date/Time: 11/6/23 1157	Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.
Received by: (signature)	Date/Time: 11/6/23 1157	
Relinquished by: (signature)	Date/Time: 11/6/23 1630	
Received by: (signature) 40.29	Date/Time: 11/6/23 1630	
Relinquished by: (signature) 25	Date/Time:	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Pace Analytical®
Phone: 612-607-6400
Fax: 612-607-6344
https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1] Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction	[2] Preservation Code
11	P-321-Ex-0101.5	11/2/2023	8:52			U		1				H	
12	P-321-Ex-01.502	11/2/2023	8:53			U		1				H	
13	P-321-Ex-0202.5	11/2/2023	8:54			U		1				H	
14	P-321-Ex-02.503	11/2/2023	8:55			U		1				H	
15	P-321-Ex-0303.5	11/2/2023	8:56			U		1				H	
16	P-321-Ex-03.504	11/2/2023	8:57			U		1				H	
17	P-321-Ex-0404.5	11/2/2023	8:58			U		1				H	
18	P-321-Ex-04.505	11/2/2023	8:59			U		1				H	
19	P-321-Ex-0506	11/2/2023	9:00			U		1				H	
20	P-321-Ex-0607	11/2/2023	9:01			U		3				H	

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Relinquished by: (signature)	Date/Time:	11/6/23 1157
Received by: (signature)	Date/Time:	11/6/23 1157
Relinquished by: (signature)	Date/Time:	11/6/23 1630
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

NELAC and AIHA-LAP, LLC Accredited

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

December 18, 2023
Nobis File No. S00001.017

Ms. Christine Beling
USEPA - Region I
Land, Chemicals, and Redevelopment Division
5 Post Office Square, Suite 100
Boston, MA 02109-3912

Re: USEPA Contract No. 68HE0122D0001
USEPA Task Order No. 68HE0122F0044
Targeted Brownfield Assessment (TBA) Site
St. Johnsbury Armory Site
St. Johnsbury, Vermont
Sample Delivery Group (SDG) No. 23K0806

Pace Analytical (formerly Con-test), East Longmeadow, MA

Tier 1 Stage 2A Organic Data Review

Polychlorinated Biphenyls (PCBs by 8082A):

1/Soil Sample: P-318-EX-000.5

Dear Ms. Beling:

Nobis Group (Nobis), under a USEPA contract as a subcontractor to KGSNE JV II, LLC (KGSNE), performed a Tier 1 Stage 2A manual data review (S2AVM) on the organic analytical data for the sample listed above. Note that 19 soil samples included on the COC were placed on hold and therefore, one sample was analyzed and included in this SDG for review. The samples were collected by Nobis at the St. Johnsbury Armory site located in St. Johnsbury, Vermont, on November 1, 2023 and November 2, 2023. The sample was analyzed for PCB Aroclors by EPA Method 8082A by Pace Analytical (formerly Con-test).

The Tier 1 Stage 2A manual data review was performed in accordance with the Region I - EPA New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures (September 2020); USEPA's National Functional Guidelines for Organic Superfund Methods Data Review (November 2020); the Program Quality Assurance Project Plan (Program QAPP) dated October 2022, the Quality Assurance Project Plan Addendum (QAPPA) (July 2023) and the QAPPA Update (October 2023) for St. Johnsbury Armory, which append the October 2022 Program QAPP.

The data were evaluated based on the following parameters:

*	•	Overall Evaluation of Data and Potential Usability Issues
*	•	Data Completeness
*	•	Preservation and Technical Holding Times
*	•	Blanks
*	•	Surrogates (PCBs only)
NA	•	Internal Standards
NA	•	Matrix Spike Analysis
NA	•	Laboratory Duplicates
*	•	Laboratory Control Samples (LCS)/Standard Reference Material (SRM) Recovery (metals only)

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

NA	•	Field Duplicates
NA	•	ICP Serial Dilutions (metals only)
NA	•	Performance Evaluation (PE) Samples
*	•	Target Analyte Identification
*	•	Reported Quantitation Limits

* All criteria were met for this parameter or qualification was not required.
NA – Not applicable.

Overall Evaluation of Data and Potential Usability Issues

The site sampling objectives are:

- Perform a supplemental hazardous building material survey (HBMS) to address data gaps identified by Atlas Technical Consultants (ATC).
- Further delineate the distribution of hazardous materials to support future building renovation and reuse or demolition and disposal.
- Evaluate sub-slab soils for possible contamination by PCBs.

The data meet the project quality criteria and can be used without restriction except as summarized below. The attachments provide details and supporting documentation.

PCBs:
Qualification of the data was not required.

Please contact Linda Terzis at lterzis@nobis-group.com should you have any questions or comments regarding this information.

Sincerely,

NOBIS GROUP®

Linda Terzis
Data Validator

Gary Glennon
Data Validator

Tables: Data Summary Tables – Tier 1 Stage 2A (S2AVM) Validated Data
Data Qualification Actions Table

Attachments: Data Review Checklist
Support Documentation
COC

cc: Denis McGrath (Nobis Group)
Tim Andrews (Nobis Group)

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Soil
Lab Sample ID		23K0806-10
Field Sample ID		P-318-EX-000.5
Sample Type		N
Parent Sample ID		
Sample Date	**Units**	11/02/23
Aroclor 1016	mg/kg	0.089 U
Aroclor 1221	mg/kg	0.089 U
Aroclor 1232	mg/kg	0.089 U
Aroclor 1242	mg/kg	0.089 U
Aroclor 1248	mg/kg	0.089 U
Aroclor 1254	mg/kg	0.089 U
Aroclor 1260	mg/kg	0.089 U
Aroclor 1262	mg/kg	0.089 U
Aroclor 1268	mg/kg	0.089 U

DATA SUMMARY TABLE

Analysis		General Chemistry in Soil
Lab Sample ID		23K0806-10
Field Sample ID		P-318-EX-000.5
Sample Type		N
Parent Sample ID		
Sample Date	**Units**	11/02/23
Solids, Percent	%	89.3

Data Review Qualification Actions
Case: St. Johnsbury Armory
SDG: 23K0806

Parameter	Analyte	Samples	Evaluation Criteria	Action Needed	Comments
PCBs					
	Qualification of the data is not required.				

Tier 1 Stage 2A Data Review Checklist

Project: St. Johnsbury Armory Site, St. Johnsbury, Vermont
Project #: S00001.017
Case#: NA
Date: 12/12/2023
Methods: PCBs (8082A)
Laboratory: Pace Analytical (formerly Con-test), East Longmeadow, MA
SDG: 23K0806
Reviewer: Linda Terzis

1. **Case Narrative and Data Package Completeness (COC and Analyte List Review)**
Twenty (20) soil samples were listed on the COC for SDG 23K0806. Nineteen (19) of the samples were placed on hold and one sample was scheduled for analysis. The samples were collected on 11/01/2023 and 11/02/2023, and were received at the laboratory on 11/06/2023 at 2.9 and 4.0 °C.

Sample ID	Laboratory ID	Analyses
P-318-EX-000.5	23K0806-10	PCBs

A complete laboratory report was received for SDG 23K0806.

2. **Holding Time and Sample Preservation Compliance**

Receipt temperature met the acceptable level of ≤ 6 °C.

PCBs: The sample was extracted within 14 days of collection and analyzed within 40 days of extraction, as specified on Table 2-6-1 of the Program Quality Assurance Project Plan (QAPP) for the St. Johnsbury Armory site (October 2022). No actions are required.

3. **Calibration Issues**

Not assessed for S2AVM.

4. **Lab and Field Blanks**

PCBs: Results for the laboratory method blank associated with the sample of this SDG were non-detect. No blank actions are required.

An equipment blank was not required during sample collection for the site.

5. **Interference Check Sample (metals only)**

Not applicable for this analysis.

6. **Surrogates (PCBs only)**

PCBs: Surrogate recoveries were within the Program QAPP limits (30-150%) for the sample of this SDG. No actions are required.

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

7. **Laboratory Control Samples**

   PCBs: Percent recoveries of Aroclors 1016 and 1260 in the PCB LCS/LCSD pair met the Program QAPP limits of 40-140% recovery and relative percent difference (RPD) ≤ 30%. No action is required.

8. **Matrix Spikes**

   MS/MSD analyses were not performed for this SDG. No actions are required.

9. **Laboratory Duplicates**

   Not applicable for this analysis.

10. **Serial Dilution (metals only)**

    Not applicable for this analysis.

11. **Field Duplicate Precision**

    Criteria based on the EPA Region I Environmental Data Review Supplement (September 2020): RPD ≤ 50% (soils) for results ≥ 5x QL or absolute difference of ≤ 4x QL for results < 5X QL.

    Field duplicate samples were not submitted with the samples of this SDG. No actions are required.

12. **Internal Standards**

    Not applicable for this analysis.

13. **Dual Column Precision (PCBs only)**

    Results for all PCB Aroclors were non-detect in the sample. Dual column precision criteria (≤ 25% RPD per the National Functional Guidelines [NFGs, 2020]) are met and no actions are required.

14. **Performance Evaluation (PE) Samples**

    A PE sample was not submitted with the samples of this SDG. No actions are required.

15. **Quantitation Limits**

    PCBs: Laboratory quantitation limits (QLs) for non-detect Aroclor results met the PAL of ≤ 1 mg/kg for total PCBs, per Table 4 of the QAPPA.

16. **Other**

    The EPA Region I Environmental Data Review Supplement (2020) percent solids criterion of ≥ 30% for soil samples was met for the sample.

    Overall bias is considered indeterminate when cumulative nonconformances do not show a consistent bias or in cases of the presence of conflicting high and low biases.

23K0806 RF

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time

7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction	[2] Preservation Code
1	P-317-Ex-0202.5	11/1/2023	14:59			U		1				H	
2	P-317-Ex-02.503	11/1/2023	15:00			U		1				H	
3	P-317-Ex-0303.5	11/1/2023	15:01			U		1				H	
4	P-317-Ex-03.504	11/1/2023	15:02			U		1				H	
5	P-317-Ex-0404.5	11/1/2023	15:03			U		1				H	
6	P-317-Ex-04.505	11/1/2023	15:04			U		1				H	
7	P-317-Ex-0506	11/1/2023	15:05			U		1				H	
8	P-317-Ex-0607	11/1/2023	15:06			U		1				H	
9	P-317-Ex-0708	11/1/2023	15:07			U		1				H	
10	P-318-Ex-000.5	11/2/2023	8:00			U		1				X	

Courier Use Only

Total Number Of:

VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N

Glassware in freezer? Y / N

Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time: 11/6/23 15	
Received by: (signature)	Date/Time: 11/6/23 1512	
Relinquished by: (signature)	Date/Time: 11/6/23 1630	
Received by: (signature)	Date/Time: 11/6/23 1630	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Pace Analytical®
Phone: 612-607-6400
Fax: 612-607-6344
https://www.pacelabs.com/

CHAIN OF CUSTODY RECORD

Doc # 381 Rev 4_01/08/2020

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time

7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

ANALYSIS REQUESTED

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

PCBs 8082 Soxhlet Extraction

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	
11	P-318-Ex-0.501	11/2/2023	8:01			U		1				H
12	P-318-Ex-0101.5	11/2/2023	8:02			U		1				H
13	P-318-Ex-01.502	11/2/2023	8:03			U		1				H
14	P-318-Ex-0202.5	11/2/2023	8:04			U		1				H
15	P-318-Ex-02.503	11/2/2023	8:05			U		1				H
16	P-318-Ex-0303.5	11/2/2023	8:06			U		1				H
17	P-318-Ex-03.504	11/2/2023	8:07			U		1				H
18	P-318-Ex-0404.5	11/2/2023	8:08			U		1				H
19	P-318-Ex-04.505	11/2/2023	8:09			U		1				H
20	P-318-Ex-0506	11/2/2023	8:10			U		3				H

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Relinquished by: (signature)		Date/Time: 11/6/23 1157
Received by: (signature)		Date/Time: 11/6/23 1157
Relinquished by: (signature)		Date/Time: 11/6/23 1630
Received by: (signature)		Date/Time:
Relinquished by: (signature)		Date/Time:
Received by: (signature)		Date/Time:
Relinquished by: (signature)		Date/Time:
Received by: (signature)		Date/Time:

Lab Comments:

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y N
Prepackaged Cooler? Y N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

December 18, 2023
Nobis File No. S00001.017

Ms. Christine Beling
USEPA - Region I
Land, Chemicals, and Redevelopment Division
5 Post Office Square, Suite 100
Boston, MA 02109-3912

Re: USEPA Contract No. 68HE0122D0001
USEPA Task Order No. 68HE0122F0044
Targeted Brownfield Assessment (TBA) Site
St. Johnsbury Armory Site
St. Johnsbury, Vermont
Sample Delivery Group (SDG) No. 23K0807

Pace Analytical (formerly Con-test), East Longmeadow, MA

Tier 1 Stage 2A Organic Data Review

Polychlorinated Biphenyls (PCBs by 8082A):

2/Soil Samples: P-316-EX-000.5, P-317-EX-000.5

Dear Ms. Beling:

Nobis Group (Nobis), under a USEPA contract as a subcontractor to KGSNE JV II, LLC (KGSNE), performed a Tier 1 Stage 2A manual data review (S2AVM) on the organic analytical data for the samples listed above. Note that 18 soil samples included on the COC were placed on hold and therefore, two samples were analyzed and included in this SDG for review. The samples were collected by Nobis at the St. Johnsbury Armory site located in St. Johnsbury, Vermont, on November 1, 2023. The samples were analyzed for PCB Aroclors by EPA Method 8082A by Pace Analytical (formerly Con-test).

The Tier 1 Stage 2A manual data review was performed in accordance with the Region I - EPA New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures (September 2020); USEPA's National Functional Guidelines for Organic Superfund Methods Data Review (November 2020); the Program Quality Assurance Project Plan (Program QAPP) dated October 2022, the Quality Assurance Project Plan Addendum (QAPPA) (July 2023) and the QAPPA Update (October 2023) for St. Johnsbury Armory, which append the October 2022 Program QAPP.

The data were evaluated based on the following parameters:

*	•	Overall Evaluation of Data and Potential Usability Issues
*	•	Data Completeness
*	•	Preservation and Technical Holding Times
*	•	Blanks
*	•	Surrogates (PCBs only)
NA	•	Internal Standards
NA	•	Matrix Spike Analysis
NA	•	Laboratory Duplicates
*	•	Laboratory Control Samples (LCS)/Standard Reference Material (SRM) Recovery (metals only)

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

NA	•	Field Duplicates
NA	•	ICP Serial Dilutions (metals only)
NA	•	Performance Evaluation (PE) Samples
*	•	Target Analyte Identification
*	•	Reported Quantitation Limits

* All criteria were met for this parameter or qualification was not required.
NA – Not applicable.

Overall Evaluation of Data and Potential Usability Issues

The site sampling objectives are:

- Perform a supplemental hazardous building material survey (HBMS) to address data gaps identified by Atlas Technical Consultants (ATC).
- Further delineate the distribution of hazardous materials to support future building renovation and reuse or demolition and disposal.
- Evaluate sub-slab soils for possible contamination by PCBs.

The data meet the project quality criteria and can be used without restriction except as summarized below. The attachments provide details and supporting documentation.

PCBs:
Qualification of the data was not required.

Please contact Linda Terzis at lterzis@nobis-group.com should you have any questions or comments regarding this information.

Sincerely,

NOBIS GROUP®

Linda Terzis
Data Validator

Gary Glennon
Data Validator

Tables: Data Summary Tables – Tier 1 Stage 2A (S2AVM) Validated Data
Data Qualification Actions Table

Attachments: Data Review Checklist
Support Documentation
COC

cc: Denis McGrath (Nobis Group)
Tim Andrews (Nobis Group)

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Soil	
Lab Sample ID		23K0807-04	23K0807-17
Field Sample ID		P-316-EX-000.5	P-317-EX-000.5
Sample Type		N	N
Parent Sample ID			
Sample Date	**Units**	11/01/23	11/01/23
Aroclor 1016	mg/kg	0.09 U	0.083 U
Aroclor 1221	mg/kg	0.09 U	0.083 U
Aroclor 1232	mg/kg	0.09 U	0.083 U
Aroclor 1242	mg/kg	0.09 U	0.083 U
Aroclor 1248	mg/kg	0.09 U	0.083 U
Aroclor 1254	mg/kg	0.32	0.083 U
Aroclor 1260	mg/kg	0.09 U	0.083 U
Aroclor 1262	mg/kg	0.09 U	0.083 U
Aroclor 1268	mg/kg	0.09 U	0.083 U

DATA SUMMARY TABLE

Analysis		General Chemistry in Soil	
Lab Sample ID		23K0807-04	23K0807-17
Field Sample ID		P-316-EX-000.5	P-317-EX-000.5
Sample Type		N	N
Parent Sample ID			
Sample Date	**Units**	11/01/23	11/01/23
Solids, Percent	%	85.4	95.4

Data Review Qualification Actions
Case: St. Johnsbury Armory
SDG: 23K0807

Parameter	Analyte	Samples	Evaluation Criteria	Action Needed	Comments
PCBs					
	Qualification of the data was not required.				

Tier 1 Stage 2A Data Review Checklist

Project: St. Johnsbury Armory Site, St. Johnsbury, Vermont
Project #: S00001.017
Case#: NA
Date: 12/12/2023
Methods: PCBs (8082A)
Laboratory: Pace Analytical (formerly Con-test), East Longmeadow, MA
SDG: 23K0807
Reviewer: Linda Terzis

1. **Case Narrative and Data Package Completeness (COC and Analyte List Review)**
Twenty (20) soil samples were listed on the COC for SDG 23K0807. Eighteen (18) of the samples were placed on hold and two samples were scheduled for analysis. The samples were collected on 11/01/2023 and were received at the laboratory on 11/06/2023 at 2.5, 2.9, and 4.0 °C.

Sample ID	Laboratory ID	Analyses
P-316-EX-000.5	23K0807-04	PCBs
P-317-EX-000.5	23K0807-14	PCBs

A complete laboratory report was received for SDG 23K0807.

2. **Holding Time and Sample Preservation Compliance**

Receipt temperature met the acceptable level of ≤ 6 °C.

PCBs: The samples were extracted within 14 days of collection and analyzed within 40 days of extraction, as specified on Table 2-6-1 of the Program Quality Assurance Project Plan (QAPP) for the St. Johnsbury Armory site (October 2022). No actions are required.

3. **Calibration Issues**

Not assessed for S2AVM.

4. **Lab and Field Blanks**

PCBs: Results for the laboratory method blank associated with the samples of this SDG were non-detect. No blank actions are required.

An equipment blank was not required during sample collection for the site.

5. **Interference Check Sample (metals only)**

Not applicable for this analysis.

6. **Surrogates (PCBs only)**

PCBs: Surrogate recoveries were within the Program QAPP limits (30-150%) for the samples of this SDG. No actions are required.

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

7. **Laboratory Control Samples**

   PCBs: Percent recoveries of Aroclors 1016 and 1260 in the PCB LCS/LCSD pair met the Program QAPP limits of 40-140% recovery and relative percent difference (RPD) ≤ 30%. No action is required.

8. **Matrix Spikes**

   PCBs: Only Aroclors 1016 and 1260 were spiked in the MS/MSD; therefore, based on professional judgment, if actions are required, they are applied as follows:

   If 1016 %R or %RPD out: Qualify 1016, 1221, 1232, 1242
   If 1260 %R or %RPD out: Qualify 1248, 1254, 1260, 1262,1268

   MS/MSD analyses were performed for this SDG. No action is required.

9. **Laboratory Duplicates**

   Not applicable for this analysis.

10. **Serial Dilution (metals only)**

    Not applicable for this analysis.

11. **Field Duplicate Precision**

    Criteria based on the EPA Region I Environmental Data Review Supplement (September 2020): RPD ≤ 50% (soils) for results ≥ 5x QL or absolute difference of ≤ 4x QL for results < 5X QL.

    Field duplicate samples were not submitted with the samples of this SDG. No action is required.

12. **Internal Standards**

    Not applicable for this analysis.

13. **Dual Column Precision (PCBs only)**

    Dual column precision criteria (≤ 25% RPD per the National Functional Guidelines [NFGs, 2020]) are met and no actions are required.

14. **Performance Evaluation (PE) Samples**

    A PE sample was not submitted with the samples of this SDG. No actions are required.

15. **Quantitation Limits**

    PCBs: Laboratory quantitation limits (QLs) for non-detect Aroclor results met the PAL of ≤ 1 mg/kg for total PCBs, per Table 4 of the QAPPA.

16. Other

The EPA Region I Environmental Data Review Supplement (2020) percent solids criterion of ≥ 30% for soil samples was met for the samples.

Overall bias is considered indeterminate when cumulative nonconformances do not show a consistent bias or in cases of the presence of conflicting high and low biases.

23K0807 KF

Pace Analytical

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time

7-Day ☐ 10-Day ☒
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery

Format: PDF ☒ EXCEL ☒
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

PCB ONLY

SOXHLET ☒
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
1	P-315-Ex-0506	11/1/2023	14:35			U		1				H
2	P-315-Ex-0607	11/1/2023	14:36			U		1				H
3	P-315-Ex-0708	11/1/2023	14:37			U		1				H
4	P-316-Ex-000.5	11/1/2023	14:40			U		1				X
5	P-316-Ex-0.501	11/1/2023	14:41			U		1				H
6	P-316-Ex-0101.5	11/1/2023	14:42			U		1				H
7	P-316-Ex-01.502	11/1/2023	14:43			U		1				H
8	P-316-Ex-0202.5	11/1/2023	14:44			U		1				H
9	P-316-Ex-02.503	11/1/2023	14:45			U		1				H
10	P-316-Ex-0303.5	11/1/2023	14:46			U		1				H

[2] Preservation Code

Courier Use Only

Total Number Of:

VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? (Y) / N

Glassware in freezer? Y (N)

Prepackaged Cooler? (Y) / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time:	11/6/23 1157
Received by: (signature)	Date/Time:	11/6/23 1157
Relinquished by: (signature)	Date/Time:	11/6/23 1630
Received by: (signature)	Date/Time:	11/6/23 1630
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ AIHA-LAP,LLC

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

23K0807-RF

Pace Analytical

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time

7-Day ☐ 10-Day ☒
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery

Format: PDF ☒ EXCEL ☒
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

PCB ONLY

SOXHLET ☒
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	*Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction												[2] Preservation Code
11	P-316-Ex-03.504	11/1/2023	14:47			U		1				H												
12	P-316-Ex-0404.5	11/1/2023	14:48			U		1				H												
13	P-316-Ex-04.505	11/1/2023	14:49			U		1				H												
14	P-316-Ex-0506	11/1/2023	14:50			U		1				H												
15	P-316-Ex-0607	11/1/2023	14:51			U		1				H												
16	P-316-Ex-0708	11/1/2023	14:52			U		3				H												
17	P-317-Ex-000.5	11/1/2023	14:55			U		1				X												
18	P-317-Ex-0.501	11/1/2023	14:56			U		1				H												
19	P-317-Ex-0101.5	11/1/2023	14:57			U		1				H												
20	P-317-Ex-01.502	11/1/2023	14:58			U		1				H												

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Relinquished by: (signature)		Date/Time: 11/6/23 1157
Received by: (signature)		Date/Time: 11/6/23 1157
Relinquished by: (signature)		Date/Time: 11/6/23 1630
Received by: (signature)		Date/Time:
Relinquished by: (signature)		Date/Time:
Received by: (signature)		Date/Time:
Relinquished by: (signature)		Date/Time:
Received by: (signature)		Date/Time:

Lab Comments:

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Other

☐ Chromatogram
☐ *AIHA-LAP,LLC*

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
! = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

December 12, 2023
Nobis File No. S00001.017

Ms. Christine Beling
USEPA - Region I
Land, Chemicals, and Redevelopment Division
5 Post Office Square, Suite 100
Boston, MA 02109-3912

Re: USEPA Contract No. 68HE0122D0001
USEPA Task Order No. 68HE0122F0044
Targeted Brownfield Assessment (TBA) Site
St. Johnsbury Armory Site
St. Johnsbury, Vermont
Sample Delivery Group (SDG) No. 23K0808

Pace Analytical (formerly Con-test), East Longmeadow, MA

Tier 1 Stage 2A Organic Data Review

Polychlorinated Biphenyls (PCBs by 8082A):

2/Soil Samples: P-319-EX-000.5, P-320-EX-000.5
1/Field Duplicate Pair: P-319-EX-000.5 / P-FD028 (in SDG 23K0795)

Dear Ms. Beling:

Nobis Group (Nobis), under a USEPA contract as a subcontractor to KGSNE JV II, LLC (KGSNE), performed a Tier 1 Stage 2A manual data review (S2AVM) on the organic analytical data for the samples listed above. Note that 18 soil samples included on the COC were placed on hold and therefore, two samples were analyzed and included in this SDG for review. The samples were collected by Nobis at the St. Johnsbury Armory site located in St. Johnsbury, Vermont, on November 2, 2023. The samples were analyzed for PCB Aroclors by EPA Method 8082A by Pace Analytical (formerly Con-test).

The Tier 1 Stage 2A manual data review was performed in accordance with the Region I - EPA New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures (September 2020); USEPA's National Functional Guidelines for Organic Superfund Methods Data Review (November 2020); the Program Quality Assurance Project Plan (Program QAPP) dated October 2022, the Quality Assurance Project Plan Addendum (QAPPA) (July 2023) and the QAPPA Update (October 2023) for St. Johnsbury Armory, which append the October 2022 Program QAPP.

The data were evaluated based on the following parameters:

*	•	Overall Evaluation of Data and Potential Usability Issues
*	•	Data Completeness
*	•	Preservation and Technical Holding Times
*	•	Blanks
*	•	Surrogates (PCBs only)
NA	•	Internal Standards
NA	•	Matrix Spike Analysis
NA	•	Laboratory Duplicates

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

*	•	Laboratory Control Samples (LCS)/Standard Reference Material (SRM) Recovery (metals only)
*	•	Field Duplicates
NA	•	ICP Serial Dilutions (metals only)
NA	•	Performance Evaluation (PE) Samples
*	•	Target Analyte Identification
*	•	Reported Quantitation Limits

* All criteria were met for this parameter or qualification was not required.
NA – Not applicable.

Overall Evaluation of Data and Potential Usability Issues

The site sampling objectives are:

- Perform a supplemental hazardous building material survey (HBMS) to address data gaps identified by Atlas Technical Consultants (ATC).
- Further delineate the distribution of hazardous materials to support future building renovation and reuse or demolition and disposal.
- Evaluate sub-slab soils for possible contamination by PCBs.

The data meet the project quality criteria and can be used without restriction except as summarized below. The attachments provide details and supporting documentation.

PCBs:
Qualification of the data was not required.

Please contact Linda Terzis at lterzis@nobis-group.com should you have any questions or comments regarding this information.

Sincerely,

NOBIS GROUP®

Linda Terzis
Data Validator

Gary Glennon
Data Validator

Tables: Data Summary Tables – Tier 1 Stage 2A (S2AVM) Validated Data
Data Qualification Actions Table

Attachments: Data Review Checklist
Support Documentation
COC

cc: Denis McGrath (Nobis Group)
Tim Andrews (Nobis Group)

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Soil	
Lab Sample ID		23K0808-03	23K0808-16
Field Sample ID		P-319-EX-000.5	P-320-EX-000.5
Sample Type		N	N
Parent Sample ID			
Sample Date	**Units**	11/02/23	11/02/23
Aroclor 1016	mg/kg	0.089 U	0.086 U
Aroclor 1221	mg/kg	0.089 U	0.086 U
Aroclor 1232	mg/kg	0.089 U	0.086 U
Aroclor 1242	mg/kg	0.089 U	0.086 U
Aroclor 1248	mg/kg	0.089 U	0.086 U
Aroclor 1254	mg/kg	0.089 U	0.086 U
Aroclor 1260	mg/kg	0.089 U	0.086 U
Aroclor 1262	mg/kg	0.089 U	0.086 U
Aroclor 1268	mg/kg	0.089 U	0.086 U

DATA SUMMARY TABLE

Analysis		General Chemistry in Soil	
Lab Sample ID		23K0808-03	23K0808-16
Field Sample ID		P-319-EX-000.5	P-320-EX-000.5
Sample Type		N	N
Parent Sample ID			
Sample Date	**Units**	11/02/23	11/02/23
Solids, Percent	%	87.4	90.1

Data Review Qualification Actions
Case: St. Johnsbury Armory
SDG: 23K0808

Parameter	Analyte	Samples	Evaluation Criteria	Action Needed	Comments
PCBs					
	Qualification of the data was not required.				

Tier 1 Stage 2A Data Review Checklist

Project: St. Johnsbury Armory Site, St. Johnsbury, Vermont
Project #: S00001.017
Case#: NA
Date: 12/12/2023
Methods: PCBs (8082A)
Laboratory: Pace Analytical (formerly Con-test), East Longmeadow, MA
SDG: 23K0808
Reviewer: Linda Terzis

1. **Case Narrative and Data Package Completeness (COC and Analyte List Review)**
Twenty (20) soil samples were listed on the COC for SDG 23K0808. Eighteen (18) of the samples were placed on hold and two samples were scheduled for analysis. The samples were collected on 11/02/2023 and were received at the laboratory on 11/06/2023 at 2.5 and 2.9 °C.

Sample ID	Laboratory ID	Analyses
P-319-EX-000.5	23K0808-03	PCBs
P-320-EX-000.5	23K0807-16	PCBs

A complete laboratory report was received for SDG 23K0808.

2. **Holding Time and Sample Preservation Compliance**

Receipt temperature met the acceptable level of ≤ 6 °C.

PCBs: The samples were extracted within 14 days of collection and analyzed within 40 days of extraction, as specified on Table 2-6-1 of the Program Quality Assurance Project Plan (QAPP) for the St. Johnsbury Armory site (October 2022). No actions are required.

3. **Calibration Issues**

Not assessed for S2AVM.

4. **Lab and Field Blanks**

PCBs: Results for the laboratory method blank associated with the samples of this SDG were non-detect. No blank actions are required.

An equipment blank was not required during sample collection for the site.

5. **Interference Check Sample (metals only)**

Not applicable for this analysis.

6. **Surrogates (PCBs only)**

PCBs: Surrogate recoveries were within the Program QAPP limits (30-150%) for the samples of this SDG. No actions are required.

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

7. **Laboratory Control Samples**

PCBs: Percent recoveries of Aroclors 1016 and 1260 in the PCB LCS/LCSD pair met the Program QAPP limits of 40-140% recovery and relative percent difference (RPD) ≤ 30%. No action is required.

8. **Matrix Spikes**

PCBs: Only Aroclors 1016 and 1260 were spiked in the MS/MSD; therefore, based on professional judgment, if actions are required, they are applied as follows:

If 1016 %R or %RPD out: Qualify 1016, 1221, 1232, 1242
If 1260 %R or %RPD out: Qualify 1248, 1254, 1260, 1262,1268

MS/MSD analyses were performed for this SDG. No action is required.

9. **Laboratory Duplicates**

Not applicable for this analysis.

10. **Serial Dilution (metals only)**

Not applicable for this analysis.

11. **Field Duplicate Precision**

Criteria based on the EPA Region I Environmental Data Review Supplement (September 2020): RPD ≤ 50% (soils) for results ≥ 5x QL or absolute difference of ≤ 4x QL for results < 5X QL.

The following field duplicate pair is associated with the samples of this SDG.

- P-319-EX-000.5 / P-FD028 (23K0808-03 / 23K0795-03)

Field duplicate precision criteria were met and no actions are required.

12. **Internal Standards**

Not applicable for this analysis.

13. **Dual Column Precision (PCBs only)**

Results for all PCB Aroclors were non-detect in the samples. Dual column precision criteria (≤ 25% RPD per the National Functional Guidelines [NFGs, 2020]) are met and no actions are required.

14. **Performance Evaluation (PE) Samples**

A PE sample was not submitted with the samples of this SDG. No actions are required.

15. Quantitation Limits

PCBs: Laboratory quantitation limits (QLs) for non-detect Aroclor results met the PAL of ≤ 1 mg/kg for total PCBs, per Table 4 of the QAPPA.

16. Other

The EPA Region I Environmental Data Review Supplement (2020) percent solids criterion of ≥ 30% for soil samples was met for the samples.

Overall bias is considered indeterminate when cumulative nonconformances do not show a consistent bias or in cases of the presence of conflicting high and low biases.

Field Duplicate Evaluation

SDG: 23K0795 PCBs

Analyte	Original Result mg/kg	Qual	Duplicate Result mg/kg	Qual	RPD ≤ 50%	Abs Diff	Comment
Sample ID	**P-319-EX-000.5**		**P-FD028**				
	23K0808-03		**23K0795-03**				
Aroclor 1016	0.089	U	0.084	U	-5.78		Ok - both ND
Aroclor 1221	0.089	U	0.084	U	-5.78		Ok - both ND
Aroclor 1232	0.089	U	0.084	U	-5.78		Ok - both ND
Aroclor 1242	0.089	U	0.084	U	-5.78		Ok - both ND
Aroclor 1248	0.089	U	0.084	U	-5.78		Ok - both ND
Aroclor 1254	0.089	U	0.084	U	-5.78		Ok - both ND
Aroclor 1260	0.089	U	0.084	U	-5.78		Ok - both ND
Aroclor 1262	0.089	U	0.084	U	-5.78		Ok - both ND
Aroclor 1268	0.089	U	0.084	U	-5.78		Ok - both ND

Note that P-FD028 is located in SDG 23K0795.

23K0808 KF

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time

7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction											
1	P-318-Ex-0607	11/2/2023	8:11			U		1				H											
2	P-318-Ex-0708	11/2/2023	8:12			U		1				H											
3	P-319-Ex-000.5	11/2/2023	8:15			U		1				X											
4	P-319-Ex-0.501	11/2/2023	8:16			U		1				H											
5	P-319-Ex-0101.5	11/2/2023	8:17			U		1				H											
6	P-319-Ex-01.502	11/2/2023	8:18			U		1				H											
7	P-319-Ex-0202.5	11/2/2023	8:19			U		1				H											
8	P-319-Ex-02.503	11/2/2023	8:20			U		1				H											
9	P-319-Ex-0303.5	11/2/2023	8:21			U		1				H											
10	P-319-Ex-03.504	11/2/2023	8:22			U		3				H											

[2] Preservation Code

Courier Use Only

Total Number Of:

VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N

Glassware in freezer? Y / N

Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)		Date/Time: 11/6/23 1157
Received by: (signature)		Date/Time: 11/6/23 1157
Relinquished by: (signature)		Date/Time: 11/6/23 1630
Received by: (signature)		Date/Time: 11/6/23 1630
Relinquished by: (signature)		Date/Time:
Received by: (signature)		Date/Time:
Relinquished by: (signature)		Date/Time:
Received by: (signature)		Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Pace Analytical®
Phone: 612-607-6400
Fax: 612-607-6344
https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction	I
11	P-319-Ex-0404.5	11/2/2023	8:23			U		1				H	
12	P-319-Ex-04.505	11/2/2023	8:24			U		1				H	
13	P-319-Ex-0506	11/2/2023	8:25			U		1				H	
14	P-319-Ex-0607	11/2/2023	8:26			U		1				H	
15	P-319-Ex-0708	11/2/2023	8:27			U		1				H	
16	P-320-Ex-000.5	11/2/2023	8:30			U		1				X	
17	P-320-Ex-0.501	11/2/2023	8:31			U		1				H	
18	P-320-Ex-0101.5	11/2/2023	8:32			U		1				H	
19	P-320-Ex-01.502	11/2/2023	8:33			U		1				H	
20	P-320-Ex-0202.5	11/2/2023	8:34			U		1				H	

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? (Y) N
Glassware in freezer? Y (N)
Prepackaged Cooler? (Y) N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time:	11/6/23 1152
Received by: (signature)	Date/Time:	11/6/23 1157
Relinquished by: (signature)	Date/Time:	11/6/23 1630
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

NELAC and AIHA-LAP, LLC Accredited

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

December 18, 2023
Nobis File No. S00001.017

Ms. Christine Beling
USEPA - Region I
Land, Chemicals, and Redevelopment Division
5 Post Office Square, Suite 100
Boston, MA 02109-3912

Re: USEPA Contract No. 68HE0122D0001
USEPA Task Order No. 68HE0122F0044
Targeted Brownfield Assessment (TBA) Site
St. Johnsbury Armory Site
St. Johnsbury, Vermont
Sample Delivery Group (SDG) No. 23K1921

Pace Analytical (formerly Con-test), East Longmeadow, MA

Tier 1 Stage 2A Organic Data Review

Polychlorinated Biphenyls (PCBs by 8082A):

3/Building Material Samples: P-329-EX, P-330-EX, P-331-EX

Dear Ms. Beling:

Nobis Group (Nobis), under a USEPA contract as a subcontractor to KGSNE JV II, LLC (KGSNE), performed a Tier 1 Stage 2A manual data review (S2AVM) on the organic analytical data for the samples listed above. The samples were collected by Nobis at the St. Johnsbury Armory site located in St. Johnsbury, Vermont, on November 1, 2023 and November 2, 2023. The samples were analyzed for PCB Aroclors by EPA Method 8082A by Pace Analytical (formerly Con-test).

The Tier 1 Stage 2A manual data review was performed in accordance with the Region I - EPA New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures (September 2020); USEPA's National Functional Guidelines for Organic Superfund Methods Data Review (November 2020); the Program Quality Assurance Project Plan (Program QAPP) dated October 2022, the Quality Assurance Project Plan Addendum (QAPPA) (July 2023) and the QAPPA Update (October 2023) for St. Johnsbury Armory, which append the October 2022 Program QAPP.

The data were evaluated based on the following parameters:

*	•	Overall Evaluation of Data and Potential Usability Issues
*	•	Data Completeness
*	•	Preservation and Technical Holding Times
*	•	Blanks
*	•	Surrogates (PCBs only)
NA	•	Internal Standards
*	•	Matrix Spike Analysis
NA	•	Laboratory Duplicates
*	•	Laboratory Control Samples (LCS)/Standard Reference Material (SRM) Recovery (metals only)
NA	•	Field Duplicates

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

NA	•	ICP Serial Dilutions (metals only)
NA	•	Performance Evaluation (PE) Samples
*	•	Target Analyte Identification
*	•	Reported Quantitation Limits

* All criteria were met for this parameter or qualification was not required.
NA – Not applicable.

Overall Evaluation of Data and Potential Usability Issues

The site sampling objectives are:

- Perform a supplemental hazardous building material survey (HBMS) to address data gaps identified by Atlas Technical Consultants (ATC).
- Further delineate the distribution of hazardous materials to support future building renovation and reuse or demolition and disposal.
- Evaluate sub-slab soils for possible contamination by PCBs.

Note that 20 samples are included on the COC for this SDG. All samples were placed on hold at the laboratory except for sample P-FD024, which was analyzed and reported in SDG 23K0796. Analysis of 3 of the on-hold samples was subsequently requested by Nobis. This data review includes results for the 3 samples.

The data meet the project quality criteria and can be used without restriction except as summarized below. The attachments provide details and supporting documentation.

PCBs:
Qualification of the data was not required.

Please contact Linda Terzis at lterzis@nobis-group.com should you have any questions or comments regarding this information.

Sincerely,

NOBIS GROUP®

Linda Terzis
Data Validator

Gary Glennon
Data Validator

Tables: Data Summary Tables – Tier 1 Stage 2A (S2AVM) Validated Data
Data Qualification Actions Table

Attachments: Data Review Checklist
Support Documentation
COC

cc: Denis McGrath (Nobis Group)
Tim Andrews (Nobis Group)

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material		
Lab Sample ID		23K1921-01	23K1921-02	23K1921-03
Field Sample ID		P-329-EX	P-330-EX	P-331-EX
Sample Type		N	N	N
Parent Sample ID				
Sample Date	**Units**	11/02/23	11/02/23	11/02/23
Aroclor 1016	mg/kg	0.099 U	0.099 U	0.099 U
Aroclor 1221	mg/kg	0.099 U	0.099 U	0.099 U
Aroclor 1232	mg/kg	0.099 U	0.099 U	0.099 U
Aroclor 1242	mg/kg	0.099 U	0.099 U	0.099 U
Aroclor 1248	mg/kg	0.099 U	0.099 U	0.099 U
Aroclor 1254	mg/kg	0.099 U	0.099 U	0.099 U
Aroclor 1260	mg/kg	0.099 U	0.099 U	0.099 U
Aroclor 1262	mg/kg	0.099 U	0.099 U	0.099 U
Aroclor 1268	mg/kg	0.099 U	0.099 U	0.099 U

Data Review Qualification Actions
Case: St. Johnsbury Armory
SDG: 23K1921

Parameter	Analyte	Samples	Evaluation Criteria	Action Needed	Comments
PCBs					
	Qualification of the data was not required.				

Tier 1 Stage 2A Data Review Checklist

Project: St. Johnsbury Armory Site, St. Johnsbury, Vermont
Project #: S00001.017
Case#: NA
Date: 12/12/2023
Methods: PCBs (8082A)
Laboratory: Pace Analytical (formerly Con-test), East Longmeadow, MA
SDG: 23K1921
Reviewer: Linda Terzis

1. **Case Narrative and Data Package Completeness (COC and Analyte List Review)**
Twenty (20) building material samples, including seven (7) field duplicate samples, were listed on the COC for SDG 23K1921. Note that all samples except P-FD024 were placed on hold. Sample P-FD024 was analyzed and reported in SDG 23K0796. Analysis of 3 of the on-hold samples was subsequently requested by Nobis. Results for the 3 samples are reported in this SDG and included in the data review. The samples were collected on 11/01/2023 and 11/02/2023 and were received at the laboratory on 11/06/2023 at 2.5 °C.

Sample ID	Laboratory ID	Analyses
P-329-EX	23K1921-01	PCBs
P-330-EX	23K1921-02	PCBs
P-331-EX	23K1921-03	PCBs

A complete laboratory report was received for SDG 23K1921.

2. **Holding Time and Sample Preservation Compliance**

Receipt temperature met the acceptable level of ≤ 6 °C.

PCBs: Holding time limits are not applicable for building material samples, based on Table 3 of the Quality Assurance Project Plan Addendum (QAPPA) for the St. Johnsbury Armory site (July 2023). No actions are required.

3. **Calibration Issues**

Not assessed for S2AVM.

4. **Lab and Field Blanks**

PCBs: Results for the laboratory method blank associated with the samples of this SDG were non-detect. No blank actions are required.

An equipment blank was not required during sample collection for the site.

5. **Interference Check Sample (metals only)**

Not applicable for this analysis.

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

6. **Surrogates (PCBs only)**

   PCBs: Surrogate recoveries were within the Program QAPP limits (30-150%) for all samples. No actions are required.

7. **Laboratory Control Samples**

   PCBs: Percent recoveries of Aroclors 1016 and 1260 in the PCB LCS/LCSD pair met the Program QAPP limits of 40-140% recovery and relative percent difference (RPD) ≤ 30%. No action is required.

8. **Matrix Spikes**

   PCBs: Only Aroclors 1016 and 1260 were spiked in the MS/MSD; therefore, based on professional judgment, if actions are required, they are applied as follows:

   If 1016 %R or %RPD out: Qualify 1016, 1221, 1232, 1242
   If 1260 %R or %RPD out: Qualify 1248, 1254, 1260, 1262,1268

   MS/MSD analyses were performed on sample P-329-EX (23K1921-01).

   Percent recoveries of Aroclors 1016 and 1260 met the Program QAPP limits of 40-140% in the MS and MSD analyses on both analytical columns. No action is required.

9. **Laboratory Duplicates**

   Not applicable for this analysis.

10. **Serial Dilution (metals only)**

    Not applicable for this analysis.

11. **Field Duplicate Precision**

    Criteria based on the EPA Region I Environmental Data Review Supplement (September 2020): RPD ≤ 50% (soils) for results ≥ 5x QL or absolute difference of ≤ 4x QL for results < 5X QL.

    Field duplicate samples were analyzed with the samples of this SDG. No action is required.

12. **Internal Standards**

    Not applicable for this analysis.

13. **Dual Column Precision (PCBs only)**

    Results for all PCB Aroclors were non-detect for all samples. Dual column precision criteria (≤ 25% RPD per the National Functional Guidelines [NFGs, 2020]) were met. No actions are required.

14. **Performance Evaluation (PE) Samples**

    A PE sample was not submitted with the samples of this SDG. No actions are required.

15. Quantitation Limits

PCBs: Laboratory quantitation limits (QLs) for non-detect Aroclor results met the PAL of ≤ 1 mg/kg for total PCBs, per Table 4 of the QAPPA.

16. Other

The EPA Region I Environmental Data Review Supplement (2020) percent solids criterion of ≥ 30% for soil samples does not apply to building material samples.

Overall bias is considered indeterminate when cumulative nonconformances do not show a consistent bias or in cases of the presence of conflicting high and low biases.

23K1921

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time

7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction											
	P-328-Ex-06.507	11/2/2023	10:58			U		1				H											
	P-328-Ex-0707.5	11/2/2023	10:59			U		1				H											
	P-328-Ex-07.508	11/2/2023	11:00			U		1				H											
	P-328-Ex-0808.5	11/2/2023	11:01			U		1				H											
	P-328-Ex-08.509	11/2/2023	11:02			U		1				H											
	P-328-Ex-0909.5	11/2/2023	11:03			U		1				H											
	P-328-Ex-09.510	11/2/2023	11:04			U		1				H											
	P-328-Ex-1010.5	11/2/2023	11:05			U		1				H											
	P-328-Ex-10.511	11/2/2023	11:06			U		1				H											
	P-328-Ex-1112	11/2/2023	11:07			U		3				H											

[2] Preservation Code

Courier Use Only

Total Number Of:

VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)		Date/Time: 11/6/23 1157
Received by: (signature)		Date/Time: 11/6/23 1157
Relinquished by: (signature)		Date/Time: 11/6/23 1630
Received by: (signature)		Date/Time: 11/6/23 1630
Relinquished by: (signature)		Date/Time:
Received by: (signature)		Date/Time:
Relinquished by: (signature)		Date/Time:
Received by: (signature)		Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other

☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Per client, P-329-Ex, P-330-Ex & P-331-Ex are to be analyzed.

-RLF 11/14/23

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Pace Analytical®
Phone: 612-607-6400
Fax: 612-607-6344
https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction	[2] Preservation Code
01	P-329-Ex	11/2/2023	11:09			U		1				H	
02	P-330-Ex	11/2/2023	11::10			U		1				H	
03	P-331-Ex	11/2/2023	11:11			U		1				H	
	P-FD019	11/1/2023	8:00			U		1				H	
	P-FD020	11/1/2023	8:01			U		1				H	
	P-FD021	11/1/2023	8:02			U		1				H	
	P-FD022	11/1/2023	8:03			U		1				H	
	P-FD023	11/1/2023	8:04			U		1				H	
	P-FD024	11/1/2023	8:05			U		1				X	
	P-FD025	11/1/2023	8:06			U		1				H	

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time: 11/6/23 1157	Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.
Received by: (signature)	Date/Time: 11/6/23 1157	
Relinquished by: (signature)	Date/Time: 11/6/23 1630	
Received by: (signature)	Date/Time: 11/6/23 1630	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

December 18, 2023
Nobis File No. S00001.017

Ms. Christine Beling
USEPA - Region I
Land, Chemicals, and Redevelopment Division
5 Post Office Square, Suite 100
Boston, MA 02109-3912

Re: USEPA Contract No. 68HE0122D0001
USEPA Task Order No. 68HE0122F0044
Targeted Brownfield Assessment (TBA) Site
St. Johnsbury Armory Site
St. Johnsbury, Vermont
Sample Delivery Group (SDG) No. 23K2921

Pace Analytical (formerly Con-test), East Longmeadow, MA

Tier 1 Stage 2A Organic Data Review

Polychlorinated Biphenyls (PCBs by 8082A):

9/Soil Samples: P-308-EX-0.501, P-313-EX-0.501, P-314-EX-0.501, P-315-EX-0.501, P-315-EX-0101.5, P-316-EX-0.501, P-321-EX-0.501, P-323-EX-0.501, P-326-EX-0.501

Dear Ms. Beling:

Nobis Group (Nobis), under a USEPA contract as a subcontractor to KGSNE JV II, LLC (KGSNE), performed a Tier 1 Stage 2A manual data review (S2AVM) on the organic analytical data for the samples listed above. The samples were collected by Nobis at the St. Johnsbury Armory site located in St. Johnsbury, Vermont, on November 1, 2023 and November 2, 2023. The samples were analyzed for PCB Aroclors by EPA Method 8082A by Pace Analytical (formerly Con-test).

The Tier 1 Stage 2A manual data review was performed in accordance with the Region I - EPA New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures (September 2020); USEPA's National Functional Guidelines for Organic Superfund Methods Data Review (November 2020); the Program Quality Assurance Project Plan (Program QAPP) dated October 2022, the Quality Assurance Project Plan Addendum (QAPPA) (July 2023) and the QAPPA Update (October 2023) for St. Johnsbury Armory, which append the October 2022 Program QAPP.

The data were evaluated based on the following parameters:

*	•	Overall Evaluation of Data and Potential Usability Issues
*	•	Data Completeness
*	•	Preservation and Technical Holding Times
*	•	Blanks
*	•	Surrogates (PCBs only)
NA	•	Internal Standards
NA	•	Matrix Spike Analysis
NA	•	Laboratory Duplicates
*	•	Laboratory Control Samples (LCS)/Standard Reference Material (SRM) Recovery (metals only)

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

NA	•	Field Duplicates
NA	•	ICP Serial Dilutions (metals only)
NA	•	Performance Evaluation (PE) Samples
*	•	Target Analyte Identification
*	•	Reported Quantitation Limits

* All criteria were met for this parameter or qualification was not required.
NA – Not applicable.

Overall Evaluation of Data and Potential Usability Issues

The site sampling objectives are:

- Perform a supplemental hazardous building material survey (HBMS) to address data gaps identified by Atlas Technical Consultants (ATC).
- Further delineate the distribution of hazardous materials to support future building renovation and reuse or demolition and disposal.
- Evaluate sub-slab soils for possible contamination by PCBs.

Note that 20 samples are included on the COC for this SDG. All samples were placed on hold at the laboratory. Analysis of the 9 samples of this SDG was subsequently requested by Nobis on 11/20/2023. This data review includes results for the 9 samples.

The data meet the project quality criteria and can be used without restriction except as summarized below. The attachments provide details and supporting documentation.

PCBs:
Qualification of the data was not required.

Please contact Linda Terzis at lterzis@nobis-group.com should you have any questions or comments regarding this information.

Sincerely,

NOBIS GROUP®

Linda Terzis
Data Validator

Gary Glennon
Data Validator

Tables: Data Summary Tables – Tier 1 Stage 2A (S2AVM) Validated Data
Data Qualification Actions Table

Attachments: Data Review Checklist
Support Documentation
COC

cc: Denis McGrath (Nobis Group)
Tim Andrews (Nobis Group)

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Soil				
Lab Sample ID		23K2921-01	23K2921-02	23K2921-03	23K2921-04	23K2921-05
Field Sample ID		P-308-EX-0.501	P-313-EX-0.501	P-314-EX-0.501	P-315-EX-0.501	P-315-EX-0101.5
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	11/01/23	11/01/23	11/01/23	11/01/23	11/01/23
Aroclor 1016	mg/kg	0.084 U	0.083 U	0.087 U	0.085 U	0.087 U
Aroclor 1221	mg/kg	0.084 U	0.083 U	0.087 U	0.085 U	0.087 U
Aroclor 1232	mg/kg	0.084 U	0.083 U	0.087 U	0.085 U	0.087 U
Aroclor 1242	mg/kg	0.084 U	0.083 U	0.087 U	0.085 U	0.087 U
Aroclor 1248	mg/kg	0.084 U	0.083 U	0.087 U	0.085 U	0.087 U
Aroclor 1254	mg/kg	0.084 U	0.15	0.1	0.085 U	0.087 U
Aroclor 1260	mg/kg	0.084 U	0.083 U	0.087 U	1.3	0.097
Aroclor 1262	mg/kg	0.084 U	0.083 U	0.087 U	0.085 U	0.087 U
Aroclor 1268	mg/kg	0.084 U	0.083 U	0.087 U	0.085 U	0.087 U

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Soil			
Lab Sample ID		23K2921-06	23K2921-07	23K2921-08	23K2921-09
Field Sample ID		P-316-EX-0.501	P-321-EX-0.501	P-323-EX-0.501	P-326-EX-0.501
Sample Type		N	N	N	N
Parent Sample ID					
Sample Date	**Units**	11/01/23	11/02/23	11/02/23	11/02/23
Aroclor 1016	mg/kg	0.086 U	0.083 U	0.083 U	0.082 U
Aroclor 1221	mg/kg	0.086 U	0.083 U	0.083 U	0.082 U
Aroclor 1232	mg/kg	0.086 U	0.083 U	0.083 U	0.082 U
Aroclor 1242	mg/kg	0.086 U	0.083 U	0.083 U	0.082 U
Aroclor 1248	mg/kg	0.086 U	0.083 U	0.083 U	0.082 U
Aroclor 1254	mg/kg	0.11	0.2	0.23	0.082 U
Aroclor 1260	mg/kg	0.086 U	0.083 U	0.083 U	0.082 U
Aroclor 1262	mg/kg	0.086 U	0.083 U	0.083 U	0.082 U
Aroclor 1268	mg/kg	0.086 U	0.083 U	0.083 U	0.082 U

DATA SUMMARY TABLE

Analysis		General Chemistry in Soil				
Lab Sample ID		23K2921-01	23K2921-02	23K2921-03	23K2921-04	23K2921-05
Field Sample ID		P-308-EX-0.501	P-313-EX-0.501	P-314-EX-0.501	P-315-EX-0.501	P-315-EX-0101.5
Sample Type		N	N	N	N	N
Parent Sample ID						
Sample Date	**Units**	11/01/23	11/01/23	11/01/23	11/01/23	11/01/23
Solids, Percent	%	91.5	91.3	89.7	90.2	90

DATA SUMMARY TABLE

Analysis		General Chemistry in Soil			
Lab Sample ID		23K2921-06	23K2921-07	23K2921-08	23K2921-09
Field Sample ID		P-316-EX-0.501	P-321-EX-0.501	P-323-EX-0.501	P-326-EX-0.501
Sample Type		N	N	N	N
Parent Sample ID					
Sample Date	**Units**	11/01/23	11/02/23	11/02/23	11/02/23
Solids, Percent	%	88.6	93	93.1	93.3

Data Review Qualification Actions
Case: St. Johnsbury Armory
SDG: 23K2921

Parameter	Analyte	Samples	Evaluation Criteria	Action Needed	Comments
PCBs					
	Qualification of the data was not required.				

Tier 1 Stage 2A Data Review Checklist

Project: St. Johnsbury Armory Site, St. Johnsbury, Vermont
Project #: S00001.017
Case#: NA
Date: 12/13/2023
Methods: PCBs (8082A)
Laboratory: Pace Analytical (formerly Con-test), East Longmeadow, MA
SDG: 23K2921
Reviewer: Linda Terzis

1. **Case Narrative and Data Package Completeness (COC and Analyte List Review)**
Nine (9) soil samples were listed on the COC for SDG 23K2921. The samples were collected on 11/01/2023 and 11/02/2023 and were received at the laboratory on 11/06/2023 at temperatures ranging from 2.5 to 4.0 °C. The samples were placed on hold. Analysis of these 9 samples was subsequently requested by Nobis on 11/20/2023. Results for the 9 samples are reported in this SDG and included in the data review.

Sample ID	Laboratory ID	Analyses
P-308-EX-0.501	23K2921-01	PCBs
P-313-EX-0.501	23K2921-02	PCBs
P-314-EX-0.501	23K2921-03	PCBs
P-315-EX-0.501	23K2921-04	PCBs
P-315-EX-0101.5	23K2921-05	PCBs
P-316-EX-0.501	23K2921-06	PCBs
P-321-EX-0.501	23K2921-07	PCBs
P-323-EX-0.501	23K2921-08	PCBs
P-326-EX-0.501	23K2921-09	PCBs

A complete laboratory report was received for SDG 23K2921.

2. **Holding Time and Sample Preservation Compliance**

Receipt temperature met the acceptable level of ≤ 6 °C.

PCBs: The samples were extracted within the holding time of 14 days of the samples being released from on-hold status (November 20, 2023). The samples were analyzed within 40 days of extraction, as specified on Table 2-6-1 of the Program QAPP (October 2022). No actions are required.

3. **Calibration Issues**

Not assessed for S2AVM.

4. **Lab and Field Blanks**

PCBs: Results for the laboratory method blank associated with the samples of this SDG were non-detect. No blank actions are required.

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

An equipment blank was not required during sample collection for the site.

5. **Interference Check Sample (metals only)**

   Not applicable for this analysis.

6. **Surrogates (PCBs only)**

   PCBs: Surrogate recoveries were within the Program QAPP limits (30-150%) for all samples. No actions are required.

7. **Laboratory Control Samples**

   PCBs: Percent recoveries of Aroclors 1016 and 1260 in the PCB LCS/LCSD pair met the Program QAPP limits of 40-140% recovery and relative percent difference (RPD) ≤ 30%. No action is required.

8. **Matrix Spikes**

   PCBs: Only Aroclors 1016 and 1260 were spiked in the MS/MSD; therefore, based on professional judgment, if actions are required, they are applied as follows:

   If 1016 %R or %RPD out: Qualify 1016, 1221, 1232, 1242
   If 1260 %R or %RPD out: Qualify 1248, 1254, 1260, 1262,1268

   MS/MSD analyses were not performed for this SDG. No action is required.

9. **Laboratory Duplicates**

   Not applicable for this analysis.

10. **Serial Dilution (metals only)**

    Not applicable for this analysis.

11. **Field Duplicate Precision**

    Criteria based on the EPA Region I Environmental Data Review Supplement (September 2020): RPD ≤ 50% (soils) for results ≥ 5x QL or absolute difference of ≤ 4x QL for results < 5X QL.

    Field duplicate samples were not submitted with the samples of this SDG. No actions are required.

12. **Internal Standards**

    Not applicable for this analysis.

13. **Dual Column Precision (PCBs only)**

    Dual column precision criteria (≤ 25% RPD per the National Functional Guidelines [NFGs, 2020]) were met for all Aroclor detections. RPDs for the Aroclor 1254 detections in samples 23K2921-03

and 23K2921-06 were not provided by laboratory since detections were near the RL and alternate column results were < RL. No actions are required.

14. Performance Evaluation (PE) Samples

A PE sample was not submitted with the samples of this SDG. No actions are required.

15. Quantitation Limits

PCBs: Laboratory quantitation limits (QLs) for non-detect Aroclor results met the PAL of ≤ 1 mg/kg for total PCBs, per Table 4 of the QAPPA.

16. Other

The EPA Region I Environmental Data Review Supplement (2020) percent solids criterion of ≥ 30% was met for all soil samples. No actions are required.

Overall bias is considered indeterminate when cumulative nonconformances do not show a consistent bias or in cases of the presence of conflicting high and low biases.

23K0744 RF

Pace Analytical
Phone: 612-607-6400
Fax: 612-607-6344
https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction										
1	P-308-Ex-0.501	11/1/2023	11:01			U		1				H										
2	P-308-Ex-0101.5	11/1/2023	11:02			U		1				H										
3	P-308-Ex-01.502	11/1/2023	11:03			U		1				H										
4	P-308-Ex-0202.5	11/1/2023	11:04			U		1				H										
5	P-308-Ex-02.503	11/1/2023	11:05			U		1				H										
6	P-308-Ex-0303.5	11/1/2023	11:06			U		1				H										
7	P-308-Ex-03.504	11/1/2023	11:07			U		1				H										
8	P-308-Ex-0404.5	11/1/2023	11:08			U		1				H										
9	P-308-Ex-04.505	11/1/2023	11:09			U		1				H										
10	P-308-Ex-0506	11/1/2023	11:10			U		1				H										

[2] Preservation Code
Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? (Y) N
Glassware in freezer? Y (N)
Prepackaged Cooler? (Y) / N
*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time: 11/6/23 1157
Received by: (signature)	Date/Time: 11/6/23 1157
Relinquished by: (signature)	Date/Time: 11/6/23 1630
Received by: (signature)	Date/Time: 11/6/23 1630
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

23K0794 RF

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction	
11	P-308-Ex-0607	11/1/2023	11:11			U		1				H	
12	P-308-Ex-0708	11/1/2023	11:12			U		1				H	
13	P-309-Ex-000.5	11/1/2023	11:50			U		1				X	
14	P-309-Ex-0.501	11/1/2023	11:51			U		1				H	
15	P-309-Ex-0101.5	11/1/2023	11:52			U		1				H	
16	P-309-Ex-01.502	11/1/2023	11:53			U		1				H	
17	P-309-Ex-0202.5	11/1/2023	11:54			U		1				H	
18	P-309-Ex-02.503	11/1/2023	11:55			U		1				H	
19	P-309-Ex-0303.5	11/1/2023	11:56			U		1				H	
20	P-309-Ex-03.504	11/1/2023	11:57			U		3				H	

Relinquished by: (signature)		Date/Time: 11/6/23 1157
Received by: (signature)		Date/Time: 11/6/23 1157
Relinquished by: (signature)		Date/Time: 11/6/23 1620
Received by: (signature)		Date/Time:
Relinquished by: (signature)		Date/Time:
Received by: (signature)		Date/Time:
Relinquished by: (signature)		Date/Time:
Received by: (signature)		Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

NELAC and AIHA-LAP, LLC Accredited
Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[2] Preservation Code
Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? (Y) N
Glassware in freezer? Y (N)
Prepackaged Cooler? Y (N)
*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

23K0147 KT

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time

7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction	[2] Preservation Code
1	P-325-Ex-000.5	11/2/2023	10:10			U		3				X	
2	P-325-Ex-0.501	11/2/2023	10:11			U		1				H	
3	P-325-Ex-0101.5	11/2/2023	10:12			U		1				H	
4	P-325-Ex-01.502	11/2/2023	10:13			U		1				H	
5	P-325-Ex-0202.5	11/2/2023	10:14			U		1				H	
6	P-325-Ex-02.503	11/2/2023	10:15			U		1				H	
7	P-325-Ex-0303.5	11/2/2023	10:16			U		1				H	
8	P-325-Ex-03.504	11/2/2023	10:17			U		1				H	
9	P-325-Ex-0404.5	11/2/2023	10:18			U		1				H	
10	P-325-Ex-04.505	11/2/2023	10:19			U		1				H	

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)		Date/Time: 11/6/23 1157
Received by: (signature)		Date/Time: 11/6/23 1157
Relinquished by: (signature)		Date/Time: 11/6/23 1630
Received by: (signature)	29	Date/Time: 11/6/23 1630
Relinquished by: (signature)	28.4	Date/Time:
Received by: (signature)	25.	Date/Time:
Relinquished by: (signature)		Date/Time:
Received by: (signature)		Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Pace Analytical®
Phone: 612-607-6400
Fax: 612-607-6344
https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction	[2] Preservation Code
11	P-325-Ex-0506	11/2/2023	10:20			U		1				H	
12	P-325-Ex-0607	11/2/2023	10:21			U		1				H	
13	P-325-Ex-0708	11/2/2023	10:22			U		1				H	
14	P-326-Ex-000.5	11/2/2023	10:30			U		3				X	
15	P-326-Ex-0.501	11/2/2023	10:31			U		1				H	
16	P-326-Ex-0101.5	11/2/2023	10:32			U		1				H	
17	P-326-Ex-01.502	11/2/2023	10:33			U		1				H	
18	P-326-Ex-0202.5	11/2/2023	10:34			U		1				H	
19	P-326-Ex-02.503	11/2/2023	10:35			U		1				H	
20	P-326-Ex-0303.5	11/2/2023	10:36			U		1				H	

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time: 11/6/23 1157	Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.
Received by: (signature)	Date/Time: 11/6/23 1157	
Relinquished by: (signature)	Date/Time: 11/6/23 1630	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

23K0802 RF

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction	
1	P-312-Ex-04.505	11/1/2023	13:49			U		1				H	
2	P-312-Ex-0506	11/1/2023	13:50			U		1				H	
3	P-312-Ex-0607	11/1/2023	13:51			U		1				H	
4	P-312-Ex-0708	11/1/2023	13:52			U		1				H	
5	P-313-Ex-000.5	11/1/2023	13:55			U		3				X	
6	P-313-Ex-0.501	11/1/2023	13:56			U		1				H	
7	P-313-Ex-0101.5	11/1/2023	13:57			U		1				H	
8	P-313-Ex-01.502	11/1/2023	13:58			U		1				H	
9	P-313-Ex-0202.5	11/1/2023	13:59			U		1				H	
10	P-313-Ex-02.503	11/1/2023	14:00			U		1				H	

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time:	11/6/23 15
Received by: (signature)	Date/Time:	11/6/23 1152
Relinquished by: (signature)	Date/Time:	11/6/23 1630
Received by: (signature)	Date/Time:	11/7/23 630
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
CT
Others

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

23K0802 RF

Pace Analytical

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction	
11	P-313-Ex-0303.5	11/1/2023	14:01			U		1				H	
12	P-313-Ex-03.504	11/1/2023	14:02			U		1				H	
13	P-313-Ex-0404.5	11/1/2023	14:03			U		1				H	
14	P-313-Ex-04.505	11/1/2023	14:04			U		1				H	
15	P-313-Ex-0506	11/1/2023	14:05			U		1				H	
16	P-313-Ex-0607	11/1/2023	14:06			U		1				H	
17	P-313-Ex-0708	11/1/2023	14:07			U		1				H	
18	P-314-Ex-000.5	11/1/2023	14:10			U		1				X	
19	P-314-Ex-0.501	11/1/2023	14:11			U		1				H	
20	P-314-Ex-0101.5	11/1/2023	14:12			U		1				H	

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Relinquished by: (signature)		Date/Time: 11/6/23 1157
Received by: (signature)		Date/Time: 11/6/23 1157
Relinquished by: (signature)		Date/Time: 11/6/23 1600
Received by: (signature)		Date/Time:
Relinquished by: (signature)		Date/Time:
Received by: (signature)		Date/Time:
Relinquished by: (signature)		Date/Time:
Received by: (signature)		Date/Time:

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

NELAC and AIHA-LAP, LLC Accredited
Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

[2] Preservation Code
Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? (Y) N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N
*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

L3K0808 KT

Pace Analytical®
Phone: 612-607-6400
Fax: 612-607-6344
https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time			
7-Day	☐	10-Day	☑
PFAS 10-Day (std)	☐	Due Date:	

Rush-Approval Required			
1-Day	☐	3-Day	☐
2-Day	☐	4-Day	☐

Data Delivery			
Format:	PDF ☑	EXCEL ☑	
Other:	Equis EDD		
CLP Like Data Pkg Required:	☐		
Email To:	tandrews@nobis-group.com		
Fax To #:			

Dissolved Metals Samples	
○	Field Filtered
○	Lab to Filter

Orthophosphate Samples	
○	Field Filtered
○	Lab to Filter

PCB ONLY

SOXHLET ☑

NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction												[2] Preservation Code
1	P-321-Ex-0708	11/2/2023	9:02			U		1				H												
2	P-322-Ex-000.5	11/2/2023	9:10			U		1				X												
3	P-322-Ex-0.501	11/2/2023	9:11			U		1				H												
4	P-322-Ex-0101.5	11/2/2023	9:12			U		1				H												
5	P-322-Ex-01.502	11/2/2023	9:13			U		1				H												
6	P-322-Ex-0202.5	11/2/2023	9:14			U		1				H												
7	P-322-Ex-02.503	11/2/2023	9:15			U		1				H												
8	P-322-Ex-0303.5	11/2/2023	9:16			U		1				H												
9	P-322-Ex-03.504	11/2/2023	9:17			U		1				H												
10	P-322-Ex-0404.5	11/2/2023	9:18			U		1				H												

Courier Use Only

Total Number Of:

VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N

Glassware in freezer? Y / N

Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time: 11/6/23 1157	Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.
Received by: (signature)	Date/Time: 11/6/23 1157	
Relinquished by: (signature)	Date/Time: 11/6/23 1630	
Received by: (signature)	Date/Time: 11/8 1630	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Detection Limit Requirements	
MA	
CT	
Other:	

Special Requirements	
☐	MA MCP Required
	MCP Certification Form Required
☐	CT RCP Required
	RCP Certification Form Required
☐	MA State DW Required
PWSID #	

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government	☐	Municipality	☐	MWRA	☐	WRTA	☐
Federal	☐	21 J	☐	School	☐		
City	☐	Brownfield	☐	MBTA	☐		

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Pace Analytical®
Phone: 612-607-6400
Fax: 612-607-6344
https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1] Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction											[2] Preservation Code
11	P-322-Ex-04.505	11/2/2023	9:19			U		3				H											
12	P-322-Ex-0506	11/2/2023	9:20			U		1				H											
13	P-322-Ex-0607	11/2/2023	9:21			U		1				H											
14	P-322-Ex-0708	11/2/2023	9:22			U		1				H											
15	P-323-Ex-000.5	11/2/2023	9:30			U		1				X											
16	P-323-Ex-0.501	11/2/2023	9:31			U		1				H											
17	P-323-Ex-0101.5	11/2/2023	9:32			U		1				H											
18	P-323-Ex-01.502	11/2/2023	9:33			U		1				H											
19	P-323-Ex-0202.5	11/2/2023	9:34			U		1				H											
20	P-323-Ex-02.503	11/2/2023	9:35			U		1				H											

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? (Y) N
Glassware in freezer? Y (N)
Prepackaged Cooler? Y (N)
*Pace Analytical is not responsible for missing samples from prepacked coolers

	Date/Time:
Relinquished by: (signature)	11/6/23 1157
Received by: (signature)	11/6/23 1157
Relinquished by: (signature)	11/6/23 1630
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
GT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

23K0804 RF

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction										[2] Preservation Code
1	P-314-Ex-01.502	11/1/2023	14:13			U		1				H										
2	P-314-Ex-0202.5	11/1/2023	14:14			U		1				H										
3	P-314-Ex-02.503	11/1/2023	14:15			U		1				H										
4	P-314-Ex-0303.5	11/1/2023	14:16			U		1				H										
5	P-314-Ex-03.504	11/1/2023	14:17			U		1				H										
6	P-314-Ex-0404.5	11/1/2023	14:18			U		1				H										
7	P-314-Ex-04.505	11/1/2023	14:19			U		1				H										
8	P-314-Ex-0506	11/1/2023	14:20			U		1				H										
9	P-314-Ex-0607	11/1/2023	14:21			U		1				H										
10	P-314-Ex-0708	11/1/2023	14:22			U		1				H										

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)		Date/Time: 11/6/23 1157
Received by: (signature)		Date/Time: 11/6/23 1157
Relinquished by: (signature)		Date/Time: 11/6/23 1630
Received by: (signature)		Date/Time: 11/6/23 1630
Relinquished by: (signature)		Date/Time:
Received by: (signature)		Date/Time:
Relinquished by: (signature)		Date/Time:
Received by: (signature)		Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

23K0804 RF

https://www.pacelabs.com/

CHAIN OF CUSTODY RECORD

Doc # 381 Rev 4_01/08/2020

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time

7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
11	P-315-Ex-000.5	11/1/2023	14:25			U		1				X
12	P-315-Ex-0.501	11/1/2023	14:26			U		1				H
13	P-315-Ex-0101.5	11/1/2023	14:27			U		1				H
14	P-315-Ex-01.502	11/1/2023	14:28			U		1				H
15	P-315-Ex-0202.5	11/1/2023	14:29			U		1				H
16	P-315-Ex-02.503	11/1/2023	14:30			U		1				H
17	P-315-Ex-0303.5	11/1/2023	14:31			U		1				H
18	P-315-Ex-03.504	11/1/2023	14:32			U		1				H
19	P-315-Ex-0404.5	11/1/2023	14:33			U		1				H
20	P-315-Ex-04.505	11/1/2023	14:34			U		3				H

Relinquished by: (signature) Date/Time: 11/6/23 1157
Received by: (signature) Date/Time: 11/6/23 1157
Relinquished by: (signature) Date/Time: 11/6/23 1630
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

NELAC and AIHA-LAP, LLC Accredited

Other
☐ Chromatogram
☐ AIHA-LAP,LLC

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

23K0805 RF

Pace Analytical®
Phone: 612-607-6400
Fax: 612-607-6344
https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction											[2] Preservation Code
1	P-320-Ex-02.503	11/2/2023	8:35			U		1				H											
2	P-320-Ex-0303.5	11/2/2023	8:36			U		1				H											
3	P-320-Ex-03.504	11/2/2023	8:37			U		1				H											
4	P-320-Ex-0404.5	11/2/2023	8:38			U		1				H											
5	P-320-Ex-04.505	11/2/2023	8:39			U		1				H											
6	P-320-Ex-0506	11/2/2023	8:40			U		1				H											
7	P-320-Ex-0607	11/2/2023	8:41			U		1				H											
8	P-320-Ex-0708	11/2/2023	8:42			U		1				H											
9	P-321-Ex-000.5	11/2/2023	8:50			U		1				X											
10	P-321-Ex-0.501	11/2/2023	8:51			U		1				H											

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N
*Pace Analytical is not responsible for missing samples from prepacked coolers

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Relinquished by: (signature)	Date/Time: 11/6/23 1157	Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.
Received by: (signature)	Date/Time: 11/6/23 1157	
Relinquished by: (signature)	Date/Time: 11/6/23 1630	
Received by: (signature) 40.29	Date/Time: 11/6/23 1630	
Relinquished by: (signature) 25	Date/Time:	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Pace Analytical®
Phone: 612-607-6400
Fax: 612-607-6344
https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1] Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction	[2] Preservation Code
11	P-321-Ex-0101.5	11/2/2023	8:52			U		1				H	
12	P-321-Ex-01.502	11/2/2023	8:53			U		1				H	
13	P-321-Ex-0202.5	11/2/2023	8:54			U		1				H	
14	P-321-Ex-02.503	11/2/2023	8:55			U		1				H	
15	P-321-Ex-0303.5	11/2/2023	8:56			U		1				H	
16	P-321-Ex-03.504	11/2/2023	8:57			U		1				H	
17	P-321-Ex-0404.5	11/2/2023	8:58			U		1				H	
18	P-321-Ex-04.505	11/2/2023	8:59			U		1				H	
19	P-321-Ex-0506	11/2/2023	9:00			U		1				H	
20	P-321-Ex-0607	11/2/2023	9:01			U		3				H	

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Relinquished by: (signature)	Date/Time:	11/6/23 1157
Received by: (signature)	Date/Time:	11/6/23 1157
Relinquished by: (signature)	Date/Time:	11/6/23 1630
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

NELAC and AIHA-LAP, LLC Accredited

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

23K0807 KF

Pace Analytical

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time

7-Day ☐ 10-Day ☒
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery

Format: PDF ☒ EXCEL ☒
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

PCB ONLY

SOXHLET ☒
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction
1	P-315-Ex-0506	11/1/2023	14:35			U		1				H
2	P-315-Ex-0607	11/1/2023	14:36			U		1				H
3	P-315-Ex-0708	11/1/2023	14:37			U		1				H
4	P-316-Ex-000.5	11/1/2023	14:40			U		1				X
5	P-316-Ex-0.501	11/1/2023	14:41			U		1				H
6	P-316-Ex-0101.5	11/1/2023	14:42			U		1				H
7	P-316-Ex-01.502	11/1/2023	14:43			U		1				H
8	P-316-Ex-0202.5	11/1/2023	14:44			U		1				H
9	P-316-Ex-02.503	11/1/2023	14:45			U		1				H
10	P-316-Ex-0303.5	11/1/2023	14:46			U		1				H

[2] Preservation Code

Courier Use Only

Total Number Of:

VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? (Y) / N

Glassware in freezer? Y (N)

Prepackaged Cooler? (Y) / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time:	11/6/23 1157
Received by: (signature)	Date/Time:	11/6/23 1157
Relinquished by: (signature)	Date/Time:	11/6/23 1630
Received by: (signature)	Date/Time:	11/6/23 1630
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ AIHA-LAP,LLC

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

23K0807-RF

Pace Analytical

Phone: 612-607-6400
Fax: 612-607-6344

https://www.pacelabs.com/

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time

7-Day ☐ 10-Day ☒
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery

Format: PDF ☒ EXCEL ☒
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

PCB ONLY

SOXHLET ☒
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	*Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction												[2] Preservation Code
11	P-316-Ex-03.504	11/1/2023	14:47			U		1				H												
12	P-316-Ex-0404.5	11/1/2023	14:48			U		1				H												
13	P-316-Ex-04.505	11/1/2023	14:49			U		1				H												
14	P-316-Ex-0506	11/1/2023	14:50			U		1				H												
15	P-316-Ex-0607	11/1/2023	14:51			U		1				H												
16	P-316-Ex-0708	11/1/2023	14:52			U		3				H												
17	P-317-Ex-000.5	11/1/2023	14:55			U		1				X												
18	P-317-Ex-0.501	11/1/2023	14:56			U		1				H												
19	P-317-Ex-0101.5	11/1/2023	14:57			U		1				H												
20	P-317-Ex-01.502	11/1/2023	14:58			U		1				H												

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Relinquished by: (signature)		Date/Time: 11/6/23 1157
Received by: (signature)		Date/Time: 11/6/23 1157
Relinquished by: (signature)		Date/Time: 11/6/23 1630
Received by: (signature)		Date/Time:
Relinquished by: (signature)		Date/Time:
Received by: (signature)		Date/Time:
Relinquished by: (signature)		Date/Time:
Received by: (signature)		Date/Time:

Lab Comments:

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Other

☐ Chromatogram
☐ *AIHA-LAP,LLC*

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
! = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

December 18, 2023
Nobis File No. S00001.017

Ms. Christine Beling
USEPA - Region I
Land, Chemicals, and Redevelopment Division
5 Post Office Square, Suite 100
Boston, MA 02109-3912

Re: USEPA Contract No. 68HE0122D0001
USEPA Task Order No. 68HE0122F0044
Targeted Brownfield Assessment (TBA) Site
St. Johnsbury Armory Site
St. Johnsbury, Vermont
Sample Delivery Group (SDG) No. 23L0356

Pace Analytical (formerly Con-test), East Longmeadow, MA

Tier 1 Stage 2A Organic Data Review

Polychlorinated Biphenyls (PCBs by 8082A):

3/Building Material Samples: P-332-EX, P-333-EX, P-334-EX

Dear Ms. Beling:

Nobis Group (Nobis), under a USEPA contract as a subcontractor to KGSNE JV II, LLC (KGSNE), performed a Tier 1 Stage 2A manual data review (S2AVM) on the organic analytical data for the samples listed above. The samples were collected by Nobis at the St. Johnsbury Armory site located in St. Johnsbury, Vermont, on December 3, 2023. The samples were analyzed for PCB Aroclors by EPA Method 8082A by Pace Analytical (formerly Con-test).

The Tier 1 Stage 2A manual data review was performed in accordance with the Region I - EPA New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures (September 2020); USEPA's National Functional Guidelines for Organic Superfund Methods Data Review (November 2020); the Program Quality Assurance Project Plan (Program QAPP) dated October 2022, the Quality Assurance Project Plan Addendum (QAPPA) (July 2023) and the QAPPA Update (October 2023) for St. Johnsbury Armory, which append the October 2022 Program QAPP.

The data were evaluated based on the following parameters:

*	•	Overall Evaluation of Data and Potential Usability Issues
*	•	Data Completeness
*	•	Preservation and Technical Holding Times
*	•	Blanks
*	•	Surrogates (PCBs only)
NA	•	Internal Standards
NA	•	Matrix Spike Analysis
NA	•	Laboratory Duplicates
*	•	Laboratory Control Samples (LCS)/Standard Reference Material (SRM) Recovery (metals only)
NA	•	Field Duplicates

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

NA	•	ICP Serial Dilutions (metals only)
NA	•	Performance Evaluation (PE) Samples
*	•	Target Analyte Identification
*	•	Reported Quantitation Limits

* All criteria were met for this parameter or qualification was not required.
NA – Not applicable.

Overall Evaluation of Data and Potential Usability Issues

The site sampling objectives are:

- Perform a supplemental hazardous building material survey (HBMS) to address data gaps identified by Atlas Technical Consultants (ATC).
- Further delineate the distribution of hazardous materials to support future building renovation and reuse or demolition and disposal.
- Evaluate sub-slab soils for possible contamination by PCBs.

The data meet the project quality criteria and can be used without restriction except as summarized below. The attachments provide details and supporting documentation.

PCBs:
Qualification of the data was not required.

Please contact Linda Terzis at lterzis@nobis-group.com should you have any questions or comments regarding this information.

Sincerely,

NOBIS GROUP®

Linda Terzis
Data Validator

Gary Glennon
Data Validator

Tables: Data Summary Tables – Tier 1 Stage 2A (S2AVM) Validated Data
Data Qualification Actions Table

Attachments: Data Review Checklist
Support Documentation
COC

cc: Denis McGrath (Nobis Group)
Tim Andrews (Nobis Group)

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Building Material		
Lab Sample ID		23L0356-01	23L0356-02	23L0356-03
Field Sample ID		P-332-EX	P-333-EX	P-334-EX
Sample Type		N	N	N
Parent Sample ID				
Sample Date	**Units**	12/04/23	12/04/23	12/04/23
Aroclor 1016	mg/kg	0.091 U	0.095 U	0.095 U
Aroclor 1221	mg/kg	0.091 U	0.095 U	0.095 U
Aroclor 1232	mg/kg	0.091 U	0.095 U	0.095 U
Aroclor 1242	mg/kg	0.091 U	0.095 U	0.095 U
Aroclor 1248	mg/kg	0.091 U	0.095 U	0.095 U
Aroclor 1254	mg/kg	0.091 U	0.095 U	0.095 U
Aroclor 1260	mg/kg	0.091 U	0.095 U	0.095 U
Aroclor 1262	mg/kg	0.091 U	0.095 U	0.095 U
Aroclor 1268	mg/kg	0.091 U	0.095 U	0.095 U

U – not detected; J – estimated value; R – rejected; EB – detected in equipment blank; N – tentatively identified; + biased high; - biased low

Data Review Qualification Actions
Case: St. Johnsbury Armory
SDG: 23L0356

Parameter	Analyte	Samples	Evaluation Criteria	Action Needed	Comments
PCBs					
	Qualification of the data was not required.				

nobis

Tier 1 Stage 2A Data Review Checklist

Project: St. Johnsbury Armory Site, St. Johnsbury, Vermont
Project #: S00001.017
Case#: NA
Date: 12/14/2023
Methods: PCBs (8082A)
Laboratory: Pace Analytical (formerly Con-test), East Longmeadow, MA
SDG: 23L0356
Reviewer: Linda Terzis

1. **Case Narrative and Data Package Completeness (COC and Analyte List Review)**
Three (3) building material samples were listed on the COC for SDG 23L0356. The samples were collected on 12/03/2023 and were received at the laboratory on 12/04/2023 at 3.8 °C.

Sample ID	Laboratory ID	Analyses
P-332-EX	23L0356-01	PCBs
P-333-EX	23L0356-02	PCBs
P-334-EX	23L0356-03	PCBs

A complete laboratory report was received for SDG 23L0356.

2. **Holding Time and Sample Preservation Compliance**

Receipt temperature met the acceptable level of ≤ 6 °C.

PCBs: Holding time limits are not applicable for building material samples, based on Table 3 of the Quality Assurance Project Plan Addendum (QAPPA) for the St. Johnsbury Armory site (July 2023). No actions are required.

3. **Calibration Issues**

Not assessed for S2AVM.

4. **Lab and Field Blanks**

PCBs: Results for the laboratory method blank associated with the samples of this SDG were non-detect. No blank actions are required.

An equipment blank was not required during sample collection for the site.

5. **Interference Check Sample (metals only)**

Not applicable for this analysis.

6. **Surrogates (PCBs only)**

PCBs: Surrogate recoveries were within the Program QAPP limits (30-150%) for all samples. No actions are required.

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

7. **Laboratory Control Samples**

   PCBs: Percent recoveries of Aroclors 1016 and 1260 in the PCB LCS/LCSD pair met the Program QAPP limits of 40-140% recovery and relative percent difference (RPD) ≤ 30%. No action is required.

8. **Matrix Spikes**

   PCBs: Only Aroclors 1016 and 1260 were spiked in the MS/MSD; therefore, based on professional judgment, if actions are required, they are applied as follows:

   If 1016 %R or %RPD out: Qualify 1016, 1221, 1232, 1242
   If 1260 %R or %RPD out: Qualify 1248, 1254, 1260, 1262,1268

   MS/MSD analyses were not performed for this SDG. No action is required.

9. **Laboratory Duplicates**

   Not applicable for this analysis.

10. **Serial Dilution (metals only)**

    Not applicable for this analysis.

11. **Field Duplicate Precision**

    Criteria based on the EPA Region I Environmental Data Review Supplement (September 2020): RPD ≤ 50% (soils) for results ≥ 5x QL or absolute difference of ≤ 4x QL for results < 5X QL.

    Field duplicate samples were not submitted with the samples of this SDG. No action is required.

12. **Internal Standards**

    Not applicable for this analysis.

13. **Dual Column Precision (PCBs only)**

    Results for all Aroclors were non-detect in all samples. Dual column precision criteria (≤ 25% RPD per the National Functional Guidelines [NFGs, 2020]) were met. No actions are required.

14. **Performance Evaluation (PE) Samples**

    A PE sample was not submitted with the samples of this SDG. No actions are required.

15. **Quantitation Limits**

    PCBs: Laboratory quantitation limits (QLs) for non-detect Aroclor results met the PAL of ≤ 1 mg/kg for total PCBs, per Table 4 of the QAPPA.

16. Other

The EPA Region I Environmental Data Review Supplement (2020) percent solids criterion of ≥ 30% for soil samples does not apply to building material samples.

Overall bias is considered indeterminate when cumulative nonconformances do not show a consistent bias or in cases of the presence of conflicting high and low biases.

23L0356 RT

Pace Analytical

Phone: 413-525-2332
Fax: 413-525-6405
http://www.pacelabs.com
39 Spruce Street
East Longmeadow, MA 01028

Access COC's and Support Requests

CHAIN OF CUSTODY RECORD

Doc # 381 Rev 5_07/13/2021

Company Name:	Nobis Group
Address:	18 Chenell Drive, Concord NH
Phone:	
Project Name:	St. Johnsbury Armory
Project Location:	St. Johnsbury VT
Project Number:	50000.017
Project Manager:	Tim Andrews
Pace Quote Name/Number:	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time			
7-Day	☐	10-Day	☐
PFAS 10-Day (std)	☐	Due Date:	12/8

Rush-Approval Required			
1-Day	☐	3-Day	☒
2-Day	☐	4-Day	☐

Dissolved Metals Samples	
○	Field Filtered
○	Lab to Filter

Orthophosphate Samples	
○	Field Filtered
○	Lab to Filter

Data Delivery

Format: PDF ☒ EXCEL ☒
Other: EQuIS EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

PCB ONLY
SOXHLET ☒
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet												[2] Preservation Code
1	P-332-Ex	12/3/23	10:30	G	SOL	U		1				✓												
2	P-333-Ex	↓	10:50	G	SOL	U		1				✓												
3	P-334-Ex	↓	11:15	G	SOL	U		1				✓												

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N
*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)		Date/Time: 12/4/23 13:20
Received by: (signature)		Date/Time: 12/4/23 1320
Relinquished by: (signature)		Date/Time: 12/4/23 17:20
Received by: (signature)	3.8	Date/Time: 12/4 1720
Relinquished by: (signature)		Date/Time:
Received by: (signature)		Date/Time:
Relinquished by: (signature)		Date/Time:
Received by: (signature)		Date/Time:

Client Comments:

Detection Limit Requirements	
MA	
CT	
Other:	

Special Requirements	
☐	MA MCP Required
	MCP Certification Form Required
☐	CT RCP Required
	RCP Certification Form Required
☐	MA State DW Required
PWSID #	

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity

Government	☐	Municipality	☐	MWRA	☐	WRTA	☐
Federal	☐	21 J	☐	School	☐		
City	☐	Brownfield	☐	MBTA	☐		

Other
☐ Chromatogram
☐ AIHA-LAP,LLC

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

December 18, 2023
Nobis File No. S00001.017

Ms. Christine Beling
USEPA - Region I
Land, Chemicals, and Redevelopment Division
5 Post Office Square, Suite 100
Boston, MA 02109-3912

Re: USEPA Contract No. 68HE0122D0001
USEPA Task Order No. 68HE0122F0044
Targeted Brownfield Assessment (TBA) Site
St. Johnsbury Armory Site
St. Johnsbury, Vermont
Sample Delivery Group (SDG) No. 23L0426

Pace Analytical (formerly Con-test), East Longmeadow, MA

Tier 1 Stage 2A Organic Data Review

Polychlorinated Biphenyls (PCBs by 8082A):

1/Soil Sample: P-313-EX-0101.5

Dear Ms. Beling:

Nobis Group (Nobis), under a USEPA contract as a subcontractor to KGSNE JV II, LLC (KGSNE), performed a Tier 1 Stage 2A manual data review (S2AVM) on the organic analytical data for the sample listed above. Note that 18 soil samples included on the COC were placed on hold or analyzed and reported in other SDGs. The sample of this SDG was placed on hold and analysis of the sample was subsequently requested by Nobis on December 5, 2023. The samples were collected by Nobis at the St. Johnsbury Armory site located in St. Johnsbury, Vermont, on November 1, 2023. The sample was analyzed for PCB Aroclors by EPA Method 8082A by Pace Analytical (formerly Con-test).

The Tier 1 Stage 2A manual data review was performed in accordance with the Region I - EPA New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures (September 2020); USEPA's National Functional Guidelines for Organic Superfund Methods Data Review (November 2020); the Program Quality Assurance Project Plan (Program QAPP) dated October 2022, the Quality Assurance Project Plan Addendum (QAPPA) (July 2023) and the QAPPA Update (October 2023) for St. Johnsbury Armory, which append the October 2022 Program QAPP.

The data were evaluated based on the following parameters:

*	•	Overall Evaluation of Data and Potential Usability Issues
*	•	Data Completeness
*	•	Preservation and Technical Holding Times
*	•	Blanks
*	•	Surrogates (PCBs only)
NA	•	Internal Standards
NA	•	Matrix Spike Analysis
NA	•	Laboratory Duplicates

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

*	•	Laboratory Control Samples (LCS)/Standard Reference Material (SRM) Recovery (metals only)
NA	•	Field Duplicates
NA	•	ICP Serial Dilutions (metals only)
NA	•	Performance Evaluation (PE) Samples
*	•	Target Analyte Identification
*	•	Reported Quantitation Limits

* All criteria were met for this parameter or qualification was not required.
NA – Not applicable.

Overall Evaluation of Data and Potential Usability Issues

The site sampling objectives are:

- Perform a supplemental hazardous building material survey (HBMS) to address data gaps identified by Atlas Technical Consultants (ATC).
- Further delineate the distribution of hazardous materials to support future building renovation and reuse or demolition and disposal.
- Evaluate sub-slab soils for possible contamination by PCBs.

The data meet the project quality criteria and can be used without restriction except as summarized below. The attachments provide details and supporting documentation.

PCBs:
Qualification of the data was not required.

Please contact Linda Terzis at lterzis@nobis-group.com should you have any questions or comments regarding this information.

Sincerely,

NOBIS GROUP®

Linda Terzis
Data Validator

Gary Glennon
Data Validator

Tables: Data Summary Tables – Tier 1 Stage 2A (S2AVM) Validated Data
Data Qualification Actions Table

Attachments: Data Review Checklist
Support Documentation
COC

cc: Denis McGrath (Nobis Group)
Tim Andrews (Nobis Group)

DATA SUMMARY TABLE

Analysis		Pesticides/PCBs in Soil
Lab Sample ID		23L0426-01
Field Sample ID		P-313-EX-0101.5
Sample Type		N
Parent Sample ID		
Sample Date	**Units**	11/01/23
Aroclor 1016	mg/kg	0.088 U
Aroclor 1221	mg/kg	0.088 U
Aroclor 1232	mg/kg	0.088 U
Aroclor 1242	mg/kg	0.088 U
Aroclor 1248	mg/kg	0.088 U
Aroclor 1254	mg/kg	0.088 U
Aroclor 1260	mg/kg	0.088 U
Aroclor 1262	mg/kg	0.088 U
Aroclor 1268	mg/kg	0.088 U

DATA SUMMARY TABLE

Analysis		General Chemistry in Soil
Lab Sample ID		23L0426-01
Field Sample ID		P-313-EX-0101.5
Sample Type		N
Parent Sample ID		
Sample Date	**Units**	11/01/23
Solids, Percent	%	90.8

Data Review Qualification Actions
Case: St. Johnsbury Armory
SDG: 23L0426

Parameter	Analyte	Samples	Evaluation Criteria	Action Needed	Comments
PCBs					
	Qualification of the data was not required.				

Tier 1 Stage 2A Data Review Checklist

Project: St. Johnsbury Armory Site, St. Johnsbury, Vermont
Project #: S00001.017
Case#: NA
Date: 12/15/2023
Methods: PCBs (8082A)
Laboratory: Pace Analytical (formerly Con-test), East Longmeadow, MA
SDG: 23L0426
Reviewer: Linda Terzis

1. **Case Narrative and Data Package Completeness (COC and Analyte List Review)**
Twenty (20) soil samples were listed on the COC for SDG 23L0426. Eighteen (18) of the samples were placed on hold and two samples were analyzed and reported in other SDGs. The sample of this SDG (23L0426) was placed on hold. Analysis of the sample was subsequently requested by Nobis on 12/05/2023. The samples were collected on 11/01/2023 and were received at the laboratory on 11/06/2023 at 2.8 and 2.9 °C.

Sample ID	Laboratory ID	Analyses
P-313-EX-0101.5	23L0426-01	PCBs

A complete laboratory report was received for SDG 23L0426.

2. **Holding Time and Sample Preservation Compliance**

Receipt temperature met the acceptable level of ≤ 6 °C.

PCBs: The sample was extracted within 14 days of the sample being released from on-hold status (December 5, 2023). The sample was analyzed within 40 days of extraction, as specified on Table 2-6-1 of the Program Quality Assurance Project Plan (QAPP) for the St. Johnsbury Armory site (October 2022). No actions are required.

3. **Calibration Issues**

Not assessed for S2AVM.

4. **Lab and Field Blanks**

PCBs: Results for the laboratory method blank associated with the sample of this SDG were non-detect. No blank actions are required.

An equipment blank was not required during sample collection for the site.

5. **Interference Check Sample (metals only)**

Not applicable for this analysis.

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

6. **Surrogates (PCBs only)**

   PCBs: Surrogate recoveries were within the Program QAPP limits (30-150%) for the sample of this SDG. No actions are required.

7. **Laboratory Control Samples**

   PCBs: Percent recoveries of Aroclors 1016 and 1260 in the PCB LCS/LCSD pair met the Program QAPP limits of 40-140% recovery and relative percent difference (RPD) ≤ 30%. No action is required.

8. **Matrix Spikes**

   PCBs: Only Aroclors 1016 and 1260 were spiked in the MS/MSD; therefore, based on professional judgment, if actions are required, they are applied as follows:

   If 1016 %R or %RPD out: Qualify 1016, 1221, 1232, 1242
   If 1260 %R or %RPD out: Qualify 1248, 1254, 1260, 1262,1268

   MS/MSD analyses were performed for this SDG. No action is required.

9. **Laboratory Duplicates**

   Not applicable for this analysis.

10. **Serial Dilution (metals only)**

    Not applicable for this analysis.

11. **Field Duplicate Precision**

    Criteria based on the EPA Region I Environmental Data Review Supplement (September 2020): RPD ≤ 50% (soils) for results ≥ 5x QL or absolute difference of ≤ 4x QL for results < 5X QL.

    Field duplicate samples were not submitted with the sample of this SDG. No action is required.

12. **Internal Standards**

    Not applicable for this analysis.

13. **Dual Column Precision (PCBs only)**

    Results for all PCB Aroclors were non-detect in the sample. Dual column precision criteria (≤ 25% RPD per the National Functional Guidelines [NFGs, 2020]) are met and no actions are required.

14. **Performance Evaluation (PE) Samples**

    A PE sample was not submitted with the samples of this SDG. No actions are required.

15. Quantitation Limits

PCBs: Laboratory quantitation limits (QLs) for non-detect Aroclor results met the PAL of ≤ 1 mg/kg for total PCBs, per Table 4 of the QAPPA.

16. Other

The EPA Region I Environmental Data Review Supplement (2020) percent solids criterion of ≥ 30% for soil samples was met for the sample.

Overall bias is considered indeterminate when cumulative nonconformances do not show a consistent bias or in cases of the presence of conflicting high and low biases.

23L0426

Pace Analytical®

Phone: 612-607-6400
Fax: 612-607-6344

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time
7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction	[2] Preservation Code
	P-312-Ex-04.505	11/1/2023	13:49			U		1				H	
	P-312-Ex-0506	11/1/2023	13:50			U		1				H	
	P-312-Ex-0607	11/1/2023	13:51			U		1				H	
	P-312-Ex-0708	11/1/2023	13:52			U		1				H	
	P-313-Ex-000.5	11/1/2023	13:55			U		3				X	
	P-313-Ex-0.501	11/1/2023	13:56			U		1				H	
	P-313-Ex-0101.5	11/1/2023	13:57			U		1				H	
	P-313-Ex-01.502	11/1/2023	13:58			U		1				H	
	P-313-Ex-0202.5	11/1/2023	13:59			U		1				H	
	P-313-Ex-02.503	11/1/2023	14:00			U		1				H	

01

Courier Use Only
Total Number Of:
VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Relinquished by: (signature)	Date/Time: 11/6/23 15	
Received by: (signature)	Date/Time: 11/6/23 1152	
Relinquished by: (signature)	Date/Time: 11/6/23 1630	
Received by: (signature)	Date/Time: 11/6/23 630	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	
Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time:	

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Detection Limit Requirements
MA
CT
Others

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Per client, P-313-Ex-0101.5 to be activated for 8082 soxhlet.

-RLF 12/5/23

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Pace Analytical

Phone: 612-607-6400
Fax: 612-607-6344

Doc # 381 Rev 4_01/08/2020

CHAIN OF CUSTODY RECORD

Contact: https://www.pacelabs.com/contact-us/contact-environmental-sciences/

Company Name:	Nobis Group
Address:	585 Middlesex St. Lowell, MA 01851
Phone:	978-683-0891
Project Name:	St Johnsbury Armory
Project Location:	St Johnsbury, VT
Project Number:	S00001.017
Project Manager:	Tim Andrews
Pace Analytical Quote Name/Number	
Invoice Recipient:	
Sampled By:	B. Fortier

Requested Turnaround Time

7-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required

1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Dissolved Metals Samples

○ Field Filtered
○ Lab to Filter

Orthophosphate Samples

○ Field Filtered
○ Lab to Filter

Data Delivery

Format: PDF ☑ EXCEL ☑
Other: Equis EDD
CLP Like Data Pkg Required: ☐
Email To: tandrews@nobis-group.com
Fax To #:

PCB ONLY

SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Pace Analytical Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	PCBs 8082 Soxhlet Extraction												[2] Preservation Code
	P-313-Ex-0303.5	11/1/2023	14:01			U		1				H												
	P-313-Ex-03.504	11/1/2023	14:02			U		1				H												
	P-313-Ex-0404.5	11/1/2023	14:03			U		1				H												
	P-313-Ex-04.505	11/1/2023	14:04			U		1				H												
	P-313-Ex-0506	11/1/2023	14:05			U		1				H												
	P-313-Ex-0607	11/1/2023	14:06			U		1				H												
	P-313-Ex-0708	11/1/2023	14:07			U		1				H												
	P-314-Ex-000.5	11/1/2023	14:10			U		1				X												
	P-314-Ex-0.501	11/1/2023	14:11			U		1				H												
	P-314-Ex-0101.5	11/1/2023	14:12			U		1				H												

Courier Use Only

Total Number Of:

VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N

*Pace Analytical is not responsible for missing samples from prepacked coolers

Client Comments: Please hold samples marked "H", pending results of other analyses. Samples with 3 jars are MS/MSDs.

Relinquished by: (signature)		Date/Time: 11/6/23 1157
Received by: (signature)		Date/Time: 11/6/23 1157
Relinquished by: (signature)		Date/Time: 11/6/23 1600
Received by: (signature)		Date/Time:
Relinquished by: (signature)		Date/Time:
Received by: (signature)		Date/Time:
Relinquished by: (signature)		Date/Time:
Received by: (signature)		Date/Time:

Detection Limit Requirements

MA
CT
Other:

Special Requirements

☐ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Project Entity

Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

NELAC and AIHA-LAP, LLC Accredited

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)
Building Material

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

October 4, 2023
Nobis File No. S00001.017

Ms. Karen Place
USEPA – Region 1
Land, Chemicals, and Redevelopment Division
5 Post Office Square, Suite 100
Boston, MA 02109-3912

Re: USEPA Contract No. 68HE0122D0001
Task Order No. 68HE0122F0044
Targeted Brownfield Assessment (TBA)
St. Johnsbury Armory Site
St. Johnsbury, Vermont
Sample Delivery Group (SDG) No. 132305450
EMSL Analytical, Inc., Woburn, MA

Tier 1/Stage 1 (S1VM) Data Review

Asbestos by Polarized Light Microscopy (PLM by Method 40CFR 763 Subpart E Appendix E Supplemented with EPA Method 600/R-93/116)

97/Building Material Samples: A-001A-R22, A-001B-R27, A-002A-R10, A-002B-R06, A-003A-R10, A-003B-R16, A-004A-R23, A-004B-R23, A-005A-R14, A-005B-R14, A-006A-R5, A-006B-R5, A-006C-R5, A-007A-R15, A-007B-R15, A-008A-R15, A-008B-R15, A-009A-R23, A-009B-R23, A-010A-R23 A-010B-R23, A-011A-R34, A-011B-R27, A-011C-R27, A-012A-R20, A-012B-R21, A-013A-R18 A-013B-R18, A-014A-R13, A-014B-R14, A-015A-R12, A-015B-R12, A-016A-R17, A-016B-R17 A-017A-R03, A-017B-R03, A-039A-R07, A-039B-R07, A-040A-R12, A-040B-R12, A-041A-R14, A-041B-R14, A-042A-R18, A-042B-R18, A-043A-R21, A-043B-R21, A-044A-R34, A-044B-R34 A-018A-N, A-018B-W, A-018C-S, A-019A-R23, A-019B-R37, A-019C-R28, A-020A-R06, A-020B-R06, A-035A-R07, A-035B-R07, A-036A-R12, A-036B-R12, A-037A-R14, A-037B-R14, A-038A-R28, A-038B-R28, A-021A, A-021B, A-021C, A-022A, A-022B, A-022C, A-023A, A-023B, A-024A, A-024B, A-025A, A-025B, A-026A, A-026B, A-045A, A-045B, A-027A, A-027B, A-028A, A-028B, A-029A, A-029B, A-030A, A-030B, A-031A, A-031B, A-031C, A-032A, A-032B, A-033A, A-033B, A-034A, A-034B

Dear Ms. Place:

Nobis Group (Nobis), under a USEPA contract as a subcontractor to KGSNE JV, LLC (KGSNE), performed a Tier 1/Stage 1 manual (S1VM) data completeness review on the asbestos analytical data for the samples listed above. The samples were collected on 08/15/2023 through 08/16/2023 by Nobis at St. Johnsbury Armory in St. Johnsbury, Vermont. The samples were analyzed by EMSL Analytical, Inc. in Woburn, MA, for asbestos by PLM by Method 40CFR 763 Subpart E Appendix E Supplemented with EPA Method 600/R-93/116.

The Tier 1/Stage 1 manual data review was performed in accordance with the Region 1 - EPA New England Environmental Data Review Supplement for Region 1 Data Review Elements and Superfund Specific Guidance/Procedures (September 2020); USEPA's National Functional Guidelines for Inorganic Superfund Methods Data Review (November 2020); the Program Quality Assurance Project Plan (Program QAPP) dated October 2022, and the Quality Assurance Project Plan Addendum (QAPPA) (July 2023) for the St. Johnsbury Armory project, which appends the October 2022 Program QAPP.

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

The data were evaluated based on the following parameters:

*	•	Overall Evaluation of Data and Potential Usability Issues
*	•	Data Completeness
NA	•	Preservation and Technical Holding Times
*	•	Reported Quantitation Limits

* All criteria were met for this parameter or results did not require qualification.
NA-Not applicable

Overall Evaluation of Data and Potential Usability Issues

The site sampling objectives are:

- Perform a supplemental hazardous building material survey (HBMS) to address data gaps identified by Atlas Technical Consultants (ATC).
- Further delineate the distribution of hazardous materials to support future building renovation and reuse or demolition and disposal.
- Evaluate sub-slab soils for possible contamination by PCBs.

The data meet the project completeness criteria and can be used without restriction.

The attachments provide details and supporting documentation.

Please contact Linda Terzis at lterzis@nobis-group.com should you have any questions or comments regarding this information.

Sincerely,

NOBIS GROUP®

Caitlin Odell

Caitlin Odell
Data Validator

Linda Terzis

Linda Terzis
Data Validator

Attachments: Data Review Checklist
Support Documentation
COC
Laboratory Report

Cc: Denis McGrath (Nobis Group)
Tim Andrews (Nobis Group)

Data Review Qualification Actions
Case: St. Johnsbury Armory
SDG: 132305450

Parameter	Analyte	Samples	Evaluation Criteria	Action Needed	Comments
Asbestos					
	Qualification of the data was not required.				

Asbestos S1VM Data Review Checklist

Project: St. Johnsbury Armory
Methods:
Asbestos by Polarized Light Microscopy (PLM by Method 40CFR 763 Subpart E Appendix E Supplemented with EPA Method 600/R-93/116)

Project #: S00001.017
Case#: NA
Date: 08/29/2023

Laboratory: EMSL Analytical, Inc., Woburn, MA
SDG: 132305450
Reviewer: Caitlin Odell

1. Case Narrative and Data Package Completeness (COC and Analyte List Review)

Ninety-seven (97) building material samples, collected on 08/15/2023 through 08/16/2023, were listed on the chain of custody (COC). The samples were received by the laboratory on 08/22/2023 and were analyzed and reported in SDG 132305450.

The samples were analyzed by EMSL Analytical, Inc., in Woburn, MA, for asbestos by PLM using Method 40CFR 763 Subpart E Appendix E supplemented with EPA Method 600/R-93/116.

A limited data package (results only) for the sample analyses was received for 132305450.

Sample ID	Laboratory ID	Matrix	Analyses
A-001A-R22	132305450-0001	Building material	Asbestos by PLM
A-001B-R27	132305450-0002	Building material	Asbestos by PLM
A-002A-R10	132305450-0003	Building material	Asbestos by PLM
A-002B-R06	132305450-0004	Building material	Asbestos by PLM
A-003A-R10	132305450-0005	Building material	Asbestos by PLM
A-003B-R16	132305450-0006	Building material	Asbestos by PLM
A-004A-R23	132305450-0007	Building material	Asbestos by PLM
A-004B-R23	132305450-0008	Building material	Asbestos by PLM
A-005A-R14	132305450-0009	Building material	Asbestos by PLM
A-005B-R14	132305450-0010	Building material	Asbestos by PLM
A-006A-R5	132305450-0011	Building material	Asbestos by PLM
A-006B-R5	132305450-0012	Building material	Asbestos by PLM
A-006C-R5	132305450-0013	Building material	Asbestos by PLM
A-007A-R15	132305450-0014	Building material	Asbestos by PLM
A-007B-R15	132305450-0015	Building material	Asbestos by PLM
A-008A-R15	132305450-0016	Building material	Asbestos by PLM
A-008B-R15	132305450-0017	Building material	Asbestos by PLM
A-009A-R23	132305450-0018	Building material	Asbestos by PLM
A-009B-R23	132305450-0019	Building material	Asbestos by PLM

Nobis Group®
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

Sample ID	Laboratory ID	Matrix	Analyses
A-010A-R23	132305450-0020	Building material	Asbestos by PLM
A-010B-R23	132305450-0021	Building material	Asbestos by PLM
A-011A-R34	132305450-0022	Building material	Asbestos by PLM
A-011B-R27	132305450-0023	Building material	Asbestos by PLM
A-011C-R27	132305450-0024	Building material	Asbestos by PLM
A-012A-R20	132305450-0025	Building material	Asbestos by PLM
A-012B-R21	132305450-0026	Building material	Asbestos by PLM
A-013A-R18	132305450-0027	Building material	Asbestos by PLM
A-013B-R18	132305450-0028	Building material	Asbestos by PLM
A-014A-R13	132305450-0029	Building material	Asbestos by PLM
A-014B-R14	132305450-0030	Building material	Asbestos by PLM
A-015A-R12	132305450-0031	Building material	Asbestos by PLM
A-015B-R12	132305450-0032	Building material	Asbestos by PLM
A-016A-R17	132305450-0033	Building material	Asbestos by PLM
A-016B-R17	132305450-0034	Building material	Asbestos by PLM
A-017A-R03	132305450-0035	Building material	Asbestos by PLM
A-017B-R03	132305450-0036	Building material	Asbestos by PLM
A-039A-R07	132305450-0037	Building material	Asbestos by PLM
A-039B-R07	132305450-0038	Building material	Asbestos by PLM
A-040A-R12	132305450-0039	Building material	Asbestos by PLM
A-040B-R12	132305450-0040	Building material	Asbestos by PLM
A-041A-R14	132305450-0041	Building material	Asbestos by PLM
A-041B-R14	132305450-0042	Building material	Asbestos by PLM
A-042A-R18	132305450-0043	Building material	Asbestos by PLM
A-042B-R18	132305450-0044	Building material	Asbestos by PLM
A-043A-R21	132305450-0045	Building material	Asbestos by PLM
A-043B-R21	132305450-0046	Building material	Asbestos by PLM
A-044A-R34	132305450-0047	Building material	Asbestos by PLM
A-044B-R34	132305450-0048	Building material	Asbestos by PLM
A-018A-N	132305450-0049	Building material	Asbestos by PLM
A-018B-W	132305450-0050	Building material	Asbestos by PLM
A-018C-S	132305450-0051	Building material	Asbestos by PLM
A-019A-R23	132305450-0052	Building material	Asbestos by PLM
A-019B-R37	132305450-0053	Building material	Asbestos by PLM
A-019C-R28	132305450-0054	Building material	Asbestos by PLM
A-020A-R06	132305450-0055	Building material	Asbestos by PLM
A-020B-R06	132305450-0056	Building material	Asbestos by PLM
A-035A-R07	132305450-0057	Building material	Asbestos by PLM
A-035B-R07	132305450-0058	Building material	Asbestos by PLM
A-036A-R12	132305450-0059	Building material	Asbestos by PLM
A-036B-R12	132305450-0060	Building material	Asbestos by PLM
A-037A-R14	132305450-0061	Building material	Asbestos by PLM
A-037B-R14	132305450-0062	Building material	Asbestos by PLM
A-038A-R28	132305450-0063	Building material	Asbestos by PLM
A-038B-R28	132305450-0064	Building material	Asbestos by PLM
A-021A	132305450-0065	Building material	Asbestos by PLM
A-021B	132305450-0066	Building material	Asbestos by PLM
A-021C	132305450-0067	Building material	Asbestos by PLM
A-022A	132305450-0068	Building material	Asbestos by PLM

Sample ID	Laboratory ID	Matrix	Analyses
A-022B	132305450-0069	Building material	Asbestos by PLM
A-022C	132305450-0070	Building material	Asbestos by PLM
A-023A	132305450-0071	Building material	Asbestos by PLM
A-023B	132305450-0072	Building material	Asbestos by PLM
A-024A	132305450-0073	Building material	Asbestos by PLM
A-024B	132305450-0074	Building material	Asbestos by PLM
A-025A	132305450-0075	Building material	Asbestos by PLM
A-025B	132305450-0076	Building material	Asbestos by PLM
A-026A	132305450-0077	Building material	Asbestos by PLM
A-026B	132305450-0078	Building material	Asbestos by PLM
A-045A	132305450-0079	Building material	Asbestos by PLM
A-045B	132305450-0080	Building material	Asbestos by PLM
A-027A	132305450-0081	Building material	Asbestos by PLM
A-027B	132305450-0082	Building material	Asbestos by PLM
A-028A	132305450-0083	Building material	Asbestos by PLM
A-028B	132305450-0084	Building material	Asbestos by PLM
A-029A	132305450-0085	Building material	Asbestos by PLM
A-029B	132305450-0086	Building material	Asbestos by PLM
A-030A	132305450-0087	Building material	Asbestos by PLM
A-030B	132305450-0088	Building material	Asbestos by PLM
A-031A	132305450-0089	Building material	Asbestos by PLM
A-031B	132305450-0090	Building material	Asbestos by PLM
A-031C	132305450-0091	Building material	Asbestos by PLM
A-032A	132305450-0092	Building material	Asbestos by PLM
A-032B	132305450-0093	Building material	Asbestos by PLM
A-033A	132305450-0094	Building material	Asbestos by PLM
A-033B	132305450-0095	Building material	Asbestos by PLM
A-034A	132305450-0096	Building material	Asbestos by PLM
A-034B	132305450-0097	Building material	Asbestos by PLM

Note that several sample results were reported as “Positive Stop (Not Analyzed)” for the PLM analysis. “Positive stop” indicates that one sample from a homogeneous area is greater than 1% asbestos and therefore, the other samples of the homogeneous area do not need to be analyzed.

2. Holding Time and Sample Preservation Compliance

No holding time or preservation criteria are applicable for the asbestos analyses of these bulk building material samples.

3. Laboratory Blanks

N/A

4. Laboratory Control Sample Review

N/A

5. **Field Duplicate Precision**

   No field duplicates were submitted with this data set.

6. **Laboratory Duplicate Precision**

   N/A

7. **Matrix Spike Results (if applicable)**

   N/A

8. **Surrogate Recovery (if applicable)**

   N/A

9. **Quantitation Limits**

   Laboratory reporting limits for non-detect PLM results meet the project action limit of asbestos (< 1%), as indicated on the COC.

10. **Internal Standard Recovery (if applicable)**

    N/A

11. **Other**

    No issues noted.

OrderID: 132305450

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Bulk Building Materials - Chain of Custody

EMSL Order Number / Lab Use Only

132305450

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Customer Information		Billing Information	
Customer ID:		Billing ID:	
Company Name:	Nobis Group	Company Name:	
Contact Name:	Bridget Fortier	Billing Contact:	
Street Address:	585 Middlesex Street	Street Address:	
City, State, Zip:	Lowell, MA	Country:	City, State, Zip: / Country:
Phone:	B. Fortier (978-399-9651) bfortier@nobis-group.com		Phone:
Email(s) for Report:	Tim Andrews: tandrews@nobis-group.com		Email(s) for Invoice: ap@nobis-group.com

Project Information

Project Name/No:	St Johnsbury Armory		Purchase Order:
EMSL LIMS Project ID: (If applicable, EMSL will provide)		US State where samples collected: VT	State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)
Sampled By Name: Bridget Fortier	Sampled By Signature:	Date Sampled:	No. of Samples in Shipment

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☑ 1 Week ☐ 2 Week

Please call ahead for large projects and/or turnaround times 6 Hours or Less. *32 Hour TAT available for select tests only; samples must be submitted by 11:30am.

Test Selection

PLM - Bulk (reporting limit)

- ☑ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198.8 (Vermiculite SM-V)

TEM - Bulk

- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (Non-Friable - NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Tests (please specify)

☑ Positive Stop - Clearly Identified Homogeneous Areas (HA)

Sample Number	HA Number	Sample Location	Material Description
A-001a-R22	1	Room 22	Yellow mastic on concrete
A-001b-R27	1	Room 27	Yellow mastic on concrete
A-002a-R10	2	Room 10	Cellotex board
A-002b-R06	2	Room 06	Cellotex board
A-003a-R10	3	Room 10	Thin wall panels
A-003b-R16	3	Room 16	Thin wall panels
A-004a-R23	4	Room 23	Tile grout
A-004b-R23	4	Room 23	tile grout
A-005a-R14	5	Room 14	white sub-floor plaster like filler
A-005b-R14	5	Room 14	white sub-floor plaster like filler

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

REC'D SPL 1455 walk in
EMSL-BOSTON AUG 22 2023

Method of Shipment:		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 8/22/23 14:55	Received by:	Date/Time
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - Asbestos Bulk R7 9/14/2021

☐ **AGREE TO ELECTRONIC SIGNATURE** (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

OrderID: 132305450

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Bulk Building Materials - Chain of Custody

EMSL Order Number / Lab Use Only

132305450

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	HA Number	Sample Location	Material Description
A-006a-R5	6	Room 5	gray adhesive on brown paneling
A-006b-R5	6	Room 5	gray adhesive on brown paneling
A-006c-R5	6	Room 5	gray adhesive on brown paneling
A-007a-R15	7	Room 15	Gray battleship linoleum
A-007b-R15	7	Room 15	Gray battleship linoleum
A-008a-R15	8	Room 15	brown mastic on gray battleship linoleum
A-008b-R15	8	Room 15	brown mastic on gray battleship linoleum
A-009a-R23	9	Room 23	ceramic tile
A-009b-R23	9	Room 23	ceramic tile
A-010a-R23	10	Room 23	ceramic tile thinset
A-010b-R23	10	Room 23	ceramic tile thinset
A-011a-R34	11	Room 34	leveling compound
A-011b-R27	11	Room 27	leveling compound
A-011c-R27	11	Room 27	leveling compound
A-012a-R20	12	Room 20	Sprinkler fitting thread sealant
A-012b-R21	12	Room 21	Sprinkler fitting thread sealant
A-013a-R18	13	Room 18	black mastic
A-013b-R18	13	Room 18	black mastic
A-014a-R13	14	Room 13	beige mastic
A-014b-R14	14	Room 14	beige mastic
A-015a-R12	15	Room 12	carpet mastic
A-015b-R12	15	Room 12	carpet mastic
A-016a-R17	16	Room 17	Yellow caulking
A-016b-R17	16	Room 17	Yellow caulking
A-017a-R03	17	Room 03	Drywall

Method of Shipment:			Sample Condition Upon Receipt:	
Relinquished by: PNL	Date/Time: 8/22/23 14:55		Received by: REC'D SP 1455 EMSL-BOSTON AUG 22 2023	Date/Time
Relinquished by:	Date/Time:		Received by:	Date/Time

Controlled Document - Asbestos Bulk R7 09/14/2021

☐ **AGREE TO ELECTRONIC SIGNATURE** (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

OrderID: 132305450

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Bulk Building Materials - Chain of Custody

EMSL Order Number / Lab Use Only

132305450

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	HA Number	Sample Location	Material Description
A-017b-R03	17	Room 03	Drywall
A-039a-R07	39	Room 07	Drywall
A-039b-R07	39	Room 07	Drywall
A-040a-R12	40	Room 12	Drywall
A-040b-R12	40	Room 12	Drywall
A-041a-R14	41	Room 14	Drywall
A-041b-R14	41	Room 14	Drywall
A-042a-R18	42	Room 18	Drywall
A-042b-R18	42	Room 18	Drywall
A-043a-R21	43	Room 21	Drywall
A-043b-R21	43	Room 21	Drywall
A-044a-R34	44	Room 34	Drywall
A-044b-R34	44	Room 34	Drywall
A-018a-N	18	Exterior	Brick mortar
A-018b-W	18	Exterior	Brick mortar
A-018c-S	18	Exterior	Brick mortar
A-019a-R23	19	Room 23	Concrete slab in basement
A-019b-R37	19	Room 37	Concrete slab in basement
A-019c-R28	19	Room 28	Concrete slab in basement
A-020a-R06	20	Room 06	Joint Compound
A-020b-R06	20	Room 06	Joint Compound
A-035a-R07	35	Room 07	Joint Compound
A-035b-R07	35	Room 07	Joint Compound
A-036a-R12	36	Room 12	Joint Compound
A-036b-R12	36	Room 12	Joint Compound

Method of Shipment:		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 08/22/23 18:55	Received by: REC'D SEP 6 1455	Date/Time
Relinquished by:	Date/Time:	Received by: EMSL-BOSTON AUG 22 2023	Date/Time

Controlled Document - Asbestos Bulk R7 09/14/2021

☐ **AGREE TO ELECTRONIC SIGNATURE** (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

OrderID: 132305450

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Bulk Building Materials - Chain of Custody

EMSL Order Number / Lab Use Only

132305450

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	HA Number	Sample Location	Material Description
A-037a-R14	37	Room 14	Joint Compound
A-037b-R14	37	Room 14	Joint Compound
A-038a-R28	38	Room 28	Joint Compound
A-038b-R28	38	Room 28	Joint Compound
A-021a	21	Exterior	flashing caulk
A-021b	21	Exterior	flashing caulk
A-021c	21	Exterior	flashing caulk
A-022a	22	Exterior	Silver paint
A-022b	22	Exterior	Silver paint
A-022c	22	Exterior	Silver paint
A-023a	23	Exterior	White caulk
A-023b	23	Exterior	White caulk
A-024a	24	Exterior	Light gray caulk
A-024b	24	Exterior	Light gray caulk
A-025a	25	Exterior	Asphalt shingle
A-025b	25	Exterior	Asphalt shingle
A-026a	26	Exterior	Brown roof paper
A-026b	26	Exterior	Brown roof paper
A-045a	45	Exterior	Black roof paper
A-045b	45	Exterior	Black roof paper
A-027a	27	Exterior	Built up tar paper
A-027b	27	Exterior	Built up tar paper
A-028a	28	Exterior	asphalt layer
A-028b	28	Exterior	asphalt layer
A-029a	29	Exterior	rubber roofing membrane

Method of Shipment:			Sample Condition Upon Receipt:	
Relinquished by: PU	Date/Time: 8/22/23 14:55		Received by: REC'D SB 1455	Date/Time
Relinquished by:	Date/Time:		Received by: EMSL-BOSTON AUG 22 2023	Date/Time

Controlled Document - Asbestos Bulk R7 09/14/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

OrderID: 132305450

EMSL ANALYTICAL, INC.
TESTING LABS • PRODUCTS • TRAINING

Asbestos Bulk Building Materials - Chain of Custody

EMSL Order Number / Lab Use Only

132305450

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: CinnAsblab@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	HA Number	Sample Location	Material Description
A-029b	29	Exterior	rubber roofing membrane
A-030a	30	Exterior	fiberboard
A-030b	30	Exterior	fiberboard
A-031a	31	Exterior	rubber roofing patch adhesive
A-031b	31	Exterior	rubber roofing patch adhesive
A-031c	31	Exterior	rubber roofing patch adhesive
A-032a	32	Gym	Ceiling panels
A-032b	32	Gym	Ceiling panels
A-033a	33	Exterior	Gray caulk
A-033b	33	Exterior	Gray caulk
A-034a	34	Exterior	built up roofing
A-034b	34	Exterior	built up roofing

Method of Shipment:		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 8/22/23 14:55	Received by: REC'D Sp 1455	Date/Time
Relinquished by:	Date/Time:	Received by: EMSL-BOSTON AUG 22 2023	Date/Time

Controlled Document - Asbestos Bulk R7 09/14/2021

☐ **AGREE TO ELECTRONIC SIGNATURE** (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

EMSL Analytical, Inc.

5 Constitution Way, Unit A Woburn, MA 01801

Tel/Fax: (781) 933-8411 / (781) 933-8412

http://www.EMSL.com / bostonlab@emsl.com

EMSL Order: 132305450
Customer ID: NOBI51
Customer PO:
Project ID:

Attention: Bridget Fortier
Nobis Engineering, Inc.
585 Middlesex Street
Lowell, MA 01851

Project: St. Johnsbury Armory

Phone: (978) 683-0891
Fax: (978) 683-0966
Received Date: 08/22/2023 2:55 PM
Analysis Date: 08/29/2023
Collected Date:

Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
A-001A-R22 *132305450-0001*	Room 22 - Yellow Mastic on Concrete	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-001B-R27 *132305450-0002*	Room 27 - Yellow Mastic on Concrete	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-002A-R10 *132305450-0003*	Room 10 - Cellotex Board	Brown Fibrous Homogeneous	95% Cellulose	5% Non-fibrous (Other)	None Detected
A-002B-R06 *132305450-0004*	Room 06 - Cellotex Board	Brown Fibrous Homogeneous	95% Cellulose	5% Non-fibrous (Other)	None Detected
A-003A-R10 *132305450-0005*	Room 10 - Thin Wall Panels	Brown/White Fibrous Homogeneous	85% Cellulose	15% Non-fibrous (Other)	None Detected
A-003B-R16 *132305450-0006*	Room 16 - Thin Wall Panels	Brown/White Fibrous Homogeneous	85% Cellulose	15% Non-fibrous (Other)	None Detected
A-004A-R23 *132305450-0007*	Room 23 - Tile Grout	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-004B-R23 *132305450-0008*	Room 23 - Tile Grout	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-005A-R14 *132305450-0009*	Room 14 - White Sub-Floor Plaster-like Filler	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-005B-R14 *132305450-0010*	Room 14 - White Sub-Floor Plaster-like Filler	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-006A-R5 *132305450-0011*	Room 5 - Gray Adhesive on Brown Paneling	Gray Non-Fibrous Homogeneous		95% Non-fibrous (Other)	5% Chrysotile
A-006B-R5 *132305450-0012*	Room 5 - Gray Adhesive on Brown Paneling				Positive Stop (Not Analyzed)
A-006C-R5 *132305450-0013*	Room 5 - Gray Adhesive on Brown Paneling				Positive Stop (Not Analyzed)
A-007A-R15 *132305450-0014*	Room 15 - Gray Battleship Linoleum	Gray/Black Fibrous Homogeneous	35% Cellulose	65% Non-fibrous (Other)	None Detected
A-007B-R15 *132305450-0015*	Room 15 - Gray Battleship Linoleum	Gray/Black Fibrous Homogeneous	35% Cellulose	65% Non-fibrous (Other)	None Detected
A-008A-R15 *132305450-0016*	Room 15 - Brown Mastic on Gray Battleship Linoleum	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Initial report from: 08/29/2023 14:49:48

EMSL Analytical, Inc.
5 Constitution Way, Unit A Woburn, MA 01801
Tel/Fax: (781) 933-8411 / (781) 933-8412
http://www.EMSL.com / bostonlab@emsl.com

EMSL Order: 132305450
Customer ID: NOBI51
Customer PO:
Project ID:

Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
A-008B-R15 *132305450-0017*	Room 15 - Brown Mastic on Gray Battleship Linoleum	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-009A-R23 *132305450-0018*	Room 23 - Ceramic Tile	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-009B-R23 *132305450-0019*	Room 23 - Ceramic Tile	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-010A-R23 *132305450-0020*	Room 23 - Ceramic Tile Thinset	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-010B-R23 *132305450-0021*	Room 23 - Ceramic Tile Thinset	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-011A-R34 *132305450-0022*	Room 34 - Leveling Compound	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-011B-R27 *132305450-0023*	Room 27 - Leveling Compound	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-011C-R27 *132305450-0024*	Room 27 - Leveling Compound	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-012A-R20 *132305450-0025*	Room 20 - Sprinkler Fitting Thread Sealant	Gray Non-Fibrous Homogeneous	2% Fibrous (Other)	98% Non-fibrous (Other)	None Detected
A-012B-R21 *132305450-0026*	Room 21 - Sprinkler Fitting Thread Sealant	Gray Non-Fibrous Homogeneous	2% Fibrous (Other)	98% Non-fibrous (Other)	None Detected
A-013A-R18 *132305450-0027*	Room 18 - Black Mastic	Black Non-Fibrous Homogeneous		90% Non-fibrous (Other)	10% Chrysotile
A-013B-R18 *132305450-0028*	Room 18 - Black Mastic				Positive Stop (Not Analyzed)
A-014A-R13 *132305450-0029*	Room 13 - Beige Mastic	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-014B-R14 *132305450-0030*	Room 14 - Beige Mastic	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-015A-R12 *132305450-0031*	Room 12 - Carpet Mastic	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-015B-R12 *132305450-0032*	Room 12 - Carpet Mastic	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-016A-R17 *132305450-0033*	Room 17 - Yellow Caulking	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-016B-R17 *132305450-0034*	Room 17 - Yellow Caulking	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-017A-R03 *132305450-0035*	Room 03 - Drywall	Brown/White Fibrous Homogeneous	15% Cellulose	85% Non-fibrous (Other)	None Detected

Initial report from: 08/29/2023 14:49:48

EMSL Analytical, Inc.
5 Constitution Way, Unit A Woburn, MA 01801
Tel/Fax: (781) 933-8411 / (781) 933-8412
http://www.EMSL.com / bostonlab@emsl.com

EMSL Order: 132305450
Customer ID: NOBI51
Customer PO:
Project ID:

Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
A-017B-R03 *132305450-0036*	Room 03 - Drywall	Brown/White Fibrous Homogeneous	15% Cellulose	85% Non-fibrous (Other)	None Detected
A-039A-R07 *132305450-0037*	Room 07 - Drywall	Brown/Gray Fibrous Homogeneous	15% Cellulose 2% Glass	83% Non-fibrous (Other)	None Detected
A-039B-R07 *132305450-0038*	Room 07 - Drywall	Brown/Gray Fibrous Homogeneous	15% Cellulose 2% Glass	83% Non-fibrous (Other)	None Detected
A-040A-R12 *132305450-0039*	Room 12 - Drywall	Brown/Gray Fibrous Homogeneous	15% Cellulose 2% Glass	83% Non-fibrous (Other)	None Detected
A-040B-R12 *132305450-0040*	Room 12 - Drywall	Brown/Gray Fibrous Homogeneous	15% Cellulose 2% Glass	83% Non-fibrous (Other)	None Detected
A-041A-R14 *132305450-0041*	Room 14 - Drywall	Brown/White Fibrous Homogeneous	15% Cellulose	85% Non-fibrous (Other)	None Detected
A-041B-R14 *132305450-0042*	Room 14 - Drywall	Brown/White Fibrous Homogeneous	15% Cellulose	85% Non-fibrous (Other)	None Detected
A-042A-R18 *132305450-0043*	Room 18 - Drywall	Brown/Gray Fibrous Homogeneous	15% Cellulose	85% Non-fibrous (Other)	None Detected
A-042B-R18 *132305450-0044*	Room 18 - Drywall	Brown/White Fibrous Homogeneous	15% Cellulose	85% Non-fibrous (Other)	None Detected
A-043A-R21 *132305450-0045*	Room 21 - Drywall	Brown/White Fibrous Homogeneous	15% Cellulose	85% Non-fibrous (Other)	None Detected
A-043B-R21 *132305450-0046*	Room 21 - Drywall	Brown/White Fibrous Homogeneous	15% Cellulose	85% Non-fibrous (Other)	None Detected
A-044A-R34 *132305450-0047*	Room 34 - Drywall	Brown/Gray Fibrous Homogeneous	15% Cellulose	85% Non-fibrous (Other)	None Detected
A-044B-R34 *132305450-0048*	Room 34 - Drywall	Brown/Gray Fibrous Homogeneous	15% Cellulose	85% Non-fibrous (Other)	None Detected
A-018A-N *132305450-0049*	Exterior - Brick Mortar	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-018B-W *132305450-0050*	Exterior - Brick Mortar	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-018C-S *132305450-0051*	Exterior - Brick Mortar	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-019A-R23 *132305450-0052*	Room 23 - Concrete Slab in Basement	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-019B-R37 *132305450-0053*	Room 37 - Concrete Slab in Basement	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-019C-R28 *132305450-0054*	Room 28 - Concrete Slab in Basement	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Initial report from: 08/29/2023 14:49:48

EMSL Analytical, Inc.
5 Constitution Way, Unit A Woburn, MA 01801
Tel/Fax: (781) 933-8411 / (781) 933-8412
http://www.EMSL.com / bostonlab@emsl.com

EMSL Order: 132305450
Customer ID: NOBI51
Customer PO:
Project ID:

Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
A-020A-R06 *132305450-0055*	Room 06 - Joint Compound	Tan Non-Fibrous Homogeneous		98% Non-fibrous (Other)	2% Chrysotile
A-020B-R06 *132305450-0056*	Room 06 - Joint Compound				Positive Stop (Not Analyzed)
A-035A-R07 *132305450-0057*	Room 07 - Joint Compound	Tan Non-Fibrous Homogeneous		98% Non-fibrous (Other)	2% Chrysotile
A-035B-R07 *132305450-0058*	Room 07 - Joint Compound				Positive Stop (Not Analyzed)
A-036A-R12 *132305450-0059*	Room 12 - Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-036B-R12 *132305450-0060*	Room 12 - Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-037A-R14 *132305450-0061*	Room 14 - Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-037B-R14 *132305450-0062*	Room 14 - Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-038A-R28 *132305450-0063*	Room 28 - Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-038B-R28 *132305450-0064*	Room 28 - Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-021A *132305450-0065*	Exterior - Flashing Caulk	Gray Non-Fibrous Homogeneous		98% Non-fibrous (Other)	2% Chrysotile
A-021B *132305450-0066*	Exterior - Flashing Caulk				Positive Stop (Not Analyzed)
A-021C *132305450-0067*	Exterior - Flashing Caulk				Positive Stop (Not Analyzed)
A-022A *132305450-0068*	Exterior - Silver Paint	Black/Silver Non-Fibrous Homogeneous		97% Non-fibrous (Other)	3% Chrysotile
A-022B *132305450-0069*	Exterior - Silver Paint				Positive Stop (Not Analyzed)
A-022C *132305450-0070*	Exterior - Silver Paint				Positive Stop (Not Analyzed)
A-023A *132305450-0071*	Exterior - White Caulk	Gray Non-Fibrous Homogeneous		98% Non-fibrous (Other)	2% Chrysotile
A-023B *132305450-0072*	Exterior - White Caulk				Positive Stop (Not Analyzed)
A-024A *132305450-0073*	Exterior - Light Gray Caulk	Gray Non-Fibrous Homogeneous		97% Non-fibrous (Other)	3% Chrysotile

Initial report from: 08/29/2023 14:49:48

EMSL Analytical, Inc.
5 Constitution Way, Unit A Woburn, MA 01801
Tel/Fax: (781) 933-8411 / (781) 933-8412
http://www.EMSL.com / bostonlab@emsl.com

EMSL Order: 132305450
Customer ID: NOBI51
Customer PO:
Project ID:

Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
A-024B *132305450-0074*	Exterior - Light Gray Caulk				Positive Stop (Not Analyzed)
A-025A *132305450-0075*	Exterior - Asphalt Shingle	Black Fibrous Homogeneous	35% Cellulose	65% Non-fibrous (Other)	None Detected
A-025B *132305450-0076*	Exterior - Asphalt Shingle	Black Fibrous Homogeneous	35% Cellulose	65% Non-fibrous (Other)	None Detected
A-026A *132305450-0077*	Exterior - Brown Roof Paper	Brown Fibrous Homogeneous	95% Cellulose	5% Non-fibrous (Other)	None Detected
A-026B *132305450-0078*	Exterior - Brown Roof Paper	Brown Fibrous Homogeneous	95% Cellulose	5% Non-fibrous (Other)	None Detected
A-045A *132305450-0079*	Exterior - Black Roof Paper	Black Fibrous Homogeneous	95% Cellulose	5% Non-fibrous (Other)	None Detected
A-045B *132305450-0080*	Exterior - Black Roof Paper	Black Fibrous Homogeneous	95% Cellulose	5% Non-fibrous (Other)	None Detected
A-027A *132305450-0081*	Exterior - Built-up Tar Paper	Black Non-Fibrous Homogeneous	25% Cellulose	65% Non-fibrous (Other)	10% Chrysotile
A-027B *132305450-0082*	Exterior - Built-up Tar Paper				Positive Stop (Not Analyzed)
A-028A *132305450-0083*	Exterior - Asphalt Layer	Black Non-Fibrous Homogeneous	10% Cellulose	84% Non-fibrous (Other)	6% Chrysotile
A-028B *132305450-0084*	Exterior - Asphalt Layer				Positive Stop (Not Analyzed)
A-029A *132305450-0085*	Exterior - Rubber Roofing Membrane	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-029B *132305450-0086*	Exterior - Rubber Roofing Membrane	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-030A *132305450-0087*	Exterior - Fiberboard	Brown/Black Fibrous Homogeneous	90% Cellulose	10% Non-fibrous (Other)	None Detected
A-030B *132305450-0088*	Exterior - Fiberboard	Brown/Black Fibrous Homogeneous	90% Cellulose	10% Non-fibrous (Other)	None Detected
A-031A *132305450-0089*	Exterior - Rubber Roofing Patch Adhesive	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-031B *132305450-0090*	Exterior - Rubber Roofing Patch Adhesive	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-031C *132305450-0091*	Exterior - Rubber Roofing Patch Adhesive	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-032A *132305450-0092*	Gym - Ceiling Panels	Brown/Tan Fibrous Homogeneous	99% Cellulose	1% Non-fibrous (Other)	None Detected

Initial report from: 08/29/2023 14:49:48

EMSL Analytical, Inc.
5 Constitution Way, Unit A Woburn, MA 01801
Tel/Fax: (781) 933-8411 / (781) 933-8412
http://www.EMSL.com / bostonlab@emsl.com

EMSL Order: 132305450
Customer ID: NOBI51
Customer PO:
Project ID:

Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
A-032B *132305450-0093*	Gym - Ceiling Panels	Brown/Tan Fibrous Homogeneous	99% Cellulose	1% Non-fibrous (Other)	None Detected
A-033A *132305450-0094*	Exterior - Gray Caulk	Gray/Black/Clear Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-033B *132305450-0095*	Exterior - Gray Caulk	Gray/Black/Clear Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-034A *132305450-0096*	Exterior - Built-up Roofing	Black Fibrous Homogeneous	35% Cellulose	63% Non-fibrous (Other)	2% Chrysotile
A-034B *132305450-0097*	Exterior - Built-up Roofing				Positive Stop (Not Analyzed)

Analyst(s)
Ava Kopellas (12)
John McCarthy (71)

Steve Grise, Laboratory Manager
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 “Interim Method”) but augmented with procedures outlined in the 1993 (”final”) version of the method. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Analytical, Inc. Woburn, MA NVLAP Lab Code 101147-0, CT PH-0315, MA AA000188, RI AAL-139, VT AL998919, ME LB-0039

Initial report from: 08/29/2023 14:49:48

Appendix F – Inventory of Asbestos-Containing Materials



Table 1
Inventory of Asbestos Containing Materials to be Removed

Building/Addition: Former Armory
1249 Main Street
St. Johnsbury, Vermont

Area No.	Homogeneous Material	Approx. Quantity	General Location
03	Wall/Ceiling Plaster	1,199 sq. ft.	On entire ceiling (most plaster has been removed in the south section - debris on floor - lath remains (remove)). On north, south, east, and west walls.
04	Wall/Ceiling Plaster	1,219 sq. ft.	On entire ceiling (most plaster has been removed - debris on floor - lath remains (remove)). On north, south, east, and west walls.
04 Closet	Wall/Ceiling Plaster	130 sq. ft.	On entire ceiling. On north, south, east, and west walls.
05	Wall/Ceiling Plaster	653 sq. ft.	On entire ceiling (above lower suspended ceiling tiles) (above pressed board material). On north, south, east, and west walls (behind wall paneling).
	Adhesive, assoc. w/ wall paneling	468 sq. ft.	On north, south, east and west walls.
05 Hallway	Wall/Ceiling Plaster	174 sq. ft.	On entire ceiling. On north, south, east, and west walls.

Table 1
Inventory of Asbestos Containing Materials to be Removed

Building/Addition: Former Armory
1249 Main Street
St. Johnsbury, Vermont

Area No.	Homogeneous Material	Approx. Quantity	General Location
06	Wall/Ceiling Plaster	267 sq. ft.	On entire ceiling (above gypsum ceiling board). On north, south, east, and west walls.
	Joint Compound, assoc. w/ gypsum wall/ceiling board (Sheet Rock)	49 sq. ft.	On entire ceiling.
07	Wall/Ceiling Plaster	267 sq. ft.	On entire ceiling (above gypsum ceiling board). On north, south, east, and west walls.
	Joint Compound, assoc. w/ gypsum wall/ceiling board (Sheet Rock)	49 sq. ft.	On entire ceiling.
08	Wall/Ceiling Plaster	540 sq. ft.	On entire ceiling. On north, south, east, and west walls.
08 Closet	Wall/Ceiling Plaster	96 sq. ft.	On entire ceiling. On north, south, east, and west walls.
09	Wall/Ceiling Plaster	475 sq. ft.	On entire ceiling. On north, south, east, and west walls.
09 Closet	Wall/Ceiling Plaster	96 sq. ft.	On entire ceiling. On north, south, east, and west walls.
10	Wall/Ceiling Plaster	416 sq. ft.	On entire ceiling (most plaster has been removed - debris on floor - lath remains (remove)). On north, south, east, and west walls.

Table 1
Inventory of Asbestos Containing Materials to be Removed

Building/Addition: Former Armory
1249 Main Street
St. Johnsbury, Vermont

Area No.	Homogeneous Material	Approx. Quantity	General Location
10 Closet	Wall/Ceiling Plaster	117 sq. ft.	On entire ceiling (above pressed wood board on wood strapping). On north, south, east, and west walls (behind pressed wood board).
Stairs between 1st/2nd Floors	Wall Plaster	148 sq. ft.	On north, south and west walls.
11	Wall/Ceiling Plaster	810 sq. ft.	On entire ceiling (above gypsum wall board). On north, south, east, and west walls (behind gypsum wall board).
	Joint Compound, assoc. w/ gypsum wall/ceiling board (Sheet Rock)	810 sq. ft.	On entire ceiling. On north, south, east, and west walls.
12 Main Room	Wall/Ceiling Plaster	870 sq. ft.	On entire ceiling (above gypsum ceiling board and above pressed wood board on wood strapping). On north, south, east, and west walls (behind gypsum wall board/all walls, and behind plywood/east and west walls).
	Joint Compound, assoc. w/ gypsum wall/ceiling board (Sheet Rock)	870 sq. ft.	On entire ceiling. On north, south, east, and west walls.

Table 1
Inventory of Asbestos Containing Materials to be Removed

Building/Addition: Former Armory
1249 Main Street
St. Johnsbury, Vermont

Area No.	Homogeneous Material	Approx. Quantity	General Location
12 Kitchen	Wall/Ceiling Plaster	438 sq. ft.	On entire ceiling (above gypsum ceiling board and above pressed wood board on wood strapping). On north, south, east, and west walls (behind gypsum wall board/all walls, and behind plywood/east and west walls).
	Joint Compound, assoc. w/ gypsum wall/ceiling board (Sheet Rock)	438 sq. ft.	On entire ceiling. On north, south, east, and west walls.
13	Wall/Ceiling Plaster	307 sq. ft.	On entire ceiling (above pressed wood board on wood strapping). On north, south, east, and west walls.
14	Wall/Ceiling Plaster	937 sq. ft.	On entire ceiling (above lower gypsum ceiling board/framing and above pressed wood board on wood strapping). On north, south, east, and west walls (behind gypsum wall board).
	Joint Compound, assoc. w/ gypsum wall/ceiling board (Sheet Rock)	937 sq. ft.	On entire ceiling. On north, south, east, and west walls.
15	Wall/Ceiling Plaster	293 sq. ft.	On entire ceiling (above plywood). On north, south, east, and west walls.

Table 1
Inventory of Asbestos Containing Materials to be Removed

Building/Addition: Former Armory
1249 Main Street
St. Johnsbury, Vermont

Area No.	Homogeneous Material	Approx. Quantity	General Location
16	Wall/Ceiling Plaster	1,547 sq. ft.	On entire ceiling (west section plaster has been removed -debris on floor - lath remains (remove)). On north, south, east, and west walls (west wall plaster has been removed - debris on floor - lath remains (remove) (behind paneling/north and east - behind paneling and Masonite/south).
17	Wall Plaster	1,664 sq. ft.	On east wall (behind plywood and pressed wood board).
Stairs between 1st Floor/ Basement Level	Wall Plaster	514 sq. ft.	On entire ceiling (above gypsum ceiling board). On north, south, east, and west walls.
	Joint Compound, assoc. w/ gypsum wall/ceiling board (Sheet Rock)	469 sq. ft.	On entire ceiling. On north, south, east and west walls, except west wall of Basement Hallway at bottom of stairs.
18	Corrugated Pipe Insulation	14 lin. ft.	On piping in north section (near ceiling).
	Joint Compound, assoc. w/ gypsum wall/ceiling board (Sheet Rock)	297 sq. ft.	On entire ceiling. Significant debris on floor.
	Vinyl Floor Tile, 12" x 12", tan	270 sq. ft.	On entire floor. Most tiles are loose.
	Adhesive, assoc. w/ Vinyl Floor Tile, 12" x 12", tan	270 sq. ft.	On entire floor and the back of Vinyl Floor Tile, 12" x 12", tan.

Table 1
Inventory of Asbestos Containing Materials to be Removed

Building/Addition: Former Armory
1249 Main Street
St. Johnsbury, Vermont

Area No.	Homogeneous Material	Approx. Quantity	General Location
19	Joint Compound, assoc. w/ gypsum wall/ceiling board (Sheet Rock)	55 sq. ft.	On entire ceiling. Significant debris on floor.
20	Boiler Insulation, Fire Bricks, Gaskets, Ropes, Packings and Other Refractory Materials	186 sq. ft.	On interior and exterior of boiler (demolish boiler).
	Joint Compound, assoc. w/ gypsum wall/ceiling board (Sheet Rock)	83 sq. ft.	On north upper wall, west section and west upper wall, north section (common w/ Area 19).
21	Joint Compound, assoc. w/ gypsum wall/ceiling board (Sheet Rock)	282 sq. ft.	On entire ceiling. On north, south, east, and west walls.
22	Joint Compound, assoc. w/ gypsum wall/ceiling board (Sheet Rock)	12 sq. ft.	On north wall, around door and on floor east of door.
23	Wall/Ceiling Plaster	372 sq. ft.	On entire ceiling of Main Area (above decorative tin ceiling). On ceiling of shower stalls at the north and northeast.
24	Wall/Ceiling Plaster	208 sq. ft.	On entire ceiling (most plaster has been removed - debris on floor - lath remains (remove)).
24A	Wall/Ceiling Plaster	65 sq. ft.	On entire ceiling (above pressed wood board on wood strapping).
25A	Corrugated Pipe Insulation	8 lin. ft.	On piping straight at east section (near ceiling).
	Mudded Pipe Joint Insulation	1 lin. ft. (1 fitting)	On pipe fitting at east section.

Table 1
Inventory of Asbestos Containing Materials to be Removed

Building/Addition: Former Armory
1249 Main Street
St. Johnsbury, Vermont

Area No.	Homogeneous Material	Approx. Quantity	General Location
26	Joint Compound, assoc. w/ gypsum wall/ceiling board (Sheet Rock)	423 sq. ft.	On entire ceiling except east and west sections (both ends of the room).
27A	Corrugated Pipe Insulation	7 lin. ft.	On piping at north section *near ceiling).
28	Joint Compound, assoc. w/ gypsum wall/ceiling board (Sheet Rock)	264 sq. ft.	On east wall, south section (common w/ Area #27) and east wall, center section (common w/ Area #26 and small Storage Room.
	Vibration Damper, assoc. w/ ductwork	2 sq. ft.	On ductwork near door at east wall.
29	Corrugated Pipe Insulation	26 lin. ft.	On piping straights throughout room (near ceiling).
	Mudded Pipe Joint Insulation	5 lin. ft. (13 fittings)	On pipe joints/elbows/fittings/ valves throughout room.
30	Joint Compound, assoc. w/ gypsum wall/ceiling board (Sheet Rock)	163 sq. ft.	On entire ceiling.
31	Corrugated Pipe Insulation	14 lin. ft.	On piping in north section (near ceiling).
	Joint Compound, assoc. w/ gypsum wall/ceiling board (Sheet Rock)	225 sq. ft.	On entire ceiling. On north wall (near ceiling), and west wall, south section (near ceiling).

Table 1
Inventory of Asbestos Containing Materials to be Removed

Building/Addition: Former Armory
1249 Main Street
St. Johnsbury, Vermont

Area No.	Homogeneous Material	Approx. Quantity	General Location
32	Corrugated Pipe Insulation	14 lin. ft.	On piping in north section (near ceiling).
	Joint Compound, assoc. w/ gypsum wall/ceiling board (Sheet Rock)	264 sq. ft.	On entire ceiling. On north wall (near ceiling), south wall (near ceiling), east wall (near ceiling), and west wall, (near ceiling).
33	Corrugated Pipe Insulation	13 lin. ft.	On piping in north section (near ceiling).
	Joint Compound, assoc. w/ gypsum wall/ceiling board (Sheet Rock)	216 sq. ft.	On entire ceiling. On north wall (near ceiling), east wall, center section (near ceiling), and west wall, center section (near ceiling).
34	Joint Compound, assoc. w/ gypsum wall/ceiling board (Sheet Rock)	91 sq. ft.	On ceiling in north section.
35	Wall/Ceiling Plaster	81 sq. ft.	On entire ceiling (above decorative tin ceiling).
	Joint Compound, assoc. w/ gypsum wall/ceiling board (Sheet Rock)	21 sq. ft.	On ceiling around carrying beam.
36	Wall/Ceiling Plaster	110 sq. ft.	On entire ceiling (above decorative tin ceiling).
	Joint Compound, assoc. w/ gypsum wall/ceiling board (Sheet Rock)	24 sq. ft.	On ceiling around carrying beam.
37	Wall/Ceiling Plaster	288 sq. ft.	On entire ceiling (above decorative tin ceiling).
	Joint Compound, assoc. w/ gypsum wall/ceiling board (Sheet Rock)	72 sq. ft.	On ceiling around carrying beam.

Table 1
Inventory of Asbestos Containing Materials to be Removed

Building/Addition: Former Armory
1249 Main Street
St. Johnsbury, Vermont

Area No.	Homogeneous Material	Approx. Quantity	General Location
Basement Level Hallway, East (in 30's Area)	Wall/Ceiling Plaster	277 sq. ft.	On entire ceiling (above decorative tin ceiling).
	Joint Compound, assoc. w/ gypsum wall/ceiling board (Sheet Rock)	43 sq. ft.	On ceiling in east section.
Basement Level Hallway, West (in 30's Area)	Joint Compound, assoc. w/ gypsum wall/ceiling board (Sheet Rock)	176 sq. ft.	On entire ceiling.
18, 19, 20, 26, 27 East, 27 West,, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37			On walls and/or ceilings in these Areas, the bulk of gypsum wall/ ceiling board has been previously removed and discarded. Residual Sheet Rock/Joint Compound remains behind screws and fasteners that remain on framing lumber. All framing lumber is considered asbestos contaminated by presence of residual Joint Compound.
Entire Basement (Lowest) Level	Residual Thermal System Insulation	110 lin. ft.	Except where noted in this Table, asbestos thermal system insulation (TSI) was previously removed from heating system piping. The process was not complete and residual TSI remains on heating system piping in some areas. All heating system piping on this Level shall be considered asbestos contaminated by presence of residual TSI.

Table 1
Inventory of Asbestos Containing Materials to be Removed

Building/Addition: Former Armory
1249 Main Street
St. Johnsbury, Vermont

Area No.	Homogeneous Material	Approx. Quantity	General Location
Exterior	Built-up Roofing Material Roof Flashing Cement	2,390 sq. ft.	On entire roof of East (Front) Section of the building (under non-asbestos roofing material).
	Built-up Roofing Material Roof Flashing Cement	7,396 sq. ft.	On entire roof of West (Back/ Gymnasium) Section (under slate roofing).
	Roof Coating Material, silver	135 sq. ft.	On entire roof of Southwest Loading Ramp structure.
	Roof Flashing Cement	2 sq. ft.	South Elevation, at junction of brick wall and roof of Southwest Loading Ramp structure.
	Caulking Material, grey	5 sq. ft.	Associated with chimney at/above roof level.
	Caulking Material, white	5 sq. ft.	At junction of roof of West (Back/ Gymnasium) Section and west wall of East (Front) Section (north and south roof pitches).

Appendix G – Analytical Laboratory Standard Operating Procedure

Pace Analytical Laboratory:

- ENV-SOP-ELON-0001 v03, Microwave Extraction SW846 3546, March 24, 2023
- ENV-SOP-ELON-0034 v02, EPA 8082A, May 31, 2023

Clay Point Associates:

- NIOSH 7400, Asbestos and Other Fibers by PCM NIOSH 7400 Issue 3, April 29, 2019

Schneider Laboratories Global, Inc.:

- ME-003-23-001, Digestion of Solid Samples – Metals EPA Method 3050B, December 11, 2023
- ME-017-23-001, Analysis of Flame Atomic Absorption Spectrophotometry, November 27, 2023

Test Method Standard Operating Procedure (SOP): Pace® Analytical Services

Pace ANALYTICAL SERVICES	**ENV-SOP-ELON-0001 v03_Microwave Extraction SW846 3546**
	Effective Date: 03/24/2023

Management Approval:
Katherine Allen Approved on 3/21/2023 12:15:59 PM
Tod Kopyscinski Approved on 3/24/2023 8:13:07 AM

© 2019-2023, Pace® Analytical Services, LLC

1.0 Scope and Application

This standard operating procedure (SOP) describes the procedures used by Contest, A Pace Analytical Laboratory (ELON) for the determination of for the extraction of organic compounds from soils, clays, sediments, sludges, and solid wastes utilizing method SW-846 3546. The procedure uses microwave energy to produce elevated temperature and pressure conditions in a closed vessel containing the sample and organic solvents.

2.0 Summary of Method

- Samples are prepared for extraction and loaded into the extraction vessel.
- The appropriate surrogate and /or matrix spike is added to the vessel.
- The appropriate solvent system is added to the vessel. (Approximately 35 mL of 1:1 $MeCl_2$/Acetone (CT ETPH, MA DEP EPH, EPA 8270E) or 1:1 Hexane/Acetone. (PCB, PEST). Solvent must be approximately 3-5 mm above the sample, add more solvent as needed.
- The vessel is then tightened using the CEM Capping Station.
- The extraction vessel containing the sample and solvent system is heated to the extraction temperature of 115° C and extracted for 10 minutes.
- The vessels are then cooled. The vessel is opened, and the contents are filtered. The solid material is rinsed three times and the solvent fractions are combined.
- The extract is then concentrated, and as needed, exchanged into a solvent compatible with its method.

3.0 Interferences

Be sure microwave vessels are cleaned thoroughly to avoid contamination. Refer to Extractions Glassware SOP.

Note: All glassware must be rinsed at least twice with methylene chloride before use.

4.0 Definitions

Refer to the Laboratory Quality Manual for a glossary of common lab terms and definitions.

5.0 Health and Safety

The toxicity or carcinogenicity of each chemical material used in the laboratory has not been fully established. Each chemical should be regarded as a potential health hazard and exposure to these compounds should be as low as reasonably achievable.

The laboratory maintains documentation of hazard assessments and OSHA regulations regarding the safe handling of the chemicals specified in each method. Safety data sheets for all hazardous

The distribution of printed or electronic copies of this document outside of the PAS electronic document management system (eDMS) is not controlled or tracked. PAS employees must ensure any copy used for daily work, if not accessed directly from PAS eDMS, is the current version of the document.

chemicals are available to all personnel. Employees must abide by the health, safety and environmental (HSE) policies and procedures specified in this SOP and in the Pace Chemical Hygiene / Safety Manual.

Personal protective equipment (PPE) such as safety glasses, gloves, and a laboratory coat must be worn in designated areas and while handling samples and chemical materials to protect against physical contact with samples that contain potentially hazardous chemicals and exposure to chemical materials used in the procedure.

Concentrated corrosives present additional hazards and are damaging to skin and mucus membranes. Use these acids in a fume hood whenever possible with additional PPE designed for handing these materials. If eye or skin contact occurs, flush with large volumes of water. When working with acids, always add acid to water to prevent violent reactions. Any processes that emit large volumes of solvents (evaporation/concentration processes) must be in a hood or apparatus that prevents employee exposure.

Microwave sample preparation imposes a unique set of safety considerations. Never heat liquids in a sealed vessel or container that is not equipped with a pressure relief valve. Microwave heating of alkaline or salt solutions in a closed vessel will concentrate these solutions, causing precipitation of salts and formation of crystal deposits on vessel walls. These crystal deposits will absorb microwave energy, causing localized heating, which may char and damage vessel components. Do not include any metal dust or fragments.

Because samples are extracted at high temperatures, exercise extreme caution when removing a vessel. **Never open a hot vessel, wait until vessel has cooled (approx. 10min**).

Contact your supervisor or local HSE coordinator with questions or concerns regarding safety protocol or safe handling procedures for this procedure.

6.0 Sample Collection, Preservation, Holding Time, And Storage

Samples should be collected in accordance with a sampling plan and procedures appropriate to achieve the regulatory, scientific, and data quality objectives for the project.

The laboratory does not perform sample collection or field measurements for this test method. To assure sample collection and field checks and treatment are performed in accordance with applicable regulations Pace project managers will inform the client of these requirements at the time of request for analytical services when the request for testing is received prior to sample collection. If samples were already collected, the laboratory will record any nonconformance to these requirements in the laboratory's sample receipt record when sufficient information about sample collection is provided with the samples.

Refer to Analytical SOPs for sample hold time and container requirements.

7.0 Equipment And Supplies

7.1 Equipment

- CEM MarsXpress Microwave "MARS 5" or "MARS 6" with temperature sensors accurate to +2°C

  Serial Number: MD8543
  Software Version: 194A03

The distribution of printed or electronic copies of this document outside of the PAS electronic document management system (eDMS) is not controlled or tracked. PAS employees must ensure any copy used for daily work, if not accessed directly from PAS eDMS, is the current version of the document.

Note: Be sure to retain microwave sample data information by printing out the run data graph daily and attach to the bench sheet.

- Buchi Syncore Concentrator and glassware
- CEM Infrared thermometer Calibration Sensor

  Model: 4014
  Serial Number: A82413

- Calibrated Analytical balance - capable of weighing to 0.01g

7.2 Supplies

- Teflon PFA Vessels
- Sample containers - glass jars, with Teflon-lined screw caps
- Pipettes - 1mL, volumetric, class A
- Filter paper; Grade 415, 15 cm
- Glass funnel
- Pasteur pipettes
- 25mL N-EVAP concentrator tubes
- Vials – 2mL, 4mL, and 12mL
- Glass tight syringe
- PCB Free Gauze Wipe- Used when applicable to matrix/analysis

8.0 Reagents And Standards

8.1 Reagents

- Methylene Chloride: pesticide quality
- Hexane: pesticide quality
- Acetone: pesticide quality
- Sodium Sulfate: ACS grade, granular, anhydrous, baked at 400°C for 4 hours – Also used for matrix matching applicable matrix/analysis for MB and LCS.
- Nitrogen: Ultra High Purity
- Sand – (J.T. Baker) Purified and baked at 400°C for 4 hours before use.
- Silica Gel

8.2 Standards

- Stock Standards: Purchased as certified solutions from Agilent ("or equivalent")

9.0 Procedure

The distribution of printed or electronic copies of this document outside of the PAS electronic document management system (eDMS) is not controlled or tracked. PAS employees must ensure any copy used for daily work, if not accessed directly from PAS eDMS, is the current version of the document.

9.1 Sample Extraction -

- Homogenization and Subsampling – For all samples weigh out samples into weigh boats. For Petro (CT ETPH, DRO and TPH) samples and Semi-Volatile samples weigh out 30grams for soil and 6grams for Product/Solid. For PCB and Pesticide samples weigh out 10grams for soil and 2 grams for Product/Solid. For EPH samples weigh out 20grams for soil and 4 grams for Product/Solid. Typically, PCB and Pesticides paint and caulking samples are done by Soxhlet extraction, however if by Microwave weigh out 0.2g for paint and 0.5g for caulk.

  Note: Per method, product/solid/caulking/paint samples must be cut and or shredded prior to extraction.

For samples with a water layer See: Standing water policy.

- Dry samples with sodium sulfate, then place sample in microwave vessel.
- Add desired amounts of surrogate standard to all samples, spikes, and blanks.
- Add desired amounts of spike to all LFB's (lab spikes) and matrix spikes.
- Add approximately 35 mL of appropriate solvent system to each vessel. (1:1 $MeCl_2$/acetone) (CT ETPH, MA DEP EPH, EPA 8270E) or 1:1 Hexane/Acetone (PCB/PEST). Solvent must be approximately 3-5 mm above the sample, add more solvent as needed.
- The vessel is then tightened by hand. Be sure to have threads correct and DO NOT OVERTIGHTEN, as over tightening could lead to an explosion.
- Invert vessel – to mix solvents and sample.
- The vessel is put into the appropriate numbered slot in the carousel. (NOTE: For optimum temperature control, CEM Corp. recommends that at least 12 vessels be distributed evenly around the carousel.)
- The carrousel is put into the oven.
- Method EPA 3546 - is loaded and the method is started. (By pressing the GREEN button)
- Microwave Oven parameters: METHOD EPA 3546
- Ramp to Temperature: 100° C for 15 min with Power 100-200
- Hold Time at Temperature: 15 minutes with ~700 power
- Pressure: 50-150 psi
- Cooling: 15 minutes cooling to room temperature

  Note: Do not open vessels when contents are hot. Solvent burns can occur.

- The vessel is opened, and the contents filtered through a glass funnel (for Pesticides and PCB's) or a Teflon funnel (for Semi's and Petro's) lined with a filter paper and sodium sulfate, or filter through silica gel for CT ETPH.
- The extract is then concentrated on the Buchi Syncore concentrator and exchanged into a solvent compatible with its method.

See Appendix A for Temperature Calibration – IR Sensor(s) for CEM MARS Microwave

9.2 Sample Concentration

9.2.1 Buchi Concentration Procedure

Turn the Syncore concentration platform and chiller on via the green toggle switches. Press the start button and adjust the rotation dial to 0 rpm.

The distribution of printed or electronic copies of this document outside of the PAS electronic document management system (eDMS) is not controlled or tracked. PAS employees must ensure any copy used for daily work, if not accessed directly from PAS eDMS, is the current version of the document.

Ensure water level of the bath containing the main Buchi solvent collection flask is full. Add water if level is low. Add water to each Buchi cell if needed. Take care not to add too much water.

Clean the top of the Buchi system where contact is made between the tubes and top plate with Kimwipes and acetone.

Note: All glassware should be similar in shape to ensure a proper seal when under vacuum

Rinse all concentration glassware with Acetone 2 times and Methylene Chloride 2 times. (Enough to coat glassware to ensure sufficient rinsing)

Using caution, pass sample extract though Sodium sulfate into Buchi concentration glassware. Rinse the Microwave vessel with the appropriate solvent and add rinse to the Buchi glassware.

Place samples in the Syncore, cover with the top cooling plate and hand tighten.

Check that "**Gradient**" is shown in the upper left corner of the display on the vacuum unit. If it is not selected, push the menu button, and adjust the black dial until "**Gradient**" is selected, hit OK.

Check that the correct program is selected and hit start.

Adjust the concentration platform to 250rpm using the black dial.

Note: During concentration, extracts may reduce in volume at different rates. It is important to check on the samples before the program finishes, in order to reduce the chance of an extract going dry. Additionally, extracts may have to be concentrated via the manual operation.

After the program finishes, adjust the concentration platform so that 0 is displayed and it is no longer moving. Check that the vacuum is steady at ambient pressure and remove the top plate. Bring samples to their appropriate final volume and vial. Samples are concentrated to reflect initial volumes to meet reporting limits.

For samples that require a solvent exchange: EPH

After running the program, Add approximately 40 mL of hexanes to each sample and aspirate. Select "**Hex Exchange Final**" program (22 min.) and hit start. When the program has finished, bring samples to their appropriate final volume and vial.

NOTE: Primary concentration is performed on all water samples by the Buchi Syncore concentration units, however occasionally the final extract volume may require adjustment using the N-EVAP concentrator unit. The use of the N-EVAP must be limited to minimize evaporative solvent loss.

9.2.2 N-EVAP Concentration Procedure

Fill reservoir with DI water such that samples will be partially submersed, without overflowing.

Check airflow to all needles to make sure they are off.

Check source of Nitrogen to ensure that there is gas flowing to the N-Evap.

The distribution of printed or electronic copies of this document outside of the PAS electronic document management system (eDMS) is not controlled or tracked. PAS employees must ensure any copy used for daily work, if not accessed directly from PAS eDMS, is the current version of the document.

Check that bath temperature is no higher than 40°C. Temperature may vary based on application.

Inspect N-EVAP needle visually. If necessary, remove any debris with a Kim Wipe and touch of acetone.

Load sample onto the N-EVAP by first pulling the spring back. Then insert sample into the designated cell. Allow the spring to gently return so that the sample is held firmly in place.

Lower needles close to the extract surface. Needle height above sample may need to be adjusted as extract concentrates to lower volume.

Open corresponding valve on needle cautiously so the surface starts to ripple.

Note: this should be gentle. If a sample is splashing, nitrogen flow is too high.

Repeat as needed for additional samples.

Note: The nitrogen line is a closed circuit. As the number of samples being concentrated at a given time increases, the nitrogen flow may need to be raised. This may be done by opening the valves on needles being used. Alternatively, a gauge may be used to adjust flow. Check with supervisor before adjusting gauge.

When sample volume is reduced to intended volume, pull needle away from sample, then close valve.

Note: Lifting rack of samples out of hot water bath will slow concentration as well as enable the user to more accurately monitor solvent volumes.

Note: When concentrating multiple samples at once, samples will complete concentration at different rates. This is dependent upon the bath temperature, flow of nitrogen, time elapsed during concentration, and matrix of sample. As a result, the flow of nitrogen may have to be decreased as samples reach ideal volume and are pulled from N-Evap.

When finished with N-EVAP, check that all needle valves are closed, and the hot water bath is off. Clean needles as appropriate.

10.0 Data Analysis And Calculations

10.1 Calculations

See the Laboratory Quality Assurance Manual for equations for common calculations.

11.0 Quality Control and Method Performance

11.1 Quality Control

The following QC samples are prepared and analyzed with each batch of samples. Refer to Analytical method SOPs for acceptance criteria and required corrective action.

QC Item	Frequency
Method Blank (MB)	1 per batch of 20 or fewer samples. If batch exceeds, 20 samples, every 20.

The distribution of printed or electronic copies of this document outside of the PAS electronic document management system (eDMS) is not controlled or tracked. PAS employees must ensure any copy used for daily work, if not accessed directly from PAS eDMS, is the current version of the document.

Laboratory Control Sample (LCS)	1 per batch of 20 or fewer samples. If batch exceeds, 20 samples, every 20.
Laboratory Control Sample Duplicate (LCSD)	1 per batch of 20 or fewer samples. If batch exceeds, 20 samples, every 20.
Matrix Spike (MS)	1 per batch of 20 or fewer samples. If batch exceeds, 20 samples, every 20.
Matrix Spike Duplicate (MSD)	1 per batch of 20 or fewer samples. If batch exceeds, 20 samples, every 20.
Surrogate	Added to all blanks, standards, samples, and spikes.

11.2 Analyst Qualifications and Training

Employees that perform any step of this procedure must have a completed Read and Acknowledgment Statement for this version of the SOP in their training record. In addition, prior to unsupervised (independent) work on any client sample, analysts that prepare or analyze samples must have successful initial demonstration of capability (IDOC) and must successfully demonstrate on-going proficiency on an annual basis. Successful means the initial and on-going DOC met criteria, documentation of the DOC is complete, and the DOC record is in the employee's training file. Refer to laboratory SOP ELON Doc# 608 Training Requirements for more information.

12.0 Data Review And Corrective Action

12.1 Data Review

Pace's data review process includes a series of checks performed at different stages of the analytical process by different people to ensure that SOPs were followed, the analytical record is complete and properly documented, proper corrective actions were taken for QC failure and other nonconformance(s), and that test results are reported with proper qualification.

The review steps and checks that occur as employee's complete tasks and review their own work is called primary review.

All data and results are also reviewed by an experienced peer or supervisor. Secondary review is performed to verify SOPs were followed, that calibration, instrument performance, and QC criteria were met and/or proper corrective actions were taken, qualitative ID and quantitative measurement is accurate, all manual integrations are justified and documented in accordance with the Pace ENV's SOP for manual integration, calculations are correct, the analytical record is complete and traceable, and that results are properly qualified.

A third-level review, called a completeness check, is performed by reporting or project management staff to verify the data report is not missing information and project specifications were met.

Refer to laboratory ENV-SOP-ELON-0035_*Data Review* for specific instructions and requirements for each step of the data review process.

12.2 Corrective Action

Corrective action is expected any time QC or sample results are not within acceptance criteria. If corrective action is not taken or was not successful, the decision/outcome must be documented

The distribution of printed or electronic copies of this document outside of the PAS electronic document management system (eDMS) is not controlled or tracked. PAS employees must ensure any copy used for daily work, if not accessed directly from PAS eDMS, is the current version of the document.

in the analytical record. The primary analyst has primary responsibility for taking corrective action when QA/QC criteria are not met. Secondary data reviewers must verify that appropriate action was taken and/or that results reported with QC failure are properly qualified.

Corrective action is also required when carryover is suspected and when results are over range.

Samples analyzed after a high concentration sample must be checked for carryover and reanalyzed if carryover is suspected. Carryover is usually indicated by low concentration detects of the analyte in successive samples analyzed after the high concentration sample.

Sample results at concentrations above the upper limit of quantitation must be diluted and reanalyzed. The result in the diluted samples should be within the upper half of the calibration range. Results less than the mid-range of the calibration indicate the sample was over diluted and analysis should be repeated with a lower level of dilution. If dilution is not performed, any result reported above the upper range is considered a qualitative measurement and must be qualified as an estimated value.

13.0 Pollution Prevention And Waste Management

Pace proactively seeks ways to minimize waste generated during our work processes. Some examples of pollution prevention include but are not limited to reduced solvent extraction, solvent capture, use of reusable cycletainers for solvent management, and real-time purchasing.

The EPA requires that laboratory waste management practice to be conducted consistent with all applicable federal and state laws and regulations. Excess reagents, samples and method process wastes must be characterized and disposed of in an acceptable manner in accordance with Pace's Chemical Hygiene Plan / Safety Manual.

14.0 Modifications

A modification is a change to a reference test method made by the laboratory. For example, changes in stoichiometry, technology, quantitation ions, reagent or solvent volumes, reducing digestion or extraction times, instrument runtimes, etc. are all examples of modifications. Refer to Pace ENV corporate SOP ENV-SOP-CORQ-0011 *Method Validation and Instrument Verification* for the conditions under which the procedures in test method SOPs may be modified and for the procedure and document requirements.

15.0 Responsibilities

Pace ENV employees that perform any part this procedure in their work activities must have a signed Read and Acknowledgement Statement in their training file for this version of the SOP. The employee is responsible for following the procedures in this SOP and handling temporary departures from this SOP in accordance with Pace's policy for temporary departure.

Pace supervisors/managers are responsible for training employees on the procedures in this SOP and monitoring the implementation of this SOP in their work area.

16.0 Attachments

The distribution of printed or electronic copies of this document outside of the PAS electronic document management system (eDMS) is not controlled or tracked. PAS employees must ensure any copy used for daily work, if not accessed directly from PAS eDMS, is the current version of the document.

- Appendix A: Temperature Calibration - IR Sensor(s) for CEM MARS Microwave

17.0 REFERENCES

- ENV-SOP-CORQ-0006, *Manual Integration*, current version.
- ENV-SOP-CORQ-0011, *Method Validation*, current version.
- ENV-SOP-CORQ-0015, *Document Management*, current version.
- ENV-SOP-CORQ-0016, *SOP for SOP and SWI*, current version.
- ENV-TMP-CORQ-0007, *Quality Manual Template*, current version.
- COR-POL-0004, *Code of Ethics and Professional Conduct*, current version.
- COR-MAN-001, Pace® *Safety Manual*, current version.
- ENV-MAN-ELON-0001, *Quality Assurance Manual*, current version.
- US EPA, SW846 Method 3546, February 2007. "Microwave Extraction".
- CEM, Xpress Manual. "Operation Manual"
- CEM, Infrared Thermometer Calibration Manual.

18.0 REVISION HISTORY

Authorship

Primary Author[1]	Job Title	Date Complete
Elias Dec	Extractions Supervisor	03/16/2023

[1]The primary author is the individual / role responsible for the content of this SOP. Send questions or suggestions for content to the primary author. See the Quality Manager for questions or concerns related to implementation of this SOP.

Revisions Made from Prior Version

Section	Description of Change
7.1	Updated note
9.1	Added sample amounts to weigh out. Added reference to Standing water policy, added reference to Appendix for microwave temperature calibration
9.2	Updated section to Sample concentration, added Buchi concentration procedure and N-EVAP procedure
16.0	Added Appendix A
17.0	Updated method reference

Revisions Made from Version 2

Section	Description of Change
All	Removed S-EVAP references
All	Added specific refence versions
7.2	Removed PCB free caulking
8.1	Added next to Sodium Sulfate that it is used to matrix match applicable matrix/analysis for MB/LCS.

Revisions Made for Version 1

Section	Description of Change

The distribution of printed or electronic copies of this document outside of the PAS electronic document management system (eDMS) is not controlled or tracked. PAS employees must ensure any copy used for daily work, if not accessed directly from PAS eDMS, is the current version of the document.

8.2	Changed Ultra to Agilent
All	Updated to Pace SOP Template

Document Succession: This version replaces the following documents:

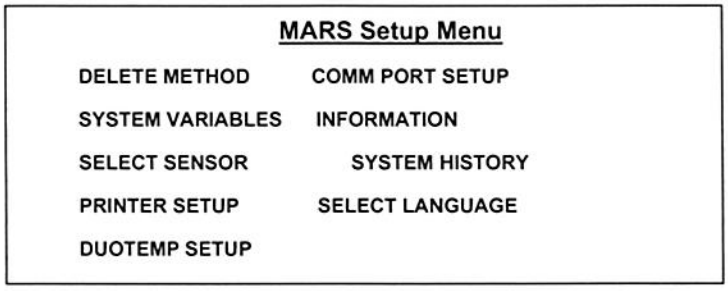
Document Number	Title	Version
ENV-SOP-ELON-0001	Microwave Extraction SW846 3546	02
ENV-SOP-ELON-0001	Microwave Extraction SW846 3546	01
100	SOP 3546 Microwave Ext	7

The distribution of printed or electronic copies of this document outside of the PAS electronic document management system (eDMS) is not controlled or tracked. PAS employees must ensure any copy used for daily work, if not accessed directly from PAS eDMS, is the current version of the document.

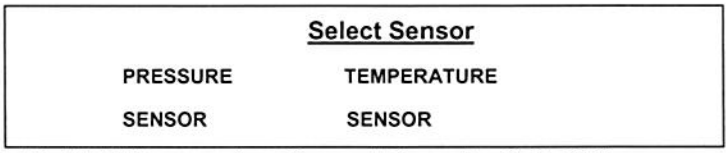
Appendix A: Temperature Calibration - IR Sensor(s) for CEM MARS Microwave

Note: The Intelli-temp Calibrator Kit (907330 - 120V or 907430 - 240V) which includes the calibrator and adaptor is required to perform an IR calibration on the instrument.

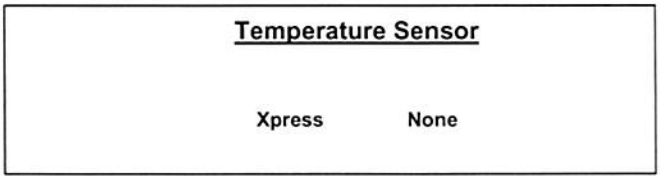
- The instrument must be plugged into the electrical outlet and turned on.
- Remove the plastic shield from the floor of the instrument.
- Plug the Intelli-Temp calibrator into an electrical outlet close enough to the instrument for it to be placed on the instrument floor. Permit the calibrator to warm until the "Ready" light is illuminated.
- Press the SETUP key



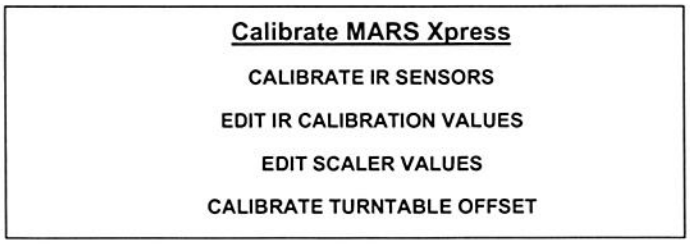
- Using the arrow keys, highlight "Select Sensor." Press the SELECT key.



- Using the arrow keys, highlight "Temperature Sensor." Press the SELECT key.
- Using the arrow keys, highlight "Xpress." Press the SELECT key. The following screen will be displayed.



- Using the arrow keys, highlight "Yes." Press the SELECT key. The following screen will be displayed.
- Using the arrow keys, highlight "Calibrate IR Sensors." Press the SELECT key.



The distribution of printed or electronic copies of this document outside of the PAS electronic document management system (eDMS) is not controlled or tracked. PAS employees must ensure any copy used for daily work, if not accessed directly from PAS eDMS, is the current version of the document.

- Ensure that the "Ready" light on the Intelli-Temp calibrator is illuminated. Place the calibrator adaptor over the inner IR sensor (sensor nearest the turntable drive lug) with the smaller opening of the adaptor directly over the sensor. Place the Intelli-Temp calibrator over the adaptor (calibrator positioned upside down with the opening mating with the opening of the adaptor). Wait for a stable reading. Press the "SELECT" key. The following screen will appear.

Calibrate IR Sensor
1. APPLY IntelliTemp TO OUTER SENSOR
PRESS SELECT
XXXX

- Place the calibrator adaptor over the outer IR sensor with the smaller opening of the adaptor directly over the sensor. Place the Intelli-Temp calibrator over the adaptor (calibrator positioned upside down with the opening mating with the opening of the adaptor). Wait for a stable reading. Press the "SELECT" key.
- The instrument automatically returns to the Main Menu.

18.1 Verification of IR Sensor(s) Temperature Calibration

To verify proper calibration of the Xpress IR sensors, perform the procedures outlined below:

Note: The Intelli-temp Calibrator Kit (907330 - 120V or 907430 - 240V) which includes the calibrator and adaptor is required to verify IR calibrations.

- The instrument must be plugged into the electrical outlet and turned on.
- Remove the plastic shield from the floor of the instrument.
- Plug the Intelli-Temp calibrator into an electrical outlet close enough to the instrument for it to be placed on the instrument floor. Permit the calibrator to warm until the "Ready" light is illuminated.

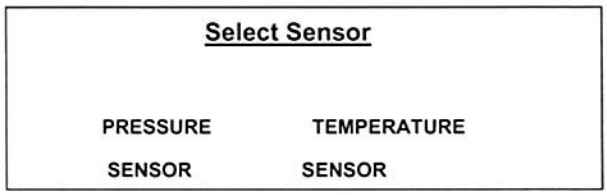
CEM Method Menu	
Edit/Create Method	Load Method
'Start' Current Method	
XXXXXXXX	

- Press the SETUP key

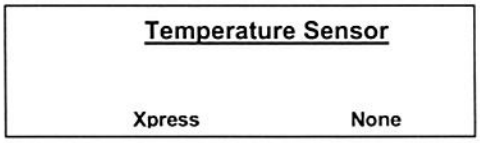
MARS Setup Menu	
DELETE METHOD	COMM PORT SETUP
SYSTEM VARIABLES	INFORMATION
SELECT SENSOR	SYSTEM HISTORY
PRINTER SETUP	SELECT LANGUAGE
DUOTEMP SETUP	

The distribution of printed or e ent system (eDMS) is not controlled or tracked. PAS employees must ensure any copy used for daily work, if not accessed directly from PAS eDMS, is the current version of the document.

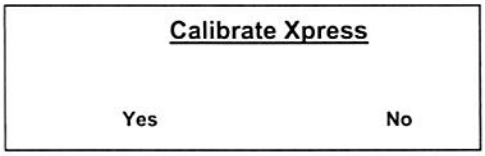
- Using the arrow keys, highlight "Select Sensor." Press the SELECT key.



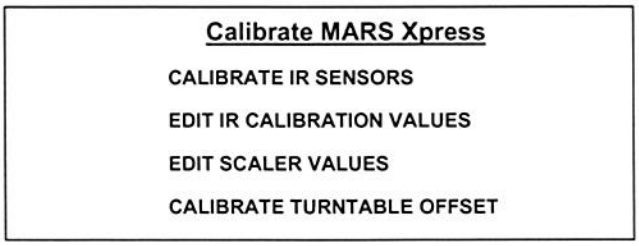
- Using the arrow keys, highlight "Temperature Sensor." Press the SELECT key.



- Using the arrow keys, highlight "Xpress." Press the SELECT key. The following screen will be displayed.



- Using the arrow keys, highlight "Yes." Press the SELECT key. The following screen will be displayed.



- Using the arrow keys, highlight "Calibrate IR Sensors." Press the NEXT key. The following screen will be displayed. **Note: Do Not press SELECT.** Pressing SELECT will enter the calibration screen.



The distribution of printed or electronic copies of this document outside of the PAS electronic document management system (eDMS) is not controlled or tracked. PAS employees must ensure any copy used for daily work, if not accessed directly from PAS eDMS, is the current version of the document.

- Ensure that the "Ready" light on the Intelli-Temp calibrator is illuminated. Place the calibrator adaptor over the inner IR sensor (sensor nearest the turntable drive lug) with the smaller opening of the adaptor directly over the sensor. Place the Intelli-Temp calibrator over the adaptor (calibrator positioned upside down with the opening mating with the opening of the adaptor). The calibration value on the screen should read 130 °C ±2 °C.
- If the calibration value does not read 130 C ± 2 °C, the inner IR sensor should be recalibrated.
- Press the "SELECT" key. The following screen will be displayed.

Verify Xpress Temp.

1. APPLY IntelliTemp TO OUTER SENSOR

PRESS SELECT

XXXX

- Place the calibrator adaptor over the outer IR sensor with the smaller opening of the adaptor directly over the sensor. Place the Intelli-Temp calibrator over the adaptor (calibrator positioned upside down with the opening mating with the opening of the adaptor). The calibration value on the screen should read 130 °C ±2 °C.
- If the calibration value does not read 130 °C ± 2 °C, the outer IR sensor should be recalibrated.

The distribution of printed or electronic copies of this document outside of the PAS electronic document management system (eDMS) is not controlled or tracked. PAS employees must ensure any copy used for daily work, if not accessed directly from PAS eDMS, is the current version of the document.

Pace ANALYTICAL SERVICES	**ENV-SOP-ELON-0034 v02_EPA 8082A**
	Effective Date: 05/31/2023

Management Approval:
Peter Gryszkiewicz Approved on 5/25/2023 3:00:46 PM
Katherine Allen Approved on 5/25/2023 3:07:47 PM
Tod Kopyscinski Approved on 5/30/2023 6:04:29 PM
Francis Derose Approved on 5/31/2023 8:06:11 AM

© 2023, Pace® Analytical Services, LLC

1.0 Scope and Application

This standard operating procedure (SOP) describes the laboratory procedure used by Contest, A Pace Analytical Laboratory (ELON) for the determination of Polychlorinated Biphenyls (PCBs) as Aroclors by Gas Chromatography which is based off Method EPA 8082A.

The method is intended for the analysis of PCB Aroclors extracts from all types of solid and aqueous matrices. The method also may be applied to other matrices such as oils and wipe samples, if appropriate sample extraction procedures are employed. Open-tubular, capillary columns are employed with electron capture detectors (ECD). When compared to packed columns, these fused-silica, open-tubular columns offer improved resolution, better selectivity, increased sensitivity, and faster analysis. The target compounds may be determined by either a single- or dual-column analysis system.

1.1 Target Analyte List and Limits of Quantitation (LOQ)

The target analytes that can be determined by this SOP and the associated LOQ is provided in Table 1, Appendix A.

LOQs are established in accordance with Pace policy and SOPs for method validation and for the determination of detection limits (DL) and quantitation limits (LOQ). DL and LOQ are routinely verified and updated when needed. The current LOQ for each target analyte that can be determined by this SOP as of the effective date of this SOP is provided in Table 1, Appendix A.

2.0 Summary of Method

A measured volume, weight of sample (approximately 1-Liter for liquids, 100mL for low-volume liquids, 10 grams for soils; 0.200 grams for paint; 0.500 grams for caulking; 2.0 grams for product solid), or one wipe is extracted using the appropriate matrix-specific sample extraction technique (e.g. Microwave -3546 or Soxhlet -3540C or Liq-Liq 3510C). Aqueous samples are extracted at pH 5-9 with methylene chloride, solid and wipe samples are extracted with 1:1 Acetone: Hexane. Extracts for PCB analysis are subjected to a sulfuric acid clean-up, which will remove many single component organochlorine or organophosphorus pesticides. Therefore, Method 8082 is not applicable to the analysis of such compounds. Instead, use Method 8081. After clean-up, the extract is analyzed by injecting an aliquot into a gas chromatograph with a narrow bore fused silica capillary column and electron capture detector (GC/ECD).

3.0 Interferences

Interferences co-extracted from the samples will vary from matrix-to-matrix:
-Contaminated solvents, reagents, or sample processing hardware.
-Contaminated GC carrier gas, parts, column surfaces, or detector surfaces.
-Compounds extracted from the sample matrix to which the detector will respond.

The distribution of printed or electronic copies of this document outside of the PAS electronic document management system (eDMS) is not controlled or tracked. PAS employees must ensure any copy used for daily work, if not accessed directly from PAS eDMS, is the current version of the document.

-Co-elution of target analytes.

Clean-up procedures include Advanced Florisil clean-up, Florisil cartridge clean-up, TBA clean-up (for sulfur interferences: used for either PCBs or pesticides), and sulfuric acid clean-up (only performed for PCBs, never for pesticides).

Interferences by phthalate esters can pose a major problem in PCB determination. Common flexible plastics contain varying amounts of phthalates. These phthalates are easily extracted or leached from such materials during laboratory operations. For this reason, avoid the use of plastics in the laboratory.

Cross-contamination of clean glassware routinely occurs when plastics are handled during extraction steps, especially when solvent-wetted surfaces are handled. Glassware must be scrupulously cleaned.

NOTE: Oven-drying of glassware used for PCB analysis can increase contamination because PCBs are readily volatilized in the oven and spread to other glassware. Therefore, exercise caution, and do not dry glassware from samples containing high concentrations of PCBs with glassware that may be used for trace analyses.

Subtracting blank values from sample results is not permitted.

4.0 DEFINITIONS

Refer to the Laboratory Quality Manual for a glossary of common lab terms and definitions.

5.0 HEALTH AND SAFETY

Contact your supervisor or local safety coordinator with questions or concerns regarding safety protocol or safe handling procedures for this procedure

The following sections provide general health and safety information about chemicals and materials that may be present in the laboratory.

- The toxicity or carcinogenicity of each chemical material used in the laboratory has not been fully established. Each chemical should be regarded as a potential health hazard and exposure to these compounds should be as low as reasonably achievable.
- The laboratory maintains documentation of hazard assessments and OSHA regulations regarding the safe handling of the chemicals specified in each method. Safety data sheets for all hazardous chemicals are available to all personnel. Employees must abide by the health, safety and environmental (EHS) policies and procedures specified in this SOP and in the Pace® Chemical Hygiene / Safety Manual (COR-MAN-0001)
- Personal protective equipment (PPE) such as safety glasses, gloves, and a laboratory coat must be worn in designated areas and while handling samples and chemical materials to protect against physical contact with samples that contain potentially hazardous chemicals and exposure to chemical materials used in the procedure.
- Concentrated corrosives present additional hazards and are damaging to skin and mucus membranes. For procedures that require use of acids, use acids in a fume hood whenever possible with PPE designed for handing these materials. If eye or skin contact occurs, flush with large

The distribution of printed or electronic copies of this document outside of the PAS electronic document management system (eDMS) is not controlled or tracked. PAS employees must ensure any copy used for daily work, if not accessed directly from PAS eDMS, is the current version of the document.

volumes of water. When working with acids, always add acid to water to prevent violent reactions. For procedures that that emit large volumes of solvents (evaporation/concentration processes), these activities must be performed in a fume hood or apparatus that reduces exposure.

6.0 .SAMPLE COLLECTION, PRESERVATION, HOLDING TIME & STORAGE

The laboratory provides containers for the collection of samples upon client request. Refer to laboratory SOP ENV-SOP-ELON-0017_*Bottle Prep* for procedures related to preparation of bottle kits for the test method(s) associated with this SOP.

The laboratory does not perform sample collection or field measurements for this test method. Samples should be collected in accordance with a sampling plan and sampling procedures appropriate to achieve the regulatory, scientific, and data quality objectives for the project.

Container Type, Minimum Sample Amount, Preservation, and Holding Time Requirements:

Matrix	Container Size & Type	Required Sample Amount[1]	Preservation	Holding Time
Aqueous*	1-Liter amber glass bottle with Teflon-lined screw cap or 100mL amber glass bottle with Teflon-lined screw cap	1-Liter Or 120mL	Thermal: Cool to 4°C **	CT = Extract within 7 days of collection; analyze extracts within 40 days following extraction MA = Extract within 1 year and 40 days from extraction to analysis. For states following SW846 guidelines = 1 year
Soils/Sediments	8-16 oz wide-mouthed amber glass jar with Teflon-lined screw cap	10 grams	Thermal: Cool to 4°C **	CT = Extract within 14 days of collection; analyze extracts within 40 days following extraction MA = Extract within 1 year and 40 days from extraction to analysis. For states following SW846 guidelines = 1 year
Concentrated Waste Samples	125-mL wide-mouth glass with Teflon-lined cap	2 grams	None Required**	CT = Extract within 14 days of collection; analyze extracts within 40 days following extraction MA = Extract within 1 year and 40 days from extraction to analysis. For states following SW846 guidelines = 1 year
Wipe Sample media (Gauze pads)	2-8 oz wide-mouthed amber glass jar with Teflon-lined screw cap	1 wipe	Hexane on media prior to sampling	CT = Extract within 14 days of collection; analyze extracts within 40 days following extraction MA = Extract within 1 year and 40 days from extraction to analysis. For states following SW846 guidelines = 1 year

[1] *Amount of sample required for each discrete test.*

* *For aqueous samples with a chlorine residual, add 1-3 mL 10% sodium thiosulfate to sampling container prior to filling.*

The distribution of printed or electronic copies of this document outside of the PAS electronic document management system (eDMS) is not controlled or tracked. PAS employees must ensure any copy used for daily work, if not accessed directly from PAS eDMS, is the current version of the document.

** *MCP Data Enhancement: Store PCB sample extracts at -4℃, protect from sunlight, and store in sealed vials (screw-cap or crimp-cap vials) with un-pierced PTFE-lined septa.*

Thermal preservation is checked and recorded on receipt in accordance with laboratory SOP ENV-SOP-ELON-0100_*Sample Login Procedures*. Chemical preservation is checked and recorded at time of receipt or prior to sample preparation.

After receipt, samples are stored at 4°C until sample preparation. Prepared samples (extracts, digestates, distillates, other) are stored at 4°C until sample analysis.

After analysis, samples are retained as stated in the Pace® standard terms and conditions, unless otherwise specified in the analytical services contract. Samples are then disposed of in accordance with Federal, State, and Local regulations.

7.0 EQUIPMENT & SUPPLIES

7.1 Equipment

- Capillary column, gas chromatograph with splitless injector, auto injector, ECD and data system.
- Vortex

7.2 Supplies

- Micro syringes
- Pipettes - 1-mL, volumetric, class A
- Vials, 2-mL snap top
- Pasteur pipettes
- 4-mL screw top vials

8.0 REAGENTS & STANDARDS

8.1 Reagents

- Sulfuric Acid (concentrated): ACS grade
- Tetrabutylammonium hydrogen sulfate: sulfite reagent
- Sodium sulfite: pesticide quality
- Copper Granules

8.2 Standards

8.2.1 Stock Standards:

Purchased as certified solutions from Restek (or equivalent), 1000 ug/mL in either methanol or hexane Aroclor - 1016, 1221, 1232, 1242, 1248, 1254, 1260, 1262, 1268.

The distribution of printed or electronic copies of this document outside of the PAS electronic document management system (eDMS) is not controlled or tracked. PAS employees must ensure any copy used for daily work, if not accessed directly from PAS eDMS, is the current version of the document.

8.2.2 Working Stock, 1 ug/mL (1000 ppb):

Add 50uL of PCB 1260 and PCB 1016 stock solution [Restek (or equivalent) 1000ug/mL] and 250uL of Pesticide Surrogate Mix [Restek (or equivalent) 200 ug/mL] to final volume of 50mLs in isooctane. Prepared fresh for each new curve; expiration = 6 months. Expiration date to be written on vial.

8.2.3 Calibration Standards:

Dilution	Working Stock (mLs)	Isooctane (mLs)	Final Conc. (ug/L)
2x	20	20	500
5x	8	32	200
10x	4	36	100
20x	2	38	50
50x	0.8	39.2	20
100x	0.4	39.6	10
200x	0.2	39.8	5*

*In surrogate curve only

8.2.4 Soil Spiking Stock, 2000ug/L:

Add 1mL of 1000ug/mL of Aroclor 1016/1260 Mix, to a final volume of 500mL with acetone. Spiking standards are obtained from a different source than calibration standards.

8.2.5 Water and Wipe Spiking Stock, 500 ug/L:

Add 0.25mL of 1000ug/mL of Aroclor 1016/1260 Mix, to a final volume of 500 mL with acetone. Spiking standards are obtained from a different source than calibration standards. Restek ensures a second source from their primary stock standard.

8.2.6 Surrogate Standard, 2000 ug/L:

Add 20mL of Restek (or equivalent) stock (200 ug/mL in Acetone) to a final volume of 2000mL with Acetone.

9.0 PROCEDURE

9.1 Sample Extraction

- Microwave Extraction (Soils and Wipes) – Method EPA 3546 (refer to Microwave Method 3546 SOP)
- Soxhlet Extraction (Soils, Wipes, TO-10A) – Method EPA 3540C (refer to Soxhlet Method 3540C SOP)
- Water Extraction Method SW-846 3510C (Waters) – Method EPA 3510C (refer to ENV-SOP-ELON-0005_3510C Water Extraction)

9.2 Sample Extract Clean-up

The distribution of printed or electronic copies of this document outside of the PAS electronic document management system (eDMS) is not controlled or tracked. PAS employees must ensure any copy used for daily work, if not accessed directly from PAS eDMS, is the current version of the document.

9.2.1 Acid Clean-up

An acid clean-up is performed on all PCB samples and their corresponding QC. Never do an acid clean-up on the same sample aliquot that is to be analyzed for pesticides. Pipette approximately 2mLs of sample extract into a 4-mL screw cap vial that contains about 1 mL of sulfuric acid. Cap the vial and vortex for approximately 30 seconds. Allow the layer to separate then pipette off about 1- mL of sample and transfer to a labeled crimp top vial.

9.2.2 TBA Clean-up

Sulfur is removed by Method 3660B; Tetrabutylammonium (TBA) sulfite reagent.

Prepare reagent by dissolving 13.56g Tetrabutylammonium hydrogen sulfate in 400mL organic-free reagent water. To remove impurities, extract this solution three times with 80mL portions of hexane. Discard the hexane extracts and add 100g sodium sulfite to the water solution. Store the resulting solution, which is saturated with sodium sulfite, in an amber bottle with a PTFE-lined screw cap. This solution can be stored at room temperature for at least one month. Note: All Low Volume Water Sample extracts need to be TBA cleaned.

Transfer 1.0mL of sample extract to a 10mL clear vial with a PTFE-lined screw cap.

Add 1.0mL TBA sulfite reagent and 2mL 2-propanol, cap vial, and shake for 1 min. If the sample is colorless or if the initial color is unchanged, and if clear crystals (precipitated sodium sulfite) are observed, sufficient sodium sulfite is present.

Add 5mL organic free reagent water and shake for at least 1 min. Allow sample to stand for 5-10 min. Transfer the hexane layer (top) to a 1mL auto sampler vial.

9.2.3 Florisil Clean-up

Florisil Clean-up- Refer to SOP Florsil Clean-Up Method SW-846 3620C

9.3 Instrument Analysis Procedure

9.3.1 Instrument Setup

HP 6890 (ECD 1 #US10135015)
HP 6890 (ECD 3 #CN10426061)
HP 7890 (ECD 4 #10715067)
HP 7890 (ECD 5 #10805007)
HP 7890 (ECD 9 #11321159)
HP 7890 (ECD 10 #CN1341002)
HP 7890 (ECD 11#CN13503023)

Oven:

Initial Temp: 125°C Maximum Temp: 330°C
Initial Time: 0.25 min Equilibration time: 0.50min
Ramps:

#	Rate	Final temp	Final time
1	30.00	200	0.00
2	20.00	260	0.00
3	45.00	320	2.00

The distribution of printed or electronic copies of this document outside of the PAS electronic document management system (eDMS) is not controlled or tracked. PAS employees must ensure any copy used for daily work, if not accessed directly from PAS eDMS, is the current version of the document.

4 0.0 (off)

Post temp: 0℃
Post time: 0.00min
Run time: 9.08min

Front Inlet

Initial Temp: 210℃ (On)
Pressure: 13.89 psi (On)
Purge flow: 12.5 mL/min
Purge time: 1.00 min
Total Flow: 25.0 mL/min
Gas type: Hydrogen

Column 1
Model Number: RTX-CL Pesticides: 11139
340℃ 30m x 0.32mmID x 0.5um df

Column 2
Model Number: RTX-CL Pesticides 2: 11324
340℃ 30m x 0.32mmID x .25um df

Front Detector	Back Detector
Temperature: 320℃	Temperature: 320℃
Combined Flow: 60.0 mL/min	Combined Flow: 60.0 mL/min
Make-up Gas Type: Nitrogen	Make-up Gas Type: Nitrogen

9.4 Sample Analysis

Analyze samples by GC along with solvent blanks, calibration standards, method blanks (extracted blanks) and all appropriate quality control samples.

Sample extracts are generally injected by an auto sampler. If an auto sampler stalls, lab analysts will restart the analysis using two blanks and an acceptable continuing calibration verification standard.

All Aroclor standards must be run for pattern recognition before running samples. Patterns are established before any sample analysis at the beginning of a sequence.

10.0 Data Analysis & Calculations

10.1 Qualitative Identification

Aroclors are identified based on retention time and PCB pattern matching. All samples are analyzed on a confirmation to verify the correct aroclor is identified. Retention times must fall within established windows on both columns.

10.1.1 Confirmations

The distribution of printed or electronic copies of this document outside of the PAS electronic document management system (eDMS) is not controlled or tracked. PAS employees must ensure any copy used for daily work, if not accessed directly from PAS eDMS, is the current version of the document.

Confirm any hits on a second dissimilar column; report the higher of the two results, unless obvious interference is present on one of the columns, or there were QC outliers on one of the columns. RPD between primary and confirmatory column should be <40%. All QA/QC parameters (e.g., calibrations, LCSs, etc.) must be met on the 2° column as well. For samples the higher of the two results is reported unless requested by client or obvious interference is present from one of the columns.

10.1.2 Manual Integration

Manual integration is sometimes necessary to correct inaccurate automated integrations but must never be used to meet QC criteria or to substitute for proper instrument maintenance and/or method set-up. To assure that all manual integrations are justified and proper all manual integrations must be performed, documented, reviewed, and approved in accordance with corporate SOP ENV-SOP-CORQ-0006, *Manual Integration*. Refer to this SOP for guidance on manual integration techniques and required procedures.

10.1.3 Data Processing

GC files:

A file naming convention is used that allows differentiation between updates to the calibration file performed to adjust target retention times for the changes brought about by daily chromatographic maintenance (no file suffix) and updates due to analysis of a new calibration curve (addition of a "C" suffix to the file identifier)

Reporting Package:

The reporting package that is delivered to clients will consist of the sample results, the surrogate recovery results and any matrix spikes, blanks, duplicates, and lab fortified blanks that pertain to the clients' samples.

MCP Data Enhancement and RCP projects will include required deliverables plus a case narrative and appropriate checklists.

Data Filing:

Data to be filed in File Boxes labeled as Pest/PCB (date range) - All raw data

Data to be filed in Laboratory logbooks - Records for all types of spike solutions

Backup electronic data filed on DVD.

10.2 Calculations

Soil concentration, mg/Kg = $\frac{\text{ug/L (from instrument) x (final prep volume, L)}}{\text{initial sample weight, g}}$

Water concentration, ug/L = $\frac{\text{ug/L (from instrument) x (final prep volume, L)}}{\text{initial sample volume, L}}$

Wipe sample concentration, Total ug = ug/L (from instrument) X (final prep volume, L)

The distribution of printed or electronic copies of this document outside of the PAS electronic document management system (eDMS) is not controlled or tracked. PAS employees must ensure any copy used for daily work, if not accessed directly from PAS eDMS, is the current version of the document.

ug/area = $\frac{\text{Total ug}}{\text{Area Wiped}}$ ex. ug/100 cm2 or ug/ft2

Relative Error (%RE)

Relative error is minimally checked at the concentration of the lowest standard in the curve and at the standard near the mid-point of the curve. %RE is calculated as follows:

$$\% \text{ Relative Error} = \frac{x`i - xi}{Xi}$$

xi = True Value of the Calibration Standard

x`i = Measured Concentration of the Calibration Standard

% RE must be ≤30% for the midpoint standard and ≤ 50% for the low-point standard.

11.0 Quality Control & Method Performance

11.1 Quality Control

Prepare the following QC samples with each batch of samples. Refer to Appendix B for acceptance criteria and required corrective action(s).

QC Check	Acronym	Frequency
Method Blank	MB	1 per batch of 20 or fewer samples. If batch exceeds 20 samples, every 20 samples.
Laboratory Control Sample	LCS	1 per batch of 20 or fewer samples. If batch exceeds 20 samples, every 20 samples.
LCS Duplicate	LCSD	1 per batch of 20 or fewer samples. If batch exceeds 20 samples, every 20 samples.
Matrix Spike	MS	1 per batch of 20 or fewer samples. If batch exceeds 20 samples, every 20 samples.
Matrix Spike Duplicate	MSD	1 per batch of 20 or fewer samples. If batch exceeds 20 samples, every 20 samples.
Surrogate	SSTD	Added to all blanks, standards, samples, and spikes

11.2 Instrument QC

Perform the following checks to verify instrument performance. Refer to Appendix B for acceptance criteria and required corrective action.

Instrument Check	Acronym	Frequency
Initial Calibration Verification	ICV	Analyzed immediately after each new calibration
Initial Calibration Blank	ICB	Analyzed immediately after each new calibration

The distribution of printed or electronic copies of this document outside of the PAS electronic document management system (eDMS) is not controlled or tracked. PAS employees must ensure any copy used for daily work, if not accessed directly from PAS eDMS, is the current version of the document.

Continuing Calibration Verification	CCV	Performed every 12hours and after no more than 20 samples and at the end of an analytical sequence.
Retention Time Windows		Will be determined by calculating the mean and standard deviation of the absolute retention times of the surrogate compounds and three (minimum) to five major peaks for each Aroclor
Relative Retention Time	RRT	The retention times used for these calculations should be taken from three injections of the Aroclor standards made over a 72-hour period.

11.3 *Method Performance*

11.3.1 Method Validation

Refer to corporate SOP ENV-SOP-CORQ-0011 for general requirements and procedures for method validation.

Establish detection limits (DL) and limits of quantitation (LOQ) at initial method set up and verify the DL and LOQ on an on-going basis thereafter. Refer to corporate policy and/or SOP for DL and LOQ requirements and procedures.

11.3.2 Calibration Curve

A 6-point calibration curve is used to calibrate the system. The curve must contain Aroclors 1016 and 1260. The low standard must be ≤RL. The average response factor over the working range must be ≤20%. or ("r" should be ≥0.99). If linear regression is used, calculate the Relative Error (%RE) for the low and mid calibration points. The low point must recover 50-150% and the midpoint must recover between 70-130%. Refer to ENV-POL-CORQ-0005 for additional information on calculating the relative error.

If the initial calibration does not meet the acceptability criteria it may not be used for quantitative analyses. Investigate the cause of the problem and perform instrument maintenance if necessary. Then repeat the initial calibration.

The curve must be verified with an independent standard (ICV) prior to sample analysis, (100ug/L), which must pass 80-120%. All other Aroclors will also be quantitated from a six-point calibration curve.

If a peak is not properly integrated by the data system, manual integration may be necessary. The integration of the peaks for the samples and quality control samples must be as consistent as possible with the integration used with the initial calibration. All manual integrations must be documented. In particular, the chromatogram must be expanded to clearly show the specific peak being integrated. A “before” integration is printed, showing the software integration, or lack thereof. An “after” integration showing the action taken by the analyst is printed. The analyst initials and dates both records and they are included with the rest of the documentation for that data file.

The method file used by the data system for the initial calibration should be named with a unique identifier for initial calibration. The initial calibration method file includes a “C” as a suffix to denote that it is the original file. When the retention times change for target compounds due to daily instrument maintenance, the original file is copied to (saved as)

The distribution of printed or electronic copies of this document outside of the PAS electronic document management system (eDMS) is not controlled or tracked. PAS employees must ensure any copy used for daily work, if not accessed directly from PAS eDMS, is the current version of the document.

a new file with the "C" suffix removed. The method file without the "C" suffix indicates that the retention times have been changed from the initial calibration. The original initial calibration method file with the "C" as a suffix must not be changed.

11.3.3 Retention Time Windows

Retention time windows will be determined by calculating the mean and standard deviation of the absolute retention times of the surrogate compounds and three (minimum) to five major peaks for each Aroclor.

For the Aroclors, each selected peak will be characteristic of that Aroclor, will be at least 25% of the height of the largest Aroclor peak, and will include at least one peak that is unique to that Aroclor. The retention times used for these calculations should be taken from three injections of the Aroclor standards made over a 72-hour period.

If the standard deviation of the retention times for any peak is 0.000, a default standard deviation of 0.03 minutes may be used. The width of the retention time window for each surrogate and Aroclor peak will be ±3 times the standard deviation of the mean absolute retention time established during the 72-hour period.

11.3.4 Continuing Calibration Check (CCV)

Performed every 12 hours and after no more than 20 samples, and at the end of the analytical sequence. Must be at the mid-point of the curve and contain at least Aroclors 1016 and 1260. For samples run by CT RCP / 8000B protocols, % RSD must be ≤15% of the initial calibration. For samples run by MA MCP and 8000C/D protocols % RSD must be ≤ 20%. An Aroclor hit in a sample must have calibration verified with a one-point standard of that Aroclor within 12 hours.

The calibration check standard must meet the acceptance criteria before any samples are run. If the calibration check does not meet the acceptance criteria, corrective action is required including instrument maintenance. If the calibration check still fails the acceptance criteria, a new initial calibration is required.

11.3.5 Method Blank

Analyzed on each working day to demonstrate that no contamination is present. The method blank is matrix specific and extracted with every batch of 20 samples or less. The target compounds and ranges must be <RL. If MB >RL and sample is not detected, data is qualified. If MB>RL and sample is detected at ≥10X the MB, then data is qualified. IF MB>RL and sample is detected <10X the MB, then sample is re-extracted if possible.

11.3.6 Laboratory Control Samples (LCS)/Quality Control Check Samples

Matrix-specific LCS/LCSD's are extracted and analyzed with every batch of 20 samples or less. The concentration should be between the low and mid-level standard and must contain at least Aroclors 1016 and 1260. Percent recoveries must fall within control limits. Percent recoveries must be 40-140 %R to meet MCP Data Enhancement and RCP criteria. RPD between LCS and LCSD is <20% for waters and <30% for soils.

Water prep: 1 mL of appropriate 500 ppb spike to a final volume of 10mL.

The distribution of printed or electronic copies of this document outside of the PAS electronic document management system (eDMS) is not controlled or tracked. PAS employees must ensure any copy used for daily work, if not accessed directly from PAS eDMS, is the current version of the document.

True value = 50 ug/L off the instrument.

Soil/Solid prep: Add 1-mL of Spike 2000ppb to 10 grams of sample, to a final volume of 10mL.

True value = 200 ug/Kg = 200µg/L off the instrument.

Wipe prep: Add 1-mL of 500 ppb spike to a final volume of 10mL.

True Value = 50 ug/L off the instrument

11.3.7 Matrix Spikes/Matrix Spike Duplicates

A matrix-specific MS/MSD is extracted and analyzed with every batch of 20 samples or less. It must contain at least Aroclors 1016 and 1260. Percent recoveries must fall within control limits established from historical data. Percent recoveries must be 40-140 %R and MSRPD must be <50%

11.3.8 Surrogates

Surrogates are added to all blanks, standards, samples, and spikes. Analyze a minimum of two, one that elutes at the beginning of the run and one that elutes at the end of the run (TCMX and DCB). Percent recoveries must fall within control limits established from historical data. Percent recoveries must be 30-150%R to meet MCP Data Enhancement and RCP criteria. If the %R is outside of control limits on both columns for the same surrogate, re-extract the sample. If both surrogates are outside limits on one column only, then report any sample results from column within control criteria. If a surrogate is diluted to a concentration below that of the lowest calibration standard, no corrective action, aside from narration, is necessary.

11.3.9 Confirmation

Confirm any hits on a second dissimilar column; report the higher of the two results, unless obvious interference is present on one of the columns, or there were QC outliers on one of the columns. RPD between primary and confirmatory column should be <40%. All QA/QC parameters (e.g., calibrations, LCSs, etc.) must be met on the 2° column as well. For samples the higher of the two results is reported unless requested by client or obvious interference is present from one of the columns.

12.0 Data Review & Corrective Action

12.1 Data Review

The data review process of Pace® Analytical Services includes a series of checks performed at different stages of the process by different people to ensure that SOPs were followed, the analytical record is complete, and properly documented, QC criteria were met, proper corrective actions were taken for QC failure and other nonconformance(s), and test results are reported with proper qualification, when necessary.

The review and checks that are performed by the employee performing the task is called primary review.

The distribution of printed or electronic copies of this document outside of the PAS electronic document management system (eDMS) is not controlled or tracked. PAS employees must ensure any copy used for daily work, if not accessed directly from PAS eDMS, is the current version of the document.

All data and test results are also peer reviewed.

This process, known as secondary review is performed to verify SOPs were followed, that calibration, instrument performance, and QC criteria were met and/or proper corrective actions were taken, qualitative ID and quantitative measurement is accurate, all manual integrations are justified and documented, and approved in accordance with the Pace® Analytical Services SOP for manual integration, calculations are correct, the analytical record is complete and traceable, and that results are properly qualified.

Lastly, a third-level review, called a completeness check, is performed by reporting or project management staff to verify the test report is complete.

Refer to laboratory SOP ENV-SOP-ELON-0035_*Data Review* for specific instructions and requirements for each step of the data review process.

12.2 Corrective Action

Corrective action is required when QC or sample results are not within acceptance criteria.

Refer to Appendix B for a complete summary of QC, acceptance criteria, and recommended corrective actions for QC associated with this test method.

If corrective action is not taken or was not successful, the decision/outcome must be documented in the analytical record. The primary analyst has primary responsibility for taking corrective action when QA/QC criteria are not met. Secondary data reviewers must verify that appropriate action was taken and/or that results reported with QC failure are properly qualified.

Corrective action is also required when carryover is suspected and when results are over range.

Samples analyzed after a high concentration sample must be checked for carryover and reanalyzed if carryover is suspected. Carryover is usually indicated by low concentration detects of the analyte in successive samples analyzed after the high concentration sample.

Sample results at concentrations above the upper limit of quantitation must be diluted and reanalyzed. The result in the diluted samples should be within the upper half of the calibration range. Results less than the mid-range of the calibration indicate the sample was over diluted and analysis should be repeated with a lower level of dilution. If dilution is not performed, any result reported above the upper range is considered a qualitative measurement and must be qualified as an estimated value.

13.0 Pollution Prevention & Waste Management

Pace® proactively seeks ways to minimize waste generated during work processes. Some examples of pollution prevention include but are not limited to reduced solvent extraction, solvent capture, use of reusable cycletainers for solvent management, and real-time purchasing.

The EPA requires that laboratory waste management practices comply with all applicable federal and state laws and regulations. Excess reagents, samples, and method process wastes are characterized and disposed of in an acceptable manner in accordance with the Pace® Chemical Hygiene Plan / Safety Manual. Refer to this manual for these procedures.

The distribution of printed or electronic copies of this document outside of the PAS electronic document management system (eDMS) is not controlled or tracked. PAS employees must ensure any copy used for daily work, if not accessed directly from PAS eDMS, is the current version of the document.

14.0 MODIFICATIONS

The procedures in this SOP have not been modified from the reference test method(s) cited.

15.0 RESPONSIBILITIES

- All employees of Pace® Analytical Services that perform any part this procedure in their work activities must have a signed Read and Acknowledgement Statement (R&A) in their training file for the version(s) of the SOP that were in effect during the time the employee performed the activity.
- Local quality personnel are responsible for tracking the currency of the R&A on this SOP for employees at the locations they are assigned to and for notifying the General Manager (GM), however named, when R&A are overdue or outstanding. The GM and the employee's direct supervisor are responsible for ensuring the employee completes the R&A assignments as required.
- The supervisors and managers of Pace® Analytical Services, however named, are responsible for training employees on the procedures in this SOP, implementing the SOP in the work area, and monitoring on-going adherence to the SOP the work area(s) they oversee.
- All employees of Pace® Analytical Services are responsible for following the procedures in this SOP. Unauthorized deviations or departures from this SOP are not allowed except with documented approval from the local Quality Manager and only when those deviations do not violate the Pace® Code of Ethics or Professional Conduct (COR-POL-0004) or associated policy and procedure(s). Hand-edits or manual change to the SOP are not permitted. If a change is desired or necessary, Pace® employees must follow the procedures for document revision specified in corporate SOPs ENV-SOP-CORQ-0015 *Document Management* and ENV-SOP-CORQ-0016 *SOP for Creation of SOP and SWI.*
- Local quality personnel are responsible for monitoring conformity to this SOP during routine internal audits of work areas that utilize this SOP and for communicating gaps and deviations found during monitoring to the work area supervisor, who is responsible for correction of the situation.

16.0 ATTACHMENTS

- Appendix A: Routine Analyte List and LOQ
- Appendix B: QC Summary & Corrective Action Table

17.0 REFERENCES

- ENV-SOP-CORQ-0006, *Manual Integration*, current version.
- ENV-SOP-CORQ-0011, *Method Validation*, current version.
- ENV-SOP-CORQ-0015, *Document Management*, current version.
- ENV-SOP-CORQ-0016, *SOP for SOP and SWI,* current version.
- ENV-TMP-CORQ-0007, *Quality Manual Template*, current version.
- COR-POL-0004, *Code of Ethics and Professional Conduct*, current version.

The distribution of printed or electronic copies of this document outside of the PAS electronic document management system (eDMS) is not controlled or tracked. PAS employees must ensure any copy used for daily work, if not accessed directly from PAS eDMS, is the current version of the document.

- COR-MAN-001, *Pace® Safety Manual*, current version.
- ENV-MAN-ELON-0001, *Quality Assurance Manual*, current version.
- EPA, Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods, SW- 846, Rev.7, December 2007, Method 8082, Method 3545, and Method 3546 Rev 0 February 2007.
- EPA, Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods, SW- 846, Rev.1, February 2007, Method 8082A.
- MA DEP, MCP Data Enhancement Program, "Quality Control Requirements and Performance Standards for the Analysis of Polychlorinated Biphenyls (PCBs) by Gas Chromatography (GC) in Support of Response Actions under the Massachusetts Contingency Plan (MCP)", Rev 1, July 1, 2010.
- Connecticut DEP, Reasonable Confidence Protocol, Method 8082, Ver.2.0 July 2006
- USEPA – "Determinative Chromatographic Separations", SW846, 3rd edition, March 2003, Method 8000C.
- USEPA - – "Determinative Chromatographic Separations", SW846, 2nd edition, December 1996, Method 8000B.
- HP 6890 Series Gas Chromatograph Operating Manual, Edition 1, January 1990
- Agilent Technologies 7890 Series II Gas Chromatography Operating Manual, Online

18.0 REVISION HISTORY

Authorship

Primary Author[1]	Job Title	Date Complete
Peter Gryszkiewicz	GC Supervisor	04/28/2022
Katherine Allen	Quality Manager	05/10/2023

[1]The primary author is the individual / role responsible for the content of this SOP. Send questions or suggestions for content to the primary author. See the Quality Manager for questions or concerns related to implementation of this SOP.

Revisions Made for Version 2

Section	Description of Change
2.0 + 6.0	Changed low volume containers to 100ml from 120ml.
8.2.1	Restek replaced Agilent and standard now 1000ug/L instead of 100uglL.
8.2.2	Restek replaced Agilent, standard now 1000ug/L instead of 100uglL and 50uL now used.
8.2.5	Added note that Restek ensures a second source.
10.2	Added %RE Calculation.
11.3.2	Added RE calc if linear is used along with criteria.

Revisions Made for Version 1

Section	Description of Change
All	Updated to Pace SOP Template
6.0	Wipe Holding Time extended to 1 year except CT which is 14 days
9.1	Removal of the Water Extraction Procedure and refer to SOP.

The distribution of printed or electronic copies of this document outside of the PAS electronic document management system (eDMS) is not controlled or tracked. PAS employees must ensure any copy used for daily work, if not accessed directly from PAS eDMS, is the current version of the document.

Document Succession: This version replaces the following documents:

Document Number & Version	Document Title	Effective Date:
Doc#51 Rev 14	SOP 8082A	02/14/2021
ENV-SOP-ELON-0034 v01	EPA 8082A	05/03/2022

The distribution of printed or electronic copies of this document outside of the PAS electronic document management system (eDMS) is not controlled or tracked. PAS employees must ensure any copy used for daily work, if not accessed directly from PAS eDMS, is the current version of the document.

Appendix A: Target Analyte List and LOQ

Table 1: Standard Analyte List and LOQ

Analyte	CAS #	LOQ[1] Water (ug/L) 20 Off Inst. and 0.2 calculated	LOQ[1] Soils (mg/kg) 20 Off Inst. and 0.02 calculated	LOQ[1] P/S (mg/kg) 20 Off Inst. and 0.1 calculated	LOQ[1] Wipes 20 and Caulking 10 (mg/kg) Off Inst. And 0.2 calculated	LOQ[1] 10 Paint (mg/kg) Off Inst. And 0.5 calculated
PCB-1016	12674-11-2	20 and 0.2	20 and 0.02	20 and 0.1	20 wipe/10 caulk and 0.2 calc.	10 and 0.5
PCB-1221	11104-28-2	20 and 0.2	20 and 0.02	20 and 0.1	20 wipe/10 caulk and 0.2 calc.	10 and 0.5
PCB-1232	11141-16-5	20 and 0.2	20 and 0.02	20 and 0.1	20 wipe/10 caulk and 0.2 calc.	10 and 0.5
PCB-1242	53469-21-9	20 and 0.2	20 and 0.02	20 and 0.1	20 wipe/10 caulk and 0.2 calc.	10 and 0.5
PCB-1248	12672-29-6	20 and 0.2	20 and 0.02	20 and 0.1	20 wipe/10 caulk and 0.2 calc.	10 and 0.5
PCB-1254	11097-69-1	20 and 0.2	20 and 0.02	20 and 0.1	20 wipe/10 caulk and 0.2 calc.	10 and 0.5
PCB-1260	11096-82-5	20 and 0.2	20 and 0.02	20 and 0.1	20 wipe/10 caulk and 0.2 calc.	10 and 0.5
PCB-1262	37324-23-5	20 and 0.2	20 and 0.02	20 and 0.1	20 wipe/10 caulk and 0.2 calc.	10 and 0.5
PCB-1268	11100-14-4	20 and 0.2	20 and 0.02	20 and 0.1	20 wipe/10 caulk and 0.2 calc.	10 and 0.5

[1] Values as of effective date of this SOP. LOQ are subject to change, contact quality personnel for most current information.

**Reduced Volume water RL, 10ug/L off instrument and 0.138ug/L (calculated).*

**MA CAM RL's = 0.25ug/L and 0.1 mg/kg*

The distribution of printed or electronic copies of this document outside of the PAS electronic document management system (eDMS) is not controlled or tracked. PAS employees must ensure any copy used for daily work, if not accessed directly from PAS eDMS, is the current version of the document.

Appendix B: QC Summary and Corrective Action Table

QC Item	Frequency	Acceptance Criteria	Corrective Action	Qualification
ICAL	At instrument set up, after CCV failure, after major maintenance	Must meet one of curve fit options presented in Section 11.3.2. For any curve fit other than Average RF (RSD), curve must also pass RSE test at the *low and midpoint* calibration standard.	Identify and correct source of problem, repeat	None. Do not proceed with analysis
ICV	After Each ICAL	All analytes must be within ± 20% of the true value. (%R)	Identify source of problem, re-analyze. If repeat failure, repeat ICAL. Analysis may proceed if it can be demonstrated that the ICV exceedance has no impact on analytical measurements. For example, the ICV %R is high, CCV is within criteria, and the analyte is not detected in sample(s).	Qualify analytes with ICV out of criteria.
RT Window Position (Daily)	Once per ICAL and at the beginning of the analytical window.	The width of the retention time window for each surrogate and Aroclor peak will be ±3 times the standard deviation of the mean absolute retention time established during the 72-hour period. See section 11.3.3	NA	NA
RT Window Study	At method set-up and after major instrument maintenance	Window is ± 3 times the standard deviation	NA	NA
CCV	Performed every 12 hours and after no more than 20 samples and at the end of the analytical sequence.	All analytes within ± 20 %D CT RCP within ±15%D.	See Section 11.3.4 for required corrective actions based on circumstance.	Qualify analytes with CCV out of of criteria.
Surrogate	Added to all blanks, standards, samples, and spikes	TCMX and DCB must be between 30-150%	See Section 11.3.8 for required corrective actions based on circumstance.	Qualify if outside criteria
Method Blank	1 per batch of 20 or less samples	<RL	See Section 11.3.5 for required corrective actions based on circumstance.	Qualify if outside criteria
LCS/LCSD	1 per batch of 20 or less samples	All analytes must be within ± 40% of the true value. (%R) RPD = <20% waters and <30% soils	See Section 11.3.6 for required corrective actions based on circumstance.	Qualify if outside criteria
MS/MSD	1 per batch of 20 or less samples	All analytes must be within ± 40% of the true value. (%R) RPD = <50%	See Section 11.3.7 for required corrective actions based on circumstance.	Qualify if outside criteria

The distribution of printed or electronic copies of this document outside of the PAS electronic document management system (eDMS) is not controlled or tracked. PAS employees must ensure any copy used for daily work, if not accessed directly from PAS eDMS, is the current version of the document.

ASBESTOS and OTHER FIBERS by PCM 7400

Formula: Various MW: Various CAS: Table 3 RTECS: Various

METHOD: 7400, Issue 3 **EVALUATION:** FULL **Issue 1:** 15 May 1989
Issue 3: 29 April 2019

OSHA: 0.1 asbestos fiber (>5 µm long and ≥3:1 aspect ratio)/cc; 1 f/cc, 30 min excursion; carcinogen
NIOSH: 0.1 fiber (>5 µm long and ≥3:1 aspect ratio)/cc, for a 400 L sample; carcinogen
MSHA: As OSHA

PROPERTIES: solid, fibrous, crystalline, anisotropic

SYNONYMS: actinolite or ferroactinolite; amosite; anthophyllite; chrysotile; crocidolite; tremolite; amphibole asbestos; refractory ceramic fibers; fibrous glass

SAMPLING

SAMPLER: FILTER (0. 45- to 1.2-µm mixed cellulose ester membrane, 25-mm; conductive cowl on cassette

FLOW RATE*: 0.5 to 16 L/min

VOL-MIN*: 400 L @ 0.1 fiber/cc
-MAX*: (step 4, Sampling)

*Adjust to give 100 to 1300 fiber/mm^2

SHIPMENT: routine (pack to reduce mechanical and static electrical shock) (step 6, Sampling)

SAMPLE STABILITY: stable

BLANKS: 2 to 10 field blanks per set

ACCURACY

RANGE STUDIED: 80 to 100 fibers counted

BIAS: see Evaluation of Method

OVERALL PRECISION ($\hat{S}_{rT}$): 0.115 to 0.13 [1]

ACCURACY: see Evaluation of Method

MEASUREMENT

TECHNIQUE: LIGHT MICROSCOPY, PHASE CONTRAST

ANALYTE: fibers (manual count)

SAMPLE PREPARATION: Treatment of filter by acetone or dimethylformamide (DMF)/acetic acid, followed by triacetin or Euparal mounting medium [2-4]

COUNTING RULES: Described in previous version of this method as "A" rules [1,5]

EQUIPMENT: 1. positive phase-contrast microscope;
2. graticule (100-µm field of view);
3. phase-shift test slide

CALIBRATION: Phase-shift test slide

RANGE: 100 to 1300 fibers/mm2 filter area
ESTIMATED LOD: 7 fibers/mm^2 filter area

PRECISION (S_r): 0.10 to 0.12 [1]; see Evaluation of Method

APPLICABILITY: The quantitative working range is 0.04 to 0.5 fiber/cc for a 1000-L air sample. The LOD depends on sample volume and quantity of interfering dust, and is <0.01 fiber/cc if free of interferences. The method gives an index of airborne fibers. This method can be used in conjunction with electron microscopy (e.g., Method 7402) for assistance in identification of fibers. For fibers with diameters >1 µm, polarizing light microscopy (as in NIOSH Method 7403) may be used to identify and eliminate interfering non-crystalline fibers [6]. Asbestos fibers thinner than about 0.05-0.15 µm diameter, depending on asbestos type, will not be detected by this method [7-10]. This method may be used for other materials with alternate counting rules.

INTERFERENCES: If the method is used to detect a specific type of fiber, any other fiber may interfere because all particles meeting the counting criteria are counted. Chain-like particles may appear fibrous. High levels of non-fibrous dust particles may obscure fibers in the field of view and increase the detection limit.

OTHER METHODS: This revision replaces Method 7400, issue 2 (dated 08/15/1994).

REAGENTS:

1. Acetone*, reagent grade.
   NOTE: Dimethylformamide (DMF)*, reagent grade/glacial acetic acid can be used as an alternative filter cleaning reagent.
2. Triacetin (glycerol triacetate), reagent grade.
   NOTE: Euparal (synthetic Canada Balsam) can be used as an alternative mounting media.

*See SPECIAL PRECAUTIONS.

EQUIPMENT:

1. Sampler: Field monitor, 25-mm, 3-piece cassette with 50-mm electrically conductive extension cowl and mixed cellulose ester (MCE) filter, 0.45- to 1.2-µm pore size, and backup pad.
   NOTE 1: Analyze representative filters for fiber background before use to check for clarity and background. Discard the filter lot if mean is ≥ 5 fibers per 100 graticule fields. These are defined as laboratory blanks. Manufacturer-provided quality assurance checks on filter blanks are normally adequate as long as field blanks are analyzed as described below.
   NOTE 2: The electrically conductive extension cowl reduces electrostatic effects [11]. Ground the cowl when possible during sampling.
   NOTE 3: 0.8- µm pore size filters are commonly used for personal sampling. However, 0.45-µm filters are recommended for sampling when performing TEM analysis on the same samples. Check personal sampling pumps before use with 0.45-µm filters to ensure they can operate at the higher pressure drop. Perform calibration with same type of filter as used for sampling.
2. Sampling pump, battery or line-powered vacuum, of sufficient capacity to meet flow rate requirements and, for personal sampling pumps, applicable ISO Standard [12], with flexible connecting tubing.
   NOTE: See Step 4 in Sampling section for flow rate.
3. Wire, multi-stranded, 22-gauge; 1" hose clamp to attach wire to cassette for grounding, if needed.
4. Tape, shrink- or adhesive-, or cellulose bands.
5. Slides, glass, pre-cleaned, 25- x 75-mm.
6. Cover slips, 22- x 22-mm, No. 1 ½, unless otherwise specified by microscope manufacturer.
7. Cover slips, as above, imprinted with a relocatable grid, where required for quality assurance or training purposes.
8. Lacquer or nail polish.

9. Knife, #10 surgical steel, curved blade, or scissors.
10. Forceps (tweezers).
11. Flash vaporization system for cleaning filters on glass slides using acetone. (See ref. [11] for specifications or see manufacturer's instructions for equivalent devices.). Use a drying oven or warming plate located in fume cabinet if using DMF/glacial acetic acid.
12. Micropipettes or microsyringes, 5-µL and 100- to 500-µL.
13. Microscope, positive phase (dark) contrast, with green or blue filter, adjustable field iris, 8x to 10x eyepiece, and 40x to 45x phase objective (total magnification ca. 400x); numerical aperture (NA) = 0.65 to 0.75.
14. Graticule, Walton-Beckett type (Type G22 and G24 are optimized for different counting rules per Appendix C.) with 100-µm projected diameter circular field (area = 0.00785 mm^2) at the specimen plane. Alternative graticules may be used where similar performance has been demonstrated; e.g., the RIB graticule.
    NOTE: The graticule is custom-made for each microscope. See APPENDIX A for the custom-ordering process.
15. Phase contrast test slide. A slide with blocks of visible ruled lines where at least one block of lines is certified as invisible under the microscope set up conditions given below.
16. Telescope, ocular phase-ring centering.
17. Stage micrometer (0.01-mm divisions).

SPECIAL PRECAUTIONS: Wear appropriate personal protection during sampling activities and analysis. It is essential that suitable gloves, eye protection, laboratory coat, etc., be used when working with the chemicals. Acetone is toxic at high exposures and is extremely flammable. Take precautions not to ignite it. Heating of acetone in volumes greater than 1 mL must be done in a ventilated laboratory fume hood using a flameless, spark-free heat source. DMF is toxic by inhalation; heating in a drying oven or warming plate located in an operating fume exhaust hood will reduce potential exposure. DMF is also toxic via absorption through the skin.

SAMPLING:

1. Calibrate each personal sampling pump with a representative sampler in line.
    NOTE: See NMAM guidance chapters for discussion on sampling.
2. Cassette assemblies shall be tested to ensure they are not likely to fall apart during sampling. (This testing can be undertaken by the manufacturer.) A press may be useful in ensuring a tight fit, but shall not cause the filter to be cut. To reduce contamination, seal the crease between the cassette base and the cowl with a shrink band or light-colored adhesive tape. Commercial pre-assembled cassettes may already include a taped seal. For personal sampling, fasten the uncapped open-face cassette to the worker's lapel. The open face shall be oriented downward.

NOTE: Electrically grounding the cowl is highly recommended during area sampling, where possible, but especially under conditions of low relative humidity. Use a hose clamp to secure one end of the wire (Equipment, Item 3) to the monitor's cowl. Connect the other end to an earth ground (e.g., cold water pipe). It is recognized that circumstances do not always allow this procedure.

3. Submit at least two field blanks (or 10% of the total samples, whichever is greater) for each set of samples. Handle field blanks in a manner representative of actual handling of associated samples in the set. Open field blank cassettes at the same time as other cassettes just prior to sampling. Store top covers and cassettes in a clean area (e.g., a closed bag or box) with the top covers from the sampling cassettes during the sampling period.
4. Sample at 0.5 L/min or greater [13]. Adjust sampling flow rate, Q [L/min], and time, t (min), to produce a fiber density, *E*, of 100 to 1300 fibers/mm^2 (3.85×10^4 to 5×10^5 fibers per 25-mm filter with effective collection area A_c = 385 mm^2) for optimum counting. These variables are related to the concentration of fibers in air, L (fibers/cc), of the fibrous aerosol being sampled by:

$$t = \frac{A_c * E}{Q * L * 10^3}$$

NOTE 1: The purpose of adjusting sampling times is to obtain optimum fiber loading on the filter. The collection efficiency does not appear to be a function of flow rate in the range of 0.5 to 16 L/min for asbestos fibers [14]. However, counting efficiency is a function of filter loading, with lower loadings typically resulting in higher proportional concentrations [14-16]. A sampling rate of 1 to 4 L/min for 8 h is appropriate in atmospheres containing about 0.1 fiber/cc in the absence of significant amounts of non-asbestos dust. Dusty atmospheres require smaller sample volumes (≤400 L) to obtain countable samples. In such cases take short, consecutive samples and average the results over the total collection time. For documenting episodic exposures, use high flow rates (7 to 16 L/min) over shorter sampling times. In relatively clean atmospheres, where targeted fiber concentrations are much less than 0.1 fiber/cc, use larger sample volumes (3000 to 10000 L) to achieve quantifiable loadings. Take care, however, not to overload the filter with background dust. If ≥50% of the filter surface is covered with particles, the filter may be too overloaded to count and will bias the measured fiber concentration.

NOTE 2: OSHA regulations specify a minimum sampling volume of 48 L for an excursion measurement, and a maximum sampling rate of 2.5 L/min for all personal asbestos sampling [5].

5. At the end of sampling, shut off the pump, record the time, remove the cassette from the tube attaching it to the pump, and replace top cover and end plugs. Capping the cassette before shutting off the pump and removing the tubing will cause a vacuum within the cassette and damage to the filter.
6. Ship samples with conductive cowl attached in a rigid container with packing material to protect cassettes from jostling or damage.

NOTE: Do not use untreated polystyrene foam in shipping container because electrostatic forces may cause fiber loss from sample filter.

SAMPLE PREPARATION:

Two acceptable procedures for clarifying either a whole filter or a portion of a filter are described below. These procedures are the Acetone clearance procedure and the DMF/acetic acid clearance procedure. In either procedure, the filter material is placed on a glass microscope slide. It is then made transparent (clarified). Then, either triacetin or Euparal are placed on the clarified filter and a cover slip is placed on top.

NOTE 1: The object is to produce samples with a smooth (non-grainy) background in a medium with refractive index ≤ 1.46. An early method (P&CAM 239 in APPENDIX F) used dimethyl phthalate and diethyl oxalate [17]. This method may still be used as an alternative to those described below, but because the preparations are only stable for one to two days, the procedure is not further discussed.

NOTE 2: Other procedures use a technique for clearing the filter, either acetone (section A) or DMF/glacial acetic acid (section B), followed by mounting the cleared preparation (section C or D). Acetone collapses the filter into a gel, and has the advantage of being the fastest procedure to prepare the filter for the mounting medium. However, acetone can leave residual polymeric structures in the filter that may be counted as fibers. DMF/acetic acid dissolves the filter and does not leave residual structures to the same extent as acetone collapse.

NOTE 3: After the filter is clarified, either triacetin (section C) or Euparal (section D) are acceptable alternative mounting media. Triacetin provides reasonably permanent mounts when the amount used is restricted to ≤ 3.5 µL, otherwise fiber migration has been observed in slides made with larger quantities [4]. Euparal provides permanent mounts for long-term storage (> 5 years) regardless of the amount used. Either mounting medium can be used with either filter preparation procedure, and all combinations have been demonstrated to provide equivalent fiber counts [4].

7. Prepare samples in a clean area away from any bulk samples which might contaminate the samples. Ensure that the glass slides and cover slips are free of dust and fibers.
8. Determine and record the effective sample collection or filtration area and record the information referenced against the sample ID number.
9. Cut wedges of about 1/4 for a 25-mm diameter filter using a curved-blade surgical steel knife using a rocking motion to prevent tearing. Do not use a blade that was used to open the cassette. Scissors are an option for cutting the filter. The entire filter can be used instead of a wedge, but with the understanding that the whole sample is lost if there is a problem in preparation. Place the wedge or entire filter, dust side up, on slide using forceps. To prevent cross-contamination of samples, blades or scissors should be cleaned between samples.

NOTE 1: Filters can be cut while still in the base of the cassette, or removed and cut on a special cut-stand. If a cut-stand is used it shall be cleaned between filters to ensure no cross-contamination.

NOTE 2: Static electricity will usually keep the wedge on the slide.

A. ACETONE CLEARANCE PROCEDURE

NOTE 1: The aluminum “hot block” or similar flash vaporization techniques may be used outside the laboratory [2].

NOTE 2: Excessive water in the acetone may slow the clearing of the filter. Also, filters that have been exposed to high humidity or water prior to clearing may have a grainy background.

NOTE 3: Rest the “hot block” on a ceramic plate and isolate it from any surface susceptible to heat damage unless it is designed with appropriate safety features to prevent fire or damage.

A1. If the temperature can be varied, adjust the “hot block” to ca. 70 °C [2], otherwise switch on until ready.

A2. Mount a wedge cut from the sample filter on a clean glass slide. Insert slide with wedge into the receiving slot at base of the “hot block.” Immediately place the tip of a micropipette or microsyringe containing ca. 250 µL acetone (use the minimum volume needed to consistently clear the filter sections) into the inlet port of the PTFE cap on top of the “hot block” and inject the acetone into the vaporization chamber with a slow, steady pressure on the plunger button while holding the micropipette or microsyringe firmly in place. After waiting 3 to 5 seconds for the filter to clear, remove the micropipette or microsyringe and glass slide from their ports.

NOTE: Using excess acetone, or delivering it too fast into the “hot block” may cause material to be washed off the surface of the filter. Using insufficient acetone may cause the filter to curl.

CAUTION: Although the volume of acetone used is small, use safety precautions. Work in a well-ventilated area (e.g., laboratory fume hood). Take care not to ignite the acetone. Continuous use of this device in an unventilated space may produce unhealthful levels or even explosive acetone vapor concentrations.

B. DMF/ACETIC ACID CLEARANCE PROCEDURE

B1. Make a mixture of 1.4mL (35% volume) of DMF, 0.6mL (15% volume) of glacial acetic acid and 2mL (50% volume) of distilled water in a dark brown vial [3]. This should be done in a fume hood to minimize exposure to chemicals. This solution must be made at least once per week and the vial shall be stored in accordance with applicable laboratory safety procedures (e.g., kept in a vented chemical cabinet rated for flammable materials).

B2. Turn on the drying oven or warming plate (vented or located in a laboratory fume hood) and allow to come to working temperature. Place a cut filter wedge on a glass slide using forceps. Using 20 ± 5 µL DMF solution, place several drops along the edge of the wedge and allow the solution to wick onto the filter to avoid washing fibers off the filter. Warm the slide at 60 (+2/-5) °C for 30 minutes in the drying oven or on the warming plate.

C. TRIACETIN MOUNTS AFTER CLEARING AND COLLAPSE

C1. Using a 5-µL micropipette or microsyringe, immediately place 3.0 to 3.5 µL triacetin on the wedge. Gently lower a clean cover slip onto the wedge at a slight angle to reduce bubble formation. Avoid excess pressure and movement of the cover glass. Do not wait longer than 30 seconds before applying the coverslip.

NOTE: If too many bubbles form or the amount of triacetin is insufficient, the cover slip may become detached within a few hours. If excessive triacetin remains at the edge of the filter under the cover slip, fiber migration may occur [4].

C2. Mark the outline of the filter segment just inside the edge of the segment with a glass marking pen (such as a permanent ink marker) to aid in microscopic evaluation and to ensure the edge is avoided in the examination. Markings on the bottom of the slide are visible, but outside the depth of focus of fibers and this must be accounted for when positioning the microscope for counting. However, marking the bottom avoids any pressure on the coverslip. If marking the coverslip is preferred, it must be done very lightly and carefully.

C3. Glue the edges of the cover slip to the slide using lacquer or nail polish [18]. Counting may proceed immediately after clearing and mounting are completed.

NOTE: If clearing is slow, warm the slide on a hotplate (surface temperature 50 °C) for up to 15 min in order to hasten clearing. Heat carefully to prevent gas bubble formation.

D. EUPARAL MOUNTS AFTER CLEARING

D1. Add 1 drop of Euparal solution on the middle of the wedge and 1 drop to the center of a cover slip. In order to avoid trapping air bubbles, gently lower the cover slip onto the slide at a slight angle. Warm the slide at 60 (+2/-5) °C for 1 hour to polymerize the Euparal resin.

D2. Mark the outline of the filter segment just inside the edge of the segment with a glass-marking pen (such as a permanent ink marker) to aid in microscopic evaluation and to ensure the edge is avoided in the examination. Markings on the bottom of the slide are visible, but outside the depth of focus of fibers and this must be accounted for when positioning the microscope for counting. However, marking the bottom avoids any pressure on the coverslip. If marking the coverslip is preferred, it must be done very lightly and carefully.

D3. It is not necessary to seal the edges of the cover slip with nail polish if Euparal is used. Counting may proceed immediately after clearing and mounting are completed.

CALIBRATION AND QUALITY CONTROL:

10. Microscope adjustments. Follow the manufacturer's instructions for centering and focusing the objectives, condenser, stage, and lamp, if applicable. At least once daily, and preferably at regular intervals throughout the day, use a phase telescope ocular (or Bertrand lens, for some microscopes) to ensure that the phase rings (annular diaphragm and phase-shifting elements) are concentric. With each microscope, keep a paper or electronic logbook in which to record the dates of microscope cleanings and major servicing.
    a. Each time a sample is examined, do the following:
        i. Adjust the light source for even illumination across the field of view at the condenser iris. Use Köhler illumination, if available. With some microscopes, the illumination may have to be set up with bright field optics before aligning the phase contrast elements.
        ii. Focus on the particulate material to be examined (do not focus on the marking line).
        iii. Using the condenser focus, make sure that the field iris is in focus, centered on the sample, and open only enough to fully illuminate the field of view.
    b. Check the phase-shift detection limit of the microscope periodically for each microscopist/microscope combination:
        i. Center the certified phase-contrast test slide under the phase objective.
        ii. Bring the blocks of grooved lines into focus in the graticule area.

    NOTE: The slide contains seven blocks of grooves (ca. 20 grooves per block) in descending order of visibility. For asbestos counting, it is intended that some blocks of lines are completely visible and one or more are completely invisible when centered in the graticule area (blocks in between may be partially visible). The visibility of the blocks must match the statements in the accompanying certificate [19]. A microscope which fails to meet this requirement for a test slide has resolution either too low or too high for fiber counting.

        iii. If image quality deteriorates, clean the microscope optics. If the problem persists, consult the microscope manufacturer.
    c. Measure the projected diameter of the Walton-Beckett type graticule to assure that it is 100 µm ± 2 µm. Use the measured value to calculate the actual area of graticule. Check the measured value at the minimum and maximum interpupillary distance of the eyepieces. If the diameter changes, then the diameter may change any time a different microscopist uses the microscope and changes the interpupillary distance. If service is performed on the microscope, or components of the microscope are changed, measure the projected diameter again as changes may occur if the tube length or the location of the graticule in the eyepiece is changed.
        i. Center the stage micrometer under the 40X objective of the microscope.
        ii. Bring the scale into focus in the graticule area
        iii. The lines in the scale will appear wide. Using the mechanical stage of the microscope, manipulate the slide until the graticule is at one edge of a major line of the stage micrometer.
        iv. Estimate the diameter of the graticule using edges of the lines of the stage micrometer. Do not attempt to use the center of the micrometer lines.
        v. If the diameter is greater than 102 µm or less than 98 µm, determine if the inter-pupillary distance is correct for the analyst. If it is, then the microscope must be adjusted by someone qualified to service the microscope, or the graticule replaced by one meeting the projected diameter specification.
11. Determine a microscopist's ability to observe, measure, and count fibers.

    NOTE: Prior to examining samples, microscopists shall undergo training to observe, measure, and count fibers and the results of such training shall be available for inspection. A procedure for such training, which allows proficiency to be demonstrated quantitatively, may be found in Appendix B.
12. Document the laboratory's precision for each microscopist for replicate fiber counts.

a. Maintain as part of the laboratory quality assurance program a set of reference slides to be used on a daily basis [20]. These slides shall consist of filter preparations including a range of loadings and background dust levels from a variety of sources including both field and reference samples (e.g., PAT, AAR, or commercial samples). The Quality Assurance Officer shall maintain custody of the reference slides and shall supply each microscopist with a minimum of one reference slide per workday. Change the labels on the reference slides periodically so that the microscopist does not become familiar with the samples.
b. From blind repeat counts on reference slides, estimate the laboratory intra- and inter-microscopist precision. Obtain separate values of relative standard deviation (Sr) for each sample matrix analyzed in each of the following ranges: 5 to 20 fibers in 100 graticule fields, >20 to 50 fibers in 100 graticule fields, and >50 to 100 fibers in 100 graticule fields. Maintain control charts for each of these data files.
c. Alternatively, a laboratory may develop an analytical uncertainty model from intra- and inter-microscopist precision measurements (but, in practice, most laboratories will choose option b).
NOTE: Certain sample matrices (e.g., asbestos cement) have been shown to give poor precision [23].

13. Prepare and count field blanks along with the field samples. Report counts on each field blank.
NOTE 1: The identity of blank filters shall be unknown to the microscopist until all counts have been completed.
NOTE 2: If a field blank yields greater than 7 fibers per 100 graticule fields, report possible contamination of the samples.
14. Perform blind recounts by the same microscopist on 10% of filters counted (slides relabeled by a person other than the microscopist). Use the following test to determine whether a pair of counts by the same microscopist on the same filter shall be rejected because of possible bias: Discard the data if the absolute value of the difference between the square roots of the two counts (in fiber/mm^2) exceeds $2.77XS_r'$ where X is the average of the square roots of the two fiber counts (in fiber/mm^2) and $S_r' = (S_r/2)$ where S_r is the intra-microscopist relative standard deviation for the appropriate count range (in fibers) determined in step 12. For more complete discussions see reference [20].
NOTE 1: Fiber counting as the measurement of randomly placed fibers may be described by a Poisson distribution, so that a square root transformation of the fiber count data will result in approximately normally distributed data [20].
NOTE 2: If a pair of counts is rejected by this test, recount all other samples in the set and test the new counts against the first counts. Discard all rejected paired counts. It is not necessary to use this statistic on blank counts.
NOTE 3: Do not use an intra-microscopist variation calculated from standard relocatable test slides (Appendix B) for this test.
15. The microscopist is a critical part of this analytical procedure. Care must be taken to provide a non-stressful and comfortable environment for fiber counting. Use an ergonomically designed chair, with the microscope eyepiece situated at a comfortable height for viewing. Set external lighting at a similar level to the illumination level in the microscope to reduce eye fatigue. In addition, microscopists shall take 10- to 20-minute breaks from the microscope every one or two hours to limit fatigue [21]. During these breaks, eye and upper back, and neck exercises can be performed to relieve strain.
16. All laboratories engaged in asbestos counting shall participate in a proficiency testing program such as the AIHA Industrial Hygiene Proficiency Analytical Testing (IHPAT) Program for asbestos.
17. Each laboratory analyzing asbestos samples shall implement an interlaboratory quality assurance program that as a minimum includes participation of at least two other independent laboratories. Each laboratory shall participate in round robin testing at least once every 6 months with at least all the other laboratories in its interlaboratory quality assurance group. Each laboratory shall submit slides typical of its own work load for use in this program. The round robin shall be designed and results analyzed using appropriate statistical methodology.

MEASUREMENT:

18. Center the slide on the stage of the calibrated microscope under the objective lens. Focus the microscope on the sample-containing plane of the filter.
19. Adjust the microscope (Step 10).
20. Counting rules: (same as P&CAM 239 rules [1,17,22]: see examples in APPENDIX C).
    a. Count any fiber longer than 5 µm which lies entirely within the graticule area.
        i. Count only fibers longer than 5 µm.
        ii. Measure length of curved fibers along the curve. Count only fibers with a length-to-width ratio equal to or greater than 3:1.
    b. For fibers which cross the boundary of the graticule field:
        i. Count as 1/2 fiber any fiber with only one end lying within the graticule area, provided that the fiber meets the criteria of rule "a" above.
        ii. Do not count any fiber which crosses the graticule boundary more than once.
        iii. Reject and do not count all other fibers.
    c. Count bundles of fibers as one fiber unless individual fibers can be identified by observing both ends of a fiber.
    d. Count enough graticule fields to yield 100 fibers. Count a minimum of 20 fields. Stop at 100 graticule fields regardless of count.
21. Start counting from the tip of the filter wedge and progress along a radial line to the outer edge. Shift up or down on the filter, and continue in the reverse direction. Select graticule fields randomly. Ensure that, as a minimum, each analysis covers one radial line from the filter center to the outer edge of the filter. When an agglomerate or bubble covers ca. 1/4 or more of the graticule field, reject the graticule field and select another. Do not report rejected graticule fields in the total number counted.

NOTE 1: When counting a graticule field, continuously scan a range of focal planes by moving the fine focus knob to detect very fine fibers which have become embedded in the filter. The small-diameter fibers will be very faint but are an important contribution to the total count. A minimum counting time of 15 s per field is appropriate for accurate counting.

NOTE 2: Do not count at the outside edge of the filter, or at edges where the filter was cut, as the fiber distribution may be disturbed in these areas. Move in at least 1 mm from the edge (i.e., inside the marked line).

NOTE 3: Under certain conditions, electrostatic charge may affect the sampling of fibers. These electrostatic effects are most likely to occur when the relative humidity is low (below 20%), and when sampling is performed near the source of aerosol. The result is that deposition of fibers on the filter is reduced, especially near the edge of the filter. If such a pattern is noted during fiber counting, choose fields as close to the center of the filter as possible [11].

NOTE 4: Counts are to be recorded on a paper or electronic data sheet that provides, as a minimum, record of the counts for each field, filter identification number, analyst's name, date, total fibers counted, total fields counted, mean count, fiber density, and commentary. The average count is calculated by dividing the total fiber count by the number of fields observed. Fiber density (fibers/mm^2) is defined as the average count (fibers/field) divided by the field (graticule) area (mm^2/field).

CALCULATIONS AND REPORTING OF RESULTS:

22. Calculate and report fiber density on the filter, E (fibers/mm^2), by dividing the mean fiber count per graticule field, F/n_f, minus the mean field blank count per graticule field, B/n_b, by the graticule field area, A_f:

$$E = \frac{\left(\frac{F}{n_f}\right) - \left(\frac{B}{n_b}\right)}{A_f} fibers/mm^2$$

NOTE 1: A_f=0.00785 mm^2 is the area for a graticule with a projected diameter of 100 µm. The actual area shall be calculated using the measured diameter of the graticule. The measured diameter shall be 100 ±2 µm at the proper magnification. The diameter of the graticule shall be re-measured whenever the microscope is serviced or if necessary if there is a change in measured size with inter-pupillary distance (e.g., between different microscopists).

NOTE 2: Fiber counts above 1300 fibers/mm^2 and fiber counts from samples with >50% of filter area covered with particulate shall be reported as "uncountable" or "probably biased." Fiber counts outside the 100–1300 fiber/mm^2 range shall be reported as having "greater than optimal variability" and as being "probably biased."

23. Calculate and report the concentration, (C) in fibers/cc, of fibers in the air volume sampled, (V) in liters, using the effective collection area of the filter, A_c (nominally 385 mm^2 for a 25-mm filter):

$$C = \frac{E A_c}{V * 10^3}$$

NOTE: The area varies according to the cassette inner diameter, where it contacts the filter, which could vary between manufacturers and even between production runs. For most accurate results the value of A_c may be checked and adjusted accordingly, but, in practice, the variation in this parameter is very small in comparison to other sources of uncertainty.

24. Report intra- and interlaboratory relative standard deviations with each set of results.

NOTE: Precision depends on the total number of fibers counted [1,24]. Relative standard deviation is documented in references [1,24-25] for fiber counts up to 100 fibers in 100 graticule fields. Comparability of interlaboratory results is discussed below. As a first approximation, use 213% above and 49% below the count as the upper and lower confidence limits for fiber counts greater than 20 (Figure 1).

EVALUATION OF METHOD:

Summary of Method Revisions:

Each revision or release clarified minor points of grammar and procedure as well as major changes. This summary lists the major changes only.

The initial US Public Health Service/NIOSH method for counting fibers was published in 1968 [26]. It was based upon the British Hygiene standard [27] and procedures developed by the British Asbestos Research Council. The procedure was published in the NIOSH Criteria for a Recommended Standard [28] Section VIII, Appendix I (1972).

An informal draft version was used until 1976 when NIOSH issued it as P & CAM 239. It was published in the NIOSH Manual of Analytical Methods, 2nd ed., Vol. 1, P&CAM 239, U.S. Department of Health, Education, and Welfare Pub. (NIOSH) 11-157-A (1977) [17].

NIOSH Method 7400 Issued 15 February 1984

In 1984, the NIOSH P&CAM 239 Fiber counting method was renamed Method 7400 and rewritten to be in the standard format for inclusion in the NIOSH Manual of Analytical Methods. This revision included changes in three areas:

1. Sampling: The change from a 37-mm to a 25-mm filter improved sensitivity for similar air volumes. The change in flow rates allowed for 2 m^3 full-shift samples to be collected, providing that the filter is not overloaded with non-fibrous particulates. The collection efficiency of the sampler is not a function of flow rate in the range 0.5 to 16 L/min [17].
2. Sample preparation technique: The acetone vapor-triacetin preparation technique was included as a faster, more permanent mounting technique than the dimethyl phthalate/diethyl oxalate method of

P&CAM 239 [2,7,17]. The aluminum "hot block" technique minimizes the amount of acetone needed to prepare each sample.

3. Measurement:
   a. The Walton-Beckett graticule standardizes the area observed [21,29-30].
   b. A phase shift test slide standardizes microscope optics [31].
   c. Because of past inaccuracies associated with low fiber counts, the minimum recommended loading was increased to 100 fibers/mm^2 filter area (a total of 78.5 fibers counted in 100 fields, each with field area = 0.00785 mm^2). Lower levels generally result in an overestimate of the fiber count when compared to results in the recommended analytical range [15]. The recommended loadings are expected to yield intra-microscopist S_r in the range of 0.10 to 0.17 [32, 36].
   d. An alternative set of counting rules (B rules) was introduced to improve precision of counting.

NIOSH Method 7400 Issued 15 February 1984, Revision #1 15 May 1985

Revision #1 included a discussion of interlaboratory variability and comparison of the A and B counting rules.

NIOSH Method 7400 Issued 02 February 1984, Revision #2 15 May 1986

Revision # 2 added an expanded discussion of interlaboratory variability and comparison of the A and B counting rules. It moved the "B" rules to an appendix as alternate counting rules (which should be used when counting man-made mineral fibers, e.g., fibrous glass, refractory ceramic fibers, etc.). It added three Appendices:

a. Appendix A: Calibration of the Walton Beckett Graticule
b. Appendix B: Examples of Counting Rules
c. Appendix C: Alternate Counting Rules

NIOSH Method 7400 Issued 02 February 1984, Issue 1: Revision #3 15 May 1989

Issue 1: Revision #3 corrected some technical issues and clarified the method language.

NIOSH Method 7400 Issued 02 February 1984, Issue 2: 15 August 1994

Issue 2 refined the method language, added some procedural notes and added an additional Appendix D

listing Equivalent Limits of Detection and Quantitation.

NIOSH Method 7400 Issued 02 February 1984, Issue 3: 29 April 2019

Issue 3 of this Method incorporates:

1. More accurate values for the minimum width limits for asbestos fiber detection. A value of 0.15 µm for chrysotile and 0.05 µm for amphibole asbestos is based on published research [7,8]. A recent user check confirms that these values are achievable [10]. However, not all microscopists can see finer chrysotile fibers between 0.15 µm and 0.2 µm without adequate training [33-34]. Note that PCM does not distinguish between asbestos types.
2. DMF/acetic acid as an alternative filter clearing procedure to acetone, and Euparal as an alternative mounting medium to triacetin. Either mounting medium is used with either clearing procedure. The DMF/acetic acid procedure does not leave undissolved residues from the filter medium, which may appear as fibers. Euparal produces permanent mounts regardless of the quantity of medium used [3]. These alternatives have been shown in a user-check to provide fiber counts that are not significantly different from counts in slides made from the original dimethyl phthalate/diethyl oxalate procedure [4]. This revision also allows the continued use of dimethyl phthalate/diethyl oxalate, if preferred.

3. A generic description of phase-shift test slides, since changes in the manufacture have led to confusion [19]. The description now only requires the slides to have a certificate stating that there are fully visible blocks and invisible blocks, so that the required phase-shift is bracketed. The microscopist is expected to be able to visualize a slide according to its certificate. Newer slides have been shown in a user-check to provide fiber counts that are not significantly different from counts in slides where the original version of the phase shift test slide was used for calibration [10].
4. Standard relocatable test slides as an additional non-mandatory quality assurance Appendix, and as documentation of inter- and intra-microscopist precision without the contribution from the selection of counting fields. Several user-checks have demonstrated increases in average analyst performance after training on these slides [33-34].
5. Guidance on the calculation of an expanded uncertainty budget. This guidance allows users to determine expanded uncertainty as required under international standards [35].
6. Re-numbering of appendices.

INTERLABORATORY COMPARABILITY

An international collaborative study involved 16 laboratories using prepared slides from the asbestos cement, milling, mining, textile, and friction material industries [23]. The relative standard deviations (S_r) varied with sample type and laboratory. The ranges were:

Rules	Intralaboratory S_r	Interlaboratory S_r	Overall S_r
AIA (NIOSH A Rules)*	0.12 to 0.40	0.27 to 0.85	0.46
Modified CRS (NIOSH B Rules)*	0.11 to 0.29	0.20 to 0.35	0.25

*Under AIA (Asbestos International Association) rules, only fibers having a diameter less than 3 µm are counted and fibers attached to particles larger than 3 µm are not counted. NIOSH A Rules are otherwise similar to the AIA rules.

A NIOSH study conducted using field samples of asbestos gave intralaboratory S_r in the range 0.17 to 0.25 and an interlaboratory S_r of 0.45 [20]. This agrees well with other recent studies [21,23-24,36].

At this time, there is no independent means for assessing the overall accuracy of this method. One measure of reliability is to estimate how well the count for a single sample agrees with the mean count from a large number of laboratories. The following discussion indicates how this estimation can be carried out based on measurements of the interlaboratory variability, as well as showing how the results of this method relate to the theoretically attainable counting precision and to measured intra- and interlaboratory S_r (NOTE: The following discussion does not include bias estimates and cannot be taken to indicate that lightly loaded samples are as accurate as properly loaded ones).

Theoretically, the process of counting randomly (Poisson) distributed fibers on a filter surface will give a S_r that depends on the number, N, of fibers counted: $S_r = \frac{1}{\sqrt{N}}$

Thus, S_r is 0.1 for 100 fibers and 0.32 for 10 fibers counted. The actual S_r found in a number of studies is greater than these theoretical numbers [15,25,30,36].

An additional component of variability comes primarily from subjective interlaboratory differences. In a study of ten microscopists in a continuing sample exchange program, Ogden [24] found this subjective component of intralaboratory S_r to be approximately 0.2 and estimated the overall S_r by the term: $\frac{\sqrt{N+(0.2+N)^2}}{N}$.

Ogden found that the 90% confidence interval of the individual intralaboratory counts in relation to the means were +2 S_r and −1.5 S_r . In this program, one sample out of ten was a quality control sample. For

laboratories not engaged in an intensive quality assurance program, the subjective component of variability can be higher.

In a study of field sample results in 46 laboratories, the Asbestos Information Association (AIA) also found that the variability had both a constant component and one that depended on the fiber count [18]. These results gave a subjective interlaboratory component of S_r (on the same basis as Ogden's) for field samples of ca. 0.45. A similar value was obtained for 12 laboratories analyzing a set of 24 field samples [36]. This value falls slightly above the range of S_r (0.25 to 0.42 for 1984–85) found for 80 reference laboratories in the NIOSH PAT program for laboratory-generated samples [25].

A number of factors influence intralaboratory S_r for a given laboratory, such as that laboratory's actual counting performance and the type of samples being analyzed. In the absence of other information, such as from an interlaboratory quality assurance program using field samples, the value for the subjective component of variability is chosen as 0.45. It is recommended that each laboratory establish an interlaboratory quality assurance program to improve their performance and thus reduce the intralaboratory S_r.

The above relative standard deviations apply when the population mean has been determined. It is more useful, however, for laboratories to estimate the 90% confidence for of the count distribution for both interlaboratory and intralaboratory results [24].

For example, if a sample yields a count of 24 fibers, Figure 1 indicates that the mean interlaboratory count will fall within the range of 227% above and 52% below that value 90% of the time. These percentages can be applied directly to the air concentrations as well. If, for instance, this sample (24 fibers counted) represented a 500-L volume, then the measured concentration is 0.02 fibers/cc (assuming 100 fields counted, 25-mm filter, 0.00785 mm^2 counting field area). If this same sample were counted by a group of laboratories, there is a 90% probability that the mean would fall between 0.01 and 0.08 fiber/cc. These limits are to be reported in any comparison of results between laboratories.

Note that the interlaboratory S_r of 0.45 used to derive Figure 1 is used as an estimate for a random group of laboratories. If several laboratories belonging to a quality assurance group can show that their interlaboratory S_r is smaller, then it is more correct to use that smaller S_r. However, the estimated interlaboratory S_r of 0.45 is to be used in the absence of such information. Note also that it has been found that interlaboratory S_r can be higher for certain types of samples, such as asbestos cement [23].

Quite often the estimated airborne concentration from an asbestos analysis is used to compare to a regulatory standard. For instance, if one is trying to show compliance with an 0.5 fiber/cc standard using a single sample on which 100 fibers have been counted, then Figure 1 indicates that the 0.5 fiber/cc standard must be 213% higher than the measured air concentration. This indicates that if one measures a fiber concentration of 0.16 fiber/cc (100 fibers counted), then the mean fiber count by a group of laboratories (of which the compliance laboratory might be one) has a 95% chance of being less than 0.5 fibers/cc; i.e., $0.16 + 2.13 \times 0.16 = 0.5$.

It can be seen from Figure 1 that the Poisson component of the variability is not very important unless the number of fibers counted is small. Therefore, a further approximation is to simply use +213% and -49% as the upper and lower confidence values of the mean for a 100-fiber count.

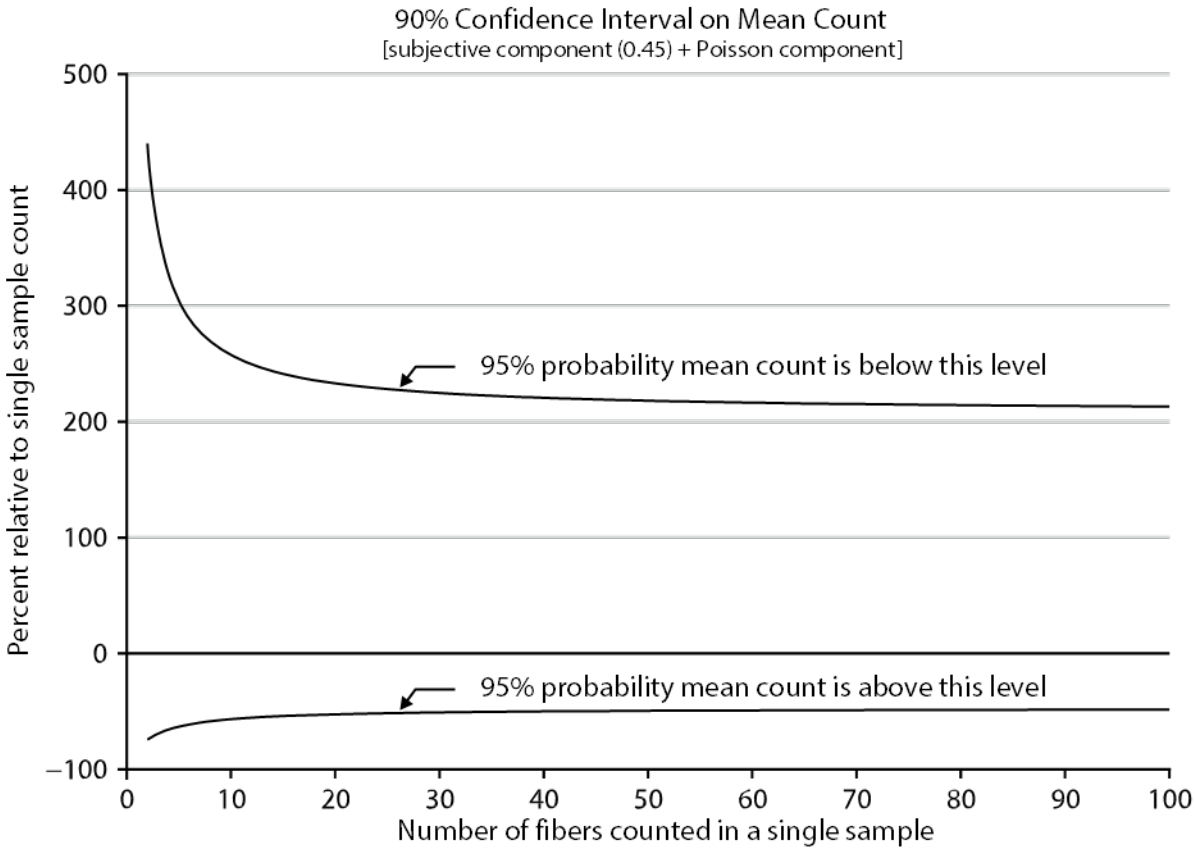


Figure 1. Interlaboratory precision of fiber counts

The curves in Figure 1 are defined by the following equations:

$$UCL = 2X + 2.25 + \frac{\sqrt{(2.25 + 2X)^2 - 4(1 - 2.25S_r^2)X^2}}{2(1 - 2.25S_r^2)}$$

and

$$LCL = \frac{\sqrt{2X + 4 - ((4 + 2X)^2 - 4(1 - 4S_r^2)X^2)}}{2(1 - 4S_r^2)}$$

where S_r = subjective interlaboratory relative standard deviation, which is close to the total interlaboratory S_r when approximately 100 fibers are counted, X = total fibers counted on sample, UCL = upper 95% confidence limit, and LCL = lower 95% confidence limit.

NOTE: The range between these two limits represents 90% of the total range.

It is also possible to use a similar approach to determining expanded uncertainty within a single laboratory.

The formula:

$$S_r = \frac{\sqrt{N + (0.2N)^2}}{N}$$

suggests that if *n* is the number of counts taken in a single reading, then the distribution of

$$\frac{n-N}{\sqrt{n+S_r^2N^2}}$$

though unknown, depends only weakly on N, because the mean and variance are independent of N. In fact, from many readings by a number of microscopists, with N equal to the mean across the microscopists, confidence intervals were determined [24] as:

$$-1.8 \leq \frac{n-N}{\sqrt{N+S_r^2N^2}} \leq +2.6$$

By solving the two quadratic equations at the two extreme limits for N in terms of n, confidence limits enclosing the consensus mean N, given single measurements n are easily obtained: $LCL[n] < N < UCL[n]$ (95% Confidence Limit), where LCL and UCL are given by:

$$LCL[n] = \frac{2n + 2.6^2 - \sqrt{(2.6^2+2n)^2 - 4(1-2.6^2S_r^2)n^2}}{2(1-2.6^2S_r^2)}$$

and

$$UCL[n] = \frac{2n + 1.8^2 - \sqrt{(2.6^2+2n)^2 - 4(1-1.8^2S_r^2)n^2}}{2(1-1.8^2S_r^2)}$$

NOTE: In these formulae the confidence level is expanded from 90% to 95%.

From these equations, the confidence limits accounting for both subjective microscopist and Poisson components for various fiber counts are calculated (Table 1) by taking $S_r = 0.2$. The intra- and inter-microscopist variability may be greater if quality control is poor.

Table 1. Intra-microscopist (S_r=0.2) 95% confidence interval bracketing the consensus mean for various numbers (n) of fibers in a single count

Number (n) for fibers	Lower confidence limit (LCL)	Upper confidence limit (UCL)	Expanded uncertainty (%)
5	1.6	13	(–68;160)
7	2.6	16	(–63;129)
10	4.2	21	(–58;110)
20	10	37	(–50;85)
50	29	85	(–42;70)
100	62	163	(–38;63)
200	127	319	(–36;60)

NOTE: Also shown is the confidence interval expressed as expanded uncertainty asymmetric around n and stated relative to n.

UNCERTAINTY BUDGET EXCLUDING COUNTING ERRORS

Various factors aside from counting errors can introduce random variation in measured values of asbestos concentrations [35]. Such factors are identified in Table 2.

Table 2. Example of an uncertainty budget for non-counting variable

Variable	Estimated uncertainty	Uncertainty squared
Sampling flowrate	0.03	0.0008
Sampling time	0.02	0.0004
Master stage micrometer	0.01	0.0001
Calibration of submaster	0.01	0.0001
Calibration of graticule	0.02	0.0004
Area of exposed filter	0.05	0.0025
Sum of squares	-	0.0043
Square root of sum of squares = Overall uncertainty	-	0.066
Expanded uncertainty (coverage factor k = 2)	-	0.13 or 13 %

The uncertainty in Table 2 contributes in quadrature to the expanded uncertainty. Therefore, as 13% is small relative to the values in Table 1, it may be reasonable to conclude that the contribution of non-counting errors to the total uncertainties is not significant in comparison to the Poisson and subjective errors.

NOTE 1: Non-counting errors are negligible only if consistently controlled.
NOTE 2: Inhomogeneous deposition of dust on the filter leads to gross errors, the magnitude of which cannot be estimated. Counting 20 or more fields ensures that minor divergence from randomness does not bias the result.

REFERENCES:

[1] NIOSH [1979]. USPHS/NIOSH Membrane Filter Method for Evaluating Airborne Asbestos Fibers. By Leidel NA, Bayer SG, Zumwalde RD, Busch KA. Cincinnati, OH: U.S. Department of Health, Education, and Welfare, Center for Disease Control, National Institute for Occupational Safety and Health, DHEW (NIOSH) Publication No. 79-127.

[2] Baron P, Pickford PA, Pickford GC [1986]. An asbestos sample filter clearing procedure. Appl Ind Hyg *1*:169–171, 199.

[3] LeGuen JMM, Galvin S [1981]. Clearing and mounting techniques for the evaluation of asbestos fibers by the membrane filter method. Ann Occup Hyg *24*:273–280.

[4] Lee EG, Pang TWS, Nelson J, Andrew M, Harper M [2011]. Comparison of mounting methods for the evaluation of fibers by phase contrast microscopy. Ann Occup Hyg *55*:644-657.

[5] OSHA [1994]. 29 CFR Part 1910.1001 Occupational Exposure to Asbestos. Washington, DC: U.S. Department of Labor, Occupational Safety and Health Administration.

[6] McCrone W, McCrone L, Delly J [1978]. Polarized light microscopy. Ann Arbor, MI: Ann Arbor Science.

[7] Rooker SJ, Vaughn NP, LeGuen JM [1982]. On the visibility of fibers by phase contrast microscopy. Am Ind Hyg Assoc J *43*:505–515.

[8] Kenney LC, Rood AP, Blight BJN [1987]. A direct measurement of the visibility of amosite asbestos fibres by phase contrast optical microscope. Ann Occup Hyg *33*:261–264.

[9] Harper M, Lee EG, Doorn SS, Hammond O [2008]. Differentiating non-asbestiform amphibole and amphibole asbestos by size characteristics. J Occup Envir Hyg *5*:761–770.

[10] Lee EG, Nelson J, Kashon M, Harper M [2015]. Evaluation of the dark-medium objective lens in counting asbestos fibers by phase-contrast microscopy. Ann Occup Hyg *59*:616–628.

[11] Baron P, Deye G [1990]. Electrostatic effects in asbestos sampling: parts I and II. Am Ind Hyg Assoc J *51*:51–69.

[12] ISO [2013]. ISO 13137-13 Workplace atmospheres -- Pumps for personal sampling of chemical and biological agents -- Requirements and test methods. Geneva, Switzerland: International Organization for Standardisation.

[13] Johnston AM, Jones AD, Vincent JH [1982]. The influence of external aerodynamic factors on the measurement of the airborne concentration of asbestos fibers by the membrane filter method. Ann Occup Hyg *25*:309–316.

[14] Beckett ST [1980]. The effects of sampling practice on the measured concentration of airborne asbestos. Ann Occup Hyg *23*:259–272.

[15] Cherrie J, Jones AD, Johnston AM [1986]. The influence of fiber density on the assessment of fiber concentration using the membrane filter method. Am Ind Hyg Assoc J *47*(8):465–474.

[16] Lee EG, Nelson J, Hintz PJ, Joy G, Andrew ME, Harper M [2010]. Field performance of the CATHIA-T sampler and two cyclones against the standard cowled sampler for thoracic fiber concentrations. Ann Occup Hyg *54*:545-556.

[17] NIOSH [1977]. P&CAM 239. In: Taylor DG, ed. NIOSH manual of analytical methods, 2nd ed. Cincinnati, OH: U.S. Department of Health, Education, and Welfare, Center for Disease Control, National Institute for Occupational Safety and Health, DHEW(NIOSH) Publication No. 77-157-A.

[18] AIA [1979]. AIA Health and Safety Recommended Technical Method #1: airborne asbestos fiber concentrations at workplaces by light microscopy. London, England: Asbestos International Association.

[19] Crane D, Harper M [2011]. The phase-shift test slide. https://www.aiha.org/Registries/aar/Documents/Phase%20Shift%20Interpretation%20OSHA%20NIOSH_2011_04_11.pdf.

[20] Abell MS, Shulman SA, Baron P [1989]. The quality of fiber count data. Appl Ind Hyg *4*:273–285.

[21] AIA [1983]. A study of the empirical precision of airborne asbestos concentration measurements in the workplace by the membrane filter method. Arlington, VA: Asbestos Information Association, Air Monitoring Committee.

[22] NIOSH [1976]. Revised Recommended Asbestos Standard. Cincinnati, OH: U.S. Department of Health, Education, and Welfare, Center for Disease Control, National Institute for Occupational Safety and Health DHEW (NIOSH) Publication No. 77-169.

[23] IOM [1982]. A comparison of the effects of different counting rules and aspect ratios on the level and reproducibility of asbestos fiber counts. Part I: effects on level and Part II: effects on reproducibility. By Crawford NP, Thorpe HL, Alexander W. Edinburgh, Scotland: Institute of Occupational Medicine.

[24] HSE [1982]. Health and Safety Executive research paper 18: the reproducibility of fiber counts. By Ogden TL. Sheffield, England: Health and Safety Laboratory, Health and Safety Executive.

[25] Schlecht PC, Schulman SA [1986]. Performance of asbestos fiber counting laboratories in the NIOSH Proficiency Analytical Testing (PAT) Program. Am Ind Hyg Assoc J *47*:259–266.

[26] Edwards GH, Lynch JR [1968]. The method used by the Public Health Service, for enumeration of asbestos dust on membrane filters. Ann Occup Hyg *11*:1-6.

[27] Lane RE, Barnes JM, Roach SA, Smith S, Addingley CG, Holmes S, Hunt R, Knox JF, King E [1968]. Hygiene standard for chrysotile asbestos dust. Ann Occup Hyg *11*:47 -49.

[28] NIOSH [1972]. NIOSH criteria for a recommended standard: occupational exposure to asbestos. Cincinnati, OH: U.S. Department of Health Education and Welfare, Center for Disease Control, National Institute for Occupational Safety and Health, DHEW (NIOSH) Publication No. 72-10267.

[29] Royal Commission on Matters of Health and Safety Arising from the Use of Asbestos in Ontario. Measurement of asbestos fiber concentrations in workplace atmospheres: Study No. 9. By Chatfield, EJ. Toronto, Ontario.

[30] Walton WH [1982]. The nature, hazards, and assessment of occupational exposure to airborne asbestos dust: a review. Ann Occup Hyg *25*:115–247.

[31] LeGuen JMM, Ogden TL, Shenton-Taylor T [1984]. The phase-shift test slide. Ann Occup Hyg *28*:237-247.

[32] Taylor DG, Baron PA, Shulman SA, Carter JW [1984]. Identification and counting of asbestos fibers. Am Ind Hyg Assoc J *45*:84–88.

[33] Pang TWS, Harper M [2008]. The quality of fiber counts using improved slides with relocatable fields. J Environ Monit *10*:89-95.

[34] Harper M, Slaven JE, Pang TWS [2009]. Continued participation in an asbestos fiber counting proficiency test with relocatable grid slides. J Environ Monit *11*:434-438.

[35] ISO [2014]. ISO 8672-14[E] Air quality — determination of the number concentration of airborne inorganic fibres by phase contrast optical microscopy — membrane filter method. Geneva, Switzerland: International Organization for Standardisation.

[36] Baron PA, Shulman SA [1987]. Evaluation of the Magiscan image analyzer for asbestos fiber counting. Am Ind Hyg Assoc J *48*:39-46.

[37] Pang TWS [2000]. Precision and accuracy of asbestos fiber counting by phase contrast microscopy. Am Ind Hyg Assoc J *61*:529–538.

[38] Harper M, Bartolucci A [2003]. Preparation and examination of proposed consensus reference standards for fiber-counting. Am Ind Hyg Assoc J *64*:283-287.

[39] WHO [1985]. Reference methods for measuring airborne man-made mineral fibers (MMMF). By: The WHO/EURO Technical Committee for Monitoring an Evaluating Airborne MMMF. Copenhagen, Denmark: World Health Organization.

[40] NIOSH [1977]. NIOSH criteria for a recommended standard: occupational exposure to fibrous glass. Cincinnati, OH: U.S. Department of Health, Education, and Welfare, Center for Disease Control, National Institute for Occupational Safety and Health, DHEW (NIOSH) Publication No. 77-152.

METHOD WRITTEN BY:

Paul A. Baron, PhD, NIOSH; Revised by Martin Harper, PhD, CIH, FAIHA, CChem, FRSC, NIOSH (retired) and Rosa Key-Schwartz, PhD, NIOSH.

Disclaimer: Mention of any company or product does not constitute endorsement by the National Institute for Occupational Safety and Health, Centers for Disease Control and Prevention. In addition, citations to websites external to NIOSH do not constitute NIOSH endorsement of the sponsoring organizations or their programs or products. Furthermore, NIOSH is not responsible for the content of these websites. All web addresses referenced in this document were accessible as of the publication date.

Table 3. CAS numbers for analytes

Name	CAS No.
Actinolite	[77536-66-4]
Ferroactinolite	[15669-07-5]
Amosite	[12172-73-5]
Anthophyllite	[77536-67-5]
Chrysotile	[12001-29-5]
Crocidolite	[12001-28-4]
Tremolite	[77536-68-6]
Amphibole asbestos	[1332-21-4]
Refractory ceramic fibers	[142844-00-6]
Fibrous glass	[14808-60-7]

APPENDIX A: CALIBRATION OF THE GRATICULE

Before ordering any graticule, the following calibration must be done to obtain a counting area (D) 100 µm in diameter at the image plane. The diameter, d_c (mm), of the circular counting area and the disc diameter must be specified when ordering the graticule.

1. Insert any available graticule into the eyepiece and focus so that the graticule lines are sharp and clear.
2. Set the appropriate inter-pupillary distance and, if applicable, reset the binocular head adjustment so that the magnification remains constant.
3. Install the 40x to 45x phase objective.
4. Place a stage micrometer on the microscope object stage and focus the microscope on the graduated lines.
5. Measure the magnified grid length of the graticule, L_o (µm), using the stage micrometer.
6. Remove the graticule from the microscope and measure its actual grid length, L_a (mm). This can best be accomplished by using a stage fitted with verniers.
7. Calculate the circle diameter, d_c (mm), for the Walton-Beckett graticule: $d_c = \frac{L_a}{L_o} \times D$
   EXAMPLE: if L_o = 112 µm, L_a = 4.5 mm, and D = 100 µm, then d_c = 4.02 mm.
8. Check the field diameter, *D* (acceptable range 100 µm ± 2 µm) with a stage micrometer upon receipt of the graticule from the manufacturer. Determine field area (acceptable range 0.00754 mm^2 to 0.00817 mm^2).

APPENDIX B: DETERMINATION OF A MICROSCOPIST'S ABILITY TO OBSERVE, MEASURE AND COUNT FIBERS USING RELOCATABLE GRIDDED COVERSLIPS (Non-mandatory)

1. Reference slides are commercially available, made from chrysotile or amosite proficiency test filters obtained from the Industrial Hygiene Proficiency Analytical Testing (IHPAT) scheme of the American Industrial Hygiene Association Proficiency Analytical Testing, LLC [37]. Each slide has been mounted

with a permanent Euparal medium and covered with a relocatable gridded cover slip. The fibers visible in each grid opening have been identified and their locations marked on a drawing of each opening. The identity, number and position of each fiber have been verified by a second microscopist. The accuracy of this verification has been shown to be within 3% of consensus values determined by multiple microscopists, separately and together [38]. Such slides are referred to in this method as standard relocatable test slides, and they are applied in various ways to improve and assess the quality of fiber counts.

NOTE: It is also possible to make standard relocatable test slides in the laboratory from PAT or field samples by using commercially available relocatable gridded cover slips. Either filter clearance or slide mounting procedure can be used with these cover-slips, but the DMF/acetic acid-Euparal procedure has been demonstrated to provide slides with long-term stability. The fibers in each grid are identified, marked and verified by at least two microscopists as above.

2. Count the fibers in each designated field and refer the counts to the accompanying slide descriptions. Calculate a score from the number of absolute discrepancies between the reported and verified fibers in each field as shown in:

$$Score = (1 - \left(\frac{number\ of\ discrepancies}{number\ of\ verified\ fibers}\right)) \times 100$$

3. Microscopists shall obtain a discrepancy score of more than 70 for a slide containing amosite fibers and more than 50 for a slide containing chrysotile fibers from the AIHA IHPAT scheme (or more than 70 for a slide prepared from chrysotile field samples) before proceeding. These scoring criteria are based on the results that have been achieved in round-robin studies and proficiency test programs. If these scores are not achieved, the Quality Assurance Officer is expected to work with the microscopist to review the slide descriptions to determine the cause and then attempt to rectify the situation by having the microscopist repeat the microscope set-up or by re-training.

NOTE: The number of absolute discrepancies has been shown to be linearly related to the sum of counting errors [37]. The positive discrepancies are mainly due to sizing extra fibers (especially amphiboles). The negative discrepancies are mainly due to oversight of fibers (especially chrysotile). Chrysotile filters from the AIHA IHPAT program contain a large number of fibers with narrow widths near the limit of detection and thus provide a very robust test of visual acuity and concentration. In theory, it should be possible for microscopists to obtain high discrepancy scores using slides made from chrysotile PAT samples, but a discrepancy score above 50 is sufficient to ensure the microscopist will be able to see the majority of the wider fibers typical of field samples.

4. The repeated fiber counts obtained from standard relocatable test slides can be used to document the laboratory's precision for each microscopist, per step 13. If repeated counts from specific fields are used, the resulting intra- and inter-microscopist precision will be improved because there will not be a contribution from the selection of field areas to be counted.

APPENDIX C: COMPARISON OF COUNTING RULES

Figure 2 shows a Walton-Beckett graticule as seen through the microscope. This is a Type G22 graticule with 3:1 ratios, providing optimal assistance for these counting rules. The rules will be discussed as they apply to the labeled objects in the figure.

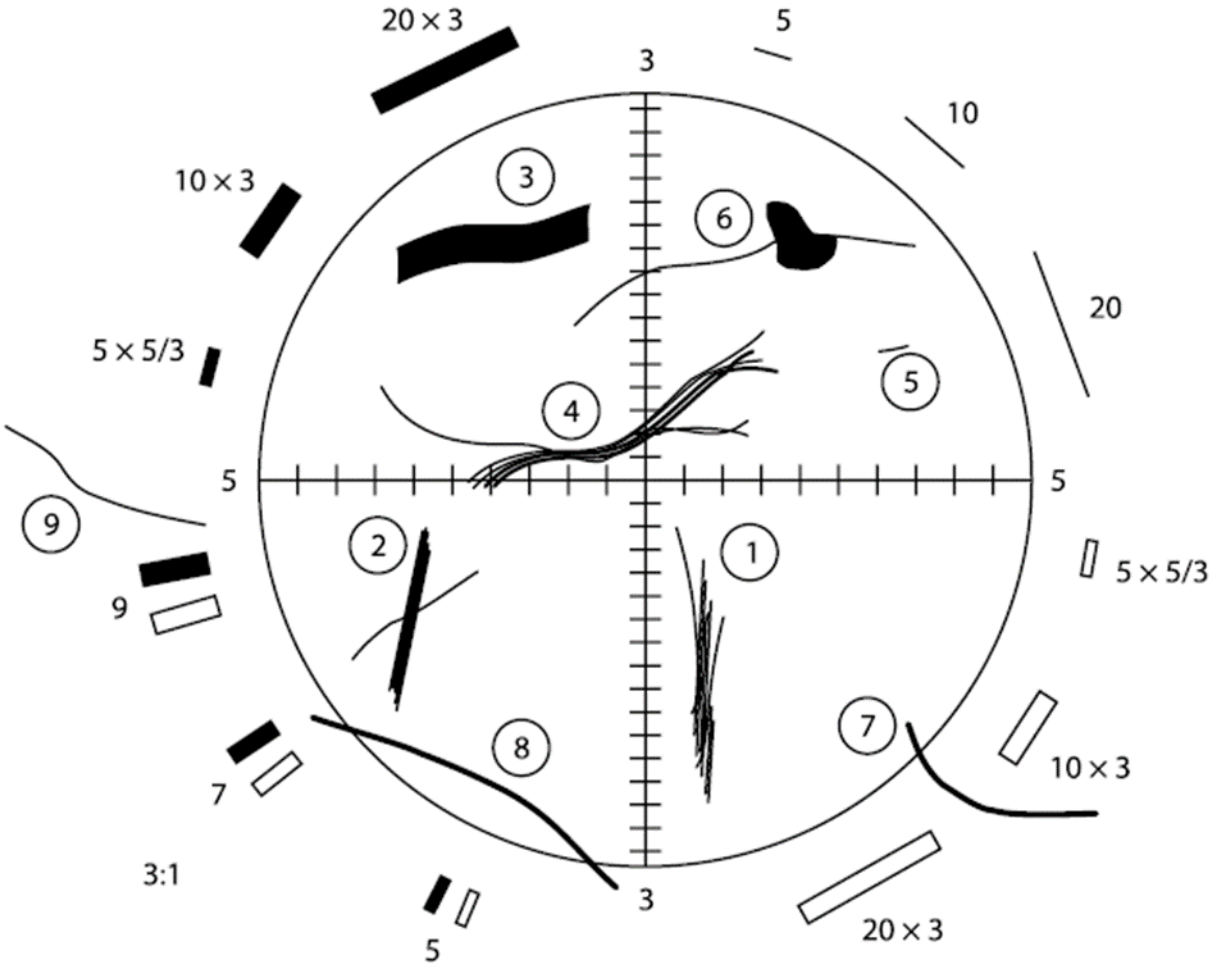


Figure 2 Walton-Beckett graticule with fibers

These rules are sometimes referred to as the "A" rules:

Object	Count	Discussion
1	1 fiber	Optically observable asbestos fibers are actually bundles of fine fibrils. If the fibrils seem to be from the same bundle, the object is counted as a single fiber. Note, however, that all objects meeting length and aspect ratio criteria are counted whether or not they appear to be asbestos.
2	2 fibers	If fibers meeting the length and aspect ratio criteria (length >5 µm and length-to-width ratio > 3 to 1) overlap, but do not seem to be part of the same bundle, they are counted as separate fibers.
3	1 fiber	Although the object has a relatively large diameter (>3 µm), it is counted as a fiber under the rules. There is no upper limit on the fiber diameter in the counting rules. Note that fiber width is measured at the widest compact section of the object.
4	1 fiber	Although long fine fibrils may extend from the body of a fiber, these fibrils are considered part of the fiber if they seem to have originally been part of the bundle.
5	Do not count	If the object is ≤ 5 µm long, it is not counted
6	1 fiber	A fiber partially obscured by a particle is counted as one fiber. If the fiber ends emanating from a particle do not seem to be from the same fiber and each end meets the length and aspect ratio criteria, they are counted as separate fibers.
7	½ fiber	A fiber which crosses into the graticule area one time is counted as ½ fiber.
8	Do not count	Ignore fibers that cross the graticule boundary more than once.
9	Do not count	Ignore fibers that lie outside the graticule boundary.

NOTE 1: OSHA Method ID-160 has slightly different counting rules, e.g. Rule 5: If the object is ≤ 5 µm, it is not counted, would become: If the object is < 5 µm, it is not counted. In practice, these minor differences would not likely modify calculated concentrations to the extent that decisions based on those concentrations would be affected, but this opinion has not been tested.

NOTE 2: Fibers wider than 3 µm are included in this method. Some other methods for counting asbestos fibers restrict the count to only those fibers of 3 µm width or less, as these are the fibers most likely to penetrate to the bronchial and lower airways. However, the inlet efficiency of the cowl has a similar effect in that it limits the maximum diameter of fibers entering the cassette, so the effect of this additional dimensional counting rule on the total fiber count is expected to be small. Any bias from not applying an upper width limit is also conservative (i.e. concentrations will be assessed higher).

APPENDIX D: ALTERNATE COUNTING RULES FOR NON-ASBESTOS FIBERS

Other counting rules may be more appropriate for measurement of specific non-asbestos fiber types, such as fibrous glass. These include the rules given below ("B" rules from NIOSH Method 7400, Revision #2, dated 08/15/1987), the World Health Organization reference method for man-made mineral fiber [39], and the NIOSH fibrous glass criteria document method [40]. The upper diameter limit in these methods prevents measurements of non-thoracic fibers. It is important to note that the aspect ratio limits included in these methods vary. Graticules designed for counting according to these rules are available (e.g. Walton-Beckett Type G24).

OSHA recommends using these alternate, or "B" counting rules as given below for all man-made vitreous fibers (MMVF). It is emphasized that hybridization of different sets of counting rules is not permitted. Report specifically which set of counting rules are used with the analytical results.

"B" Counting Rules

1. Count only *ends* of fibers. Each fiber must be longer than 5 µm and less than 3 µm diameter.
2. Count only ends of fibers with a length-to-width ratio equal to or greater than 5:1.
3. Count each fiber end which falls within the graticule area as one end, provided that the fiber meets rules 1 and 2 above. Add split ends to the count as appropriate if the split fiber segment also meets the criteria of rules 1 and 2 above.
4. Count visibly free ends which meet rules 1 and 2 above when the fiber appears to be attached to another particle, regardless of the size of the other particle. Count the end of a fiber obscured by another particle if the particle covering the fiber end is less than 3 µm in diameter.
5. Count free ends of fibers emanating from large clumps and bundles up to a maximum of 10 ends (5 fibers), provided that each segment meets rules 1 and 2 above.
6. Count enough graticule fields to yield 200 ends. Count a minimum of 20 graticule fields. Stop at 100 graticule fields, regardless of count.
7. Divide total end count by 2 to yield fiber count.

APPENDIX E: EQUIVALENT LIMITS OF DETECTION AND QUANTITATION

Fiber density on filter* (Fibers per 100 fields)	Fiber density on filter* (Fibers /mm^2)	Fiber concentration in air, f/cc (400-L air sample)	Fiber concentration in air, f/cc (1000-L air sample)
200	255	0.25	0.10
100	127	0.125	0.05
LOQ 80	102	0.10	0.04
50	64	0.0625	0.025
25	32	0.03	0.0125
20	25	0.025	0.010
10	12.7	0.0125	0.005
8	10.2	0.010	0.004
LOD 5.5	7	0.00675	0.0027

*Assumes 385 mm^2 effective filter collection area, and field area = 0.00785 mm^2, for relatively "clean" (little particulate aside from fibers) filters

APPENDIX F: P&CAM 239 ASBESTOS FIBER IN AIR [17]

Analyte: Asbestos fibers

Matrix: Air

Procedure: Filter collection, microscopic count

Date Issued: 3/30/77

Method No.: P&CAM 239

Range: 0.1-60 fibers/cm^3

Precision (CV_T): 0.24 to 0.38

Classification: D (Operational)

1. **Principle of the Method**
   1.1. This method describes the equipment and procedures for collecting, mounting, and counting asbestos fibers on cellulose ester membrane filters in the evaluation of personal samples of airborne asbestos fibers. The purpose of the method is to determine an employee's index of exposure to airborne asbestos fibers. The method is primarily a personal monitoring technique, but can be used for area monitoring.
   1.2. The sample is collected by drawing air through a membrane filter by means of a battery powered personal sampling pump. The filter is transformed from an opaque solid membrane to a transparent optically homogeneous gel. The fibers are sized and counted using a phase-contrast microscope at 400-450X magnification.
   1.3. Definitions. Asbestos fiber, for counting purposes, means a particulate which has a physical dimension longer than 5 micrometers and with a length to diameter ratio of 3 to 1 or greater. Asbestos includes chrysotile, cummingtonite-grunerite (amosite), crocidolite, fibrous tremolite, fibrous anthophyllite, and fibrous actinolite.
   1.4. Any laboratory attempting to use this procedure should have at least one counter attend a training course conducted by an experienced, proficient laboratory. Novice, untutored counters, using only published instructions, can easily obtain counts of half those performed by experienced, proficient counters. Large differences between laboratories can be caused by: 1) differences in technique and observing ability among counters and 2) small, but significant, differences between microscopes meeting the basic specifications of Section 6.2. The following procedures are recommended:

1.4.1. All microscopists who perform asbestos counting should meet together for an "asbestos counting workshop" at least quarterly.· This is best accomplished with counters from several laboratories using their own microscopes.

1.4.2. Each microscopist should count the same series of slides and with the results being compared.

1.4.3. Differences between counters should be resolved with side-by-side counting of the fields by the different counters.

1.4.4. Individuals who are found to be persistent outliers over several sessions should be encouraged to seek other tasks in their respective laboratories.

2. **Range and Sensitivity**

2.1. The usable range is primarily a function of sample volume, microscope count field area, and background airborne particulates. The influence of these variables is discussed in 8.1.3. For a microscope count field area of 0.003 mm^2 (see Figure 1) and a pump flow rate of 1.7 lpm, the optimal fiber densities would be produced over the range of 0.4 fiber/cm^3 (8-hour sample) to about 60 fibers/cm^3 (15-minute sample). For a field area of 0.006 mm^2 (see Figure 2) and a pump flow rate of 1.7 lpm, the optimal range is 0.2 fiber/cm^3 (8-hour sample) to about 30 fibers/cm^3 (15-minute sample). In each case, the optimal detection limits are inversely proportional to pump flow rate. The upper detection limit can be extended by using sample times less than 15 minutes or using lower flow rates. The lower detection limit can be extended by increasing the flow rate up to about 2.5 lpm. Filter surface fiber densities less than optimal (less than about 0.5 to 1.0 fiber per count field) are still adequate, but will lead to decreased precision for the method (increased coefficient of variation, see Section 4). The minimum total fiber count in 100 fields considered adequate for reliable quantitation is 10 fibers. Thus, the lower limit of reliable quantitation is 0.1 fiber/cm^3 (100,000 fibers/m^3). For this level, a flow rate of about 2.5 lpm is recommended. For a field area of 0.003 mm^2 , the minimum sample time would be about 2 hours. For a field area of 0.006 mm^2, the minimum sample time would be about 1 hour.

2.2. This method considers only fibers with a length to diameter ratio of 3 to 1 or greater and a length greater than 5 micrometers.

3. **Interferences**

In an atmosphere known to contain asbestos, all particulates with a length to diameter ratio of 3 to 1 or greater, and a length greater than 5 micrometers should, in the absence of other information, be considered to be asbestos fibers and counted as such.

4. **Precision and Accuracy**

4.1. In the past decade, there have appeared a number of articles examining sources of variation in the asbestos sampling and counting procedure. These include: Lynch et al. (11.1), Weidner and Ayer (11.2), Conway and Holland (11.3), Leidel and Busch (11.4), Beckett and Attfield (11.5), and Rajhans and Bragg (11.6). The sources of variation will be discussed by stages in the membrane filter evaluation procedure.

4.2. **Sources of Variation in the Sampling Process.** These include variations in pump flow rate, proximity of the filter to the employee's body, and filter location (left to right) in the employee's breathing zone.

4.2.1. Section 9.1 requires that the personal sampling pump be calibrated with sufficient accuracy such that the 95% confidence limits on the flow rate are ±10%. This is equivalent to a coefficient of variation (CV) of about 5%. However, this CV makes a negligible contribution to the total CV for the method due to the relatively large CV of the counting procedure.

4.2.2. Conway and Holland (11.3) concluded that positioning of the filter cassette on the wearer (regarding the angular portions of the filter and their proximity to the wearer) is not a significant factor in determining the fiber distribution on filters.

4.2.3. Weidner and Ayer (11.2) concluded that there is no appreciable difference between samples collected on either the right or left sides of a breathing zone or between samples collected side-by-side, especially for samples with concentrations less than 2.5 fibers/cm^3.

4.3. **Sources of Variation in the Counting Procedure**

4.3.1. Random variations exist in the fiber distribution on a filter wedge (intra-wedge variability). The industrial hygiene literature has seen considerable debate in the last 20 years concerning whether or not the distribution of mineral dust or asbestos fibers on a filter surface is adequately described by a Poisson distribution probability density function. Leidel and Busch (11.4) found excellent agreement between empirical error variance and theoretical variance calculated from the assumption of Poisson distributed true counts. They concluded that there was not excessive variation among count fields for a filter wedge and that clumping of fibers (non-random coalescence) did not occur.

4.3.2. Variations exist in the fiber distribution on the total filter surface (inter-wedge variability) due to the random or non-random distribution of fibers across the total surface of the filter. This type of variation is easily confused with intra-wedge variations. The count procedure does not require counting of multiple sectors of the filter. There may be significant differences between average counts for different wedges, or the fiber distribution variations for the total filter surface may be greater than the variations of the Poisson distribution. If either of these occur experimentally, one must use the experimental variations to estimate the minimum precision of the count procedure. The minimum precision is governed by the variations of the fiber distribution on the total surface of the filter.

Conway and Holhind (11.3) concluded the distribution of fibers on filters is not uniform and, the distribution of fiber counts is more disperse than Poisson. For their filters which had significant variations in fiber concentrations between sectors (as much as 50-60% of the total filter mean), they described the following relation for the standard deviation of the total number of fibers counted on a wedge (N)

$$empirical\ s(N) = 1.6(N)^{1/2}$$

where N is about 100. The Poisson standard deviation would be:

$$Poisson\ \sigma\ (N) = (N)^{1/2}$$

Rajhans and Bragg (11.6) in Series I of their study found significant variation between filter segments and rejected the Poisson distribution for the total filter surface. However, in Series II of their study, utilizing various experimental modifications, they found no significant variation between filter segments and no reason to reject the assumption of Poisson distributed fiber counts.

4.3.3. Systematic variations due to differences between microscopes were studied by Leidel and Busch (11.4). In their study using five different brands of microscopes, they found no significant differences among four, but the fifth gave counts approximately 45% higher on the average than the other four.

4.3.4. Variations due to differences between counters should be examined at three levels: experienced counters occasionally counting, experienced counters routinely counting, and inexperienced (new or untutored) counters. Leidel and Busch (11.4) studied five experienced counters, with one counting only occasionally. There were no significant differences among three of the counters, but a fourth was 16% lower than the first three. The fifth, who occasionally counted, averaged 27% higher than the first three. Conway and Holland (11.3) studied three experienced counters and three inexperienced counters. They found statistically significant differences between the means of both the experienced and inexperienced counters that typically were in the range plus or minus 5 to 15%. They concluded that experience as a fiber counter is not a significant parameter affecting intercounter variations.

Rajhans and Bragg (11.6) found no significant differences among means of five experienced counters in Series I of their study. But in their carefully controlled Series II, an analysis of variance showed significant variations between counters that were plus or minus 1 to 15%.

4.3.5. Variations between laboratories are most likely due to systematic biases and are not a significant additional source of random variations. Any additional variations are most likely due to differences in counting technique. Beckett and Attfield (11.5) observed that standard

counters improved greatly after personal instruction; also new counters, after instruction, tended to overcompensate and get exceedingly high counts. Additionally, they found that counts from an experienced laboratory that had not had contact with other laboratories performing the same analysis were as far from the standard values as were the counts by new counters.

4.4. Sources of variations between samples taken at different times on one employee during one work shift can affect the exposure estimate for that employee. These are primarily due to a) differences in exposure concentrations during the day, b) differences in location of the employee within the plant, and c) differences in work operation performed by the employee during the day. These sources of variation can be controlled by proper choice of sampling strategy. Refer to Leidel and Busch (11.7) and Leidel, Busch, and Lynch (11.8) for an extended discussion of sampling strategies. Interday temporal variations can affect the exposure estimates obtained on different days. Refer to Leidel, Busch, and Crouse (11.9) for a discussion of this type of variation.

4.5. Until recently, the total coefficient of variation (CVT) for the sampling and counting procedure was best estimated from the work of Conway and Holland (11.3). The conclusions of their study included:

4.5.1. The precision of their procedure for filters not containing an abundance of fine fibers can be estimated by a coefficient of variation of 16.2%. This value includes variation among counters and observed interaction effects.

4.5.2. The accuracy of the procedure for similar filters may be estimated for a 100-fiber count by a coefficient of variation of 21.4%. This assumes that the contribution of the overall variance from the nonuniform fiber distribution is additive.

4.5.3. A high percentage of very fine fibers on the filter can significantly affect the standard deviation and confidence limits for counts by different counters. After combining variations in fiber concentrations over the entire filter with those for different counters, it was concluded:

a. For filters with a low concentration of fine fibers, the coefficient of variation is estimated at 21% and the 95% confidence interval is ±43%.

b. For filters with a high concentration of fine fibers, the coefficient of variation is estimated at 25% and the 95% confidence interval is ±50%.

Lynch, Kronoveter, and Leidel (11.1) have also reported on variations of the method. Their intralaboratory study utilized the data from a large number of dust counts made by different methods by experienced counters over a period of years in an epidemiologic study of the asbestos products industry. They concluded that the standard deviation of counts of fibers longer than 5 micrometers on membrane filters could be estimated from the relation $\sigma = (N)^{0.591}$. Thus for counts of about 100 fibers, the coefficient of variation could be estimated at about 15.2% and the 95% confidence limits at ±30.4%. These values are lower than the values reported by Conway and Holland (11.3).

Recently, the Johns-Manville Corporation conducted an in-house investigation of the asbestos count method. (11.10). The study data contained total fiber counts for over 100 filters with each filter counted by two to five counters. From the Johns-Manville data, NIOSH calculated over 100 estimates of the count CV for the method (11.11). The NIOSH CV estimates included random intrafilter variations and intercounter variations, but did not include random pump flow rate variations. It was found that the count coefficient of variation (all random variations except for pump variations) was a function of the total fiber count. NIOSH then included a CV of 0.05 for random pump variations (see Section 9.1) in the CV-estimator equation to obtain a CV_T-estimator. The CV_T-estimator line is plotted on Figure 3 for total fiber counts in the range 10 to 100 fibers. Or the following equation can be used: $CV_T = \left[antilog_{10}\left(-0.215 - 0.203(log_{10}FB)\right) + 0.0025\right]^2$ where FB is total fiber count as discussed in Section 10.

Figure 3 demonstrates that for a total fiber count of 100, the best CV_T is attainable with the appropriate sampling times given in 8.1.3 and the count rules in 8.3.9. When making

decisions regarding compliance with the OSHA asbestos exposure standards in 29 CFR 1910.1001, the statistical procedures given in Leidel et al. (11.11) should be followed. The procedures are based on statistical theory and assumptions given in References 11.12, 11.13.

Because of the possibility of systematic biases due to differences between microscopes, counters, and laboratories as discussed above, it is strongly recommended that any laboratory counting asbestos should participate in an interlaboratory quality control program that includes the counting of standard reference filters. These standard filters are available from NIOSH through the Proficiency Analytical Testing (PAT) Program. The PAT Program is used by the American Industrial Hygiene Association (AIHA) as part of its Laboratory Accreditation Program. Each laboratory's quality control program must include protocols for routinely adjusting, and calibrating sampling and counting equipment plus training and evaluation programs for counters.

5. **Advantages and Disadvantages of the Method**
   - 5.1. The method is intended to give an index of employee exposure to airborne asbestos fibers of specified dimensional characteristics.
   - 5.2. It is not meant to count all asbestos fibers in all size ranges or to differentiate asbestos from other fibrous particulates.
6. **Apparatus**
   - 6.1. Sampling Equipment

     The personal sampling equipment train consists of 1) personal sampling pump, 2) tubing, 3) clothing spring clip, 4) tubing-to-field monitor metal adaptor, and 5) field monitor (filter and holder).
     - 6.1.1. Personal Sampling Pump. The pump must be capable of sampling at 1.0 to 2.5 liters per minute (lpm) against a flow resistance of 7.5 inches of water (1.4 mm Hg) for 8 continuous hours on a fully charged battery.
     - 6.1.2. Tubing. Laboratory tubing such as rubber or plastic with 6-mm bore and about 100 cm length.
     - 6.1.3. Clothing Spring Clip. The clip attaches the rubber tubing to the lapel or shirt of the individual being monitored.
     - 6.1.4. Tubing-to-field Monitor Adaptor. A short metal adaptor with ridges on one end to grip the inside of the tubing. The other end is designed for a pressure fit into the field monitor.
     - 6.1.5. Field Monitor (Filter and Holder). The only field monitor currently considered acceptable by NIOSH is manufactured by the Millipore Corporation. The unit consists of 1) a three section styrene plastic case designated Millipore Aerosol Monitor Case, 2) a 37-mm diameter plain white cellulose ester membrane filter designated Millipore AA (pore size of 0.8 micrometer), 3) a support pad, and 4) two plastic sealing caps. If a large number of samples are to be taken, it may be less expensive to reuse the plastic cases. Great care must be taken in the cleaning and reassembly process. The outside mating surfaces of the field monitors may be covered with a "shrink-fit" band to provide proper sealing and a writing surface for filter identification.
   - 6.2. **Optical Equipment and Microscope Features**
     - 6.2.1. Microscope body with binocular head.
     - 6.2.2. 10X Huygenian eyepieces are recommended. Other eyepieces can be substituted if necessary. Wide field eyepieces can be used; however, wide field eyepieces may yield a count field area less than 0.003 mm^2 with the Porton reticle. This is not always desirable from the standpoint of obtaining optimum sampling times (see Section 8.1.3). If wide field eyepieces are used, it is preferable to use the Patterson Globe and Circle reticle to obtain a larger count field area.
     - 6.2.3. Koehler illumination (preferably built- in with provisions for adjusting light intensity).
     - 6.2.4. A Porton reticle is recommended. Others such as the Patterson Globe and Circle can be substituted.
     - 6.2.5. Mechanical stage.

6.2.6. Phase-Contrast condenser with a numerical aperture (N.A.) equal to or greater than the N.A. of the objective.
6.2.7. 40-45X phase contrast achromatic objective (N.A. 0.65 to 0.75).
6.2.8. Phase-ring centering telescope or Bertrand lens.
6.2.9. Green or blue filter, if recommended by microscope manufacturer.
6.2.10. Stage micrometer with 0.01 mm subdivisions.
6.2.11. For general guidance on phase contrast microscopy, consult Needham (11.12), Clark (11.15) and McCrone (11.14).

6.3. **Filter Mounting Equipment.** Experience has shown that certain equipment is useful for efficient sample mounting. The following items are recommended for extracting and mounting a portion of the filter for counting.
6.3.1. Microscope slides. 2.5 by 7.5 cm glass slides are most commonly used. Sample number, data, initials, etc., can be conveniently written on a frosted end slide.
6.3.2. Cover Slips. Cover slips are a necessary part of the slide mount and optical system. The shape should be appropriate for the size of the filter wedge. The appropriate cover slip depends upon the objective to be used. Ordinarily, objectives are optically corrected for a #1½ (0.17 millimeter) thickness cover slip. Improper cover glass thickness will detract from the final image quality.
6.3.3. Scalpel. A scalpel is needed to cut out a portion of the filter to be examined. A number-ten curved blade scalpel is recommended.
6.3.4. Tweezers. A pair of fine-tipped tweezers is used to remove the membrane filter slice from the field monitor and place it upon the slide.
6.3.5. Lens Tissue. To insure cleanliness, a lint-free tissue is recommended. This tissue should also be used for wiping mounting tools and for cleaning slides and cover slips.
6.3.6. Glass Rod. A fire-polished glass rod may be used to spread the mounting solution on the slide.
6.3.7. Wheaton Balsam Bottle. This special glass container has a glass top which prevents contamination of the mounting solution. A glass rod is included for dispensing the solution.

7. **Reagents**

Chemicals should be reagent grade, free from particles and color, conforming to the specifications of the Committee on Analytical Reagents of the American Chemical Society, where such specifications are available.

7.1. Dimethyl phthalate
7.2. Diethyl oxalate

Avoid getting the mounting solution on the skin. Wash skin promptly with soap and water if skin contact occurs.

8. **Procedure**

8.1. **Sampling**

8.1.1. General Information

Guidelines for the monitoring of employee exposures to industrial atmospheres are given in Reference 11.8. The Federal requirements for monitoring employee exposure to airborne asbestos are found in 29 CFR 1910.1001.

8.1.2. Mounting the Sampling Pump on the Worker

Fasten the sampling pump to the worker's belt and fasten the field monitor to the lapel or .shirt front (as close to the breathing zone as is practical). Remove the top cover of the plastic monitor, then invert the monitor making certain the exposed filter is facing downward. Turn the pump on and adjust to the calibrated flow rate (1.0 to 2.5 lpm). Record the following information in a logbook.

a. Filter number
b. Pump start time and date
c. Flow rate
d. Subject's name and job title

e. Type of operation or process
f. Ventilation controls and is the worker wearing a respirator approved for asbestos?

The pump should be checked periodically during the sampling period for proper operation and flow rate.

8.1.3. Optimum Sampling Times

The requirement for the minimum count of 100 fibers or 20 fields in 8. 3. 9 was determined to be the best compromise to achieve adequate precision for the airborne fiber estimate and reasonable counting times. An optimum fiber density of about 1 to 5 fibers per microscope count field is recommended. To estimate appropriate sampling times for feasible counting and optimal counting, one must consider the following constraints:

a. microscope count field area (generally 0.003 to 0.006 mm^2)
b. pump flow rate (typically 2.5 lpm maximum)
c. average airborne fiber concentrations
d. counting rule range of 20 to 100 fields
e. adequate fiber density to obtain a minimum count of 10 fibers in 100 fields, which is the least total fiber count that yields an acceptable count precision
f. background airborne particulate levels that can reduce the count precision due to an obscuring of fibers on the filter surface

The preceding constraints were considered in drawing Figures 1 and 2. These figures were developed from the following relationship:

$$sampling\ time = \frac{\left(\frac{FB}{FL}\right)\left(\frac{ECA}{MFA}\right)}{(FR)(AC)(1000)} minutes$$

where:

FB/FL = 1 to 5 fibers/field
ECA = effective collecting area of filters (855 mm^2 for 37-mm fiilter with effective diameter of 33 mm)
MFA = microscope field area (generally 0.003 to 0.006 mm^2)
FR = Pump flow rate (generally 1.0 to 2.5 lpm)
AC = Air concentration of fibers in fibers/cm^3 .

Figure 1 (microscope field area = 0.003 mm^2) and Figure 2 (microscope field area = 0.006 mm^2) show optimum and feasible sampling times for a pump flow rate of 1.7 lpm. Each individual responsible for sampling asbestos should prepare a similar chart for his particular pump flow rate and microscope field area before sampling is performed to aid in estimating proper sampling times. On Figures 1 and 2, the areas with solid shading lines are generally the optimum conditions for counting. The broken shading lines are for conditions very close to optimal.

However, feasible counting conditions may extend down to about 0.1 fiber/field and above 5 fibers/field. Recommended sampling times are most strongly influenced by background airborne particulate levels, once all the other constraints have been estimated. For heavy particulate levels, it may be necessary to limit each filter to about 60 to 180 minutes sampling duration. Each individual responsible for sampling should work closely with the microscopist to attain as high as possible filter surface fiber densities (up to about 5 fibers/field), while avoiding filter surface background particulate levels that create very difficult or impossible counting conditions. If one has very little idea of airborne fiber and particulate levels, the best procedure is to take several long samples (as. one 8-hour or two consecutive 4-hour samples) in conjunction with several short samples (as four consecutive 2-hour or eight consecutive 1-hour samples). If the longer samples prove very difficult to count, the microscopist will have the shorter samples to fall back on.

From Figures 1 and 2, it can be seen that there are certain sampling times which will yield optimum fiber densities on the filter for almost all airborne fiber concentrations from 1 to 10 fibers/cm^3. These optimum times have been calculated and are presented in Figure 4. Note

that the optimum times given by Figure 4 are approximate and can be varied by as much as ±25%. The nomogram is intended as a guide to be used where no prior knowledge of the air concentration is available.

8.1.4. End of Sampling Period

Remove the field monitor, replace the plastic top cover and the small end caps, and store the monitor. Always shut off the pump when changing monitors to avoid contaminating or damaging the pump. Record the pump shutoff time and flow rate in the logbook.

8.1.5. Blanks

With each batch (25 to 50 filters) of samples sent for analysis, submit two unopened field monitors which have been subjected to the same treatment as the samples except that they were not exposed to the sampling environment. Label these as blanks. If the blanks yield fiber counts greater than 5 fibers/ 100 fields, then the entire sampling procedure should be examined carefully for the cause of contamination. The mounting solution of Section 8.2.1 should also be examined for contamination and/ or crystal growth.

8.1.6. Shipping

The field monitors in which the samples are collected should be shipped in a rigid container with sufficient packing material to prevent crushing.

8.1.7. Numbers of Samples

When sampling for the Federal ceiling standard of 10 fibers (>5 µm)/cm^3, [29 CFR 1910-.1001(b)(3), effective July 7, 1972], only one sample (15 minutes maximum duration) is necessary, theoretically. However, several samples should be taken during expected periods of peak air concentrations to allow for detection of gross sampling or counting errors.

When sampling for determination of noncompliance with the Federal 8-hour TWA standard of 2 fibers (>5 µm)/cm^3, [29 CFR 1910.100l(b) (2)], one should continuously sample as large a portion of the work day as is feasible for airborne concentrations of about 2 to 10 fibers/cm^3. However, for a lower airborne concentration such as 0.5 fiber/cm^3, one sample might require 4 to 8 hours sampling time in order to get the proper filter fiber density (Section 8.1.3). For this situation, the 8-hour TWA exposure would be determined from one 8-hour or two 4-hour samples as appropriate.

8.2. **Sample Preparation**

8.2.1. Preparation of Mounting Solution

A very important part of the sample evaluation is the mounting process. This process involves a special mounting medium of prescribed viscosity. The proper viscosity is important in order to expedite filter dissolving and still minimize particle migration. After the sample has been mounted, an elapsed time of approximately sixty minutes is needed before the sample is ready for evaluation.

Combine the dimethyl phthalate and diethyl oxalate in a one to one ratio by volume and pour into a Wheaton balsam bottle. Add approximately 0.05 (±0.005) grams of new membrane filter per milliliter of solution to reach the necessary viscosity. The mixture must be stirred periodically until the-filters have dissolved and a homogeneous mixture is formed. The normal shelf life of the mounting solution is about three months. Twenty milliliters of mounting solution will prepare approximately 300 samples.

8.2.2. Sample Mounting

Cleanliness is important! A dirty working area may result in sample contamination and erroneous counts. The following steps should be followed when mounting a sample.

a. Clean the slides and cover slips with lens tissue. Lay each slide down on a clean surface with the frosted end up. It is a good practice to rest one edge of the cover slip on the slide and the other edge on the working surface. By doing this, you keep the bottom surface (the one which contacts the filter) from becoming contaminated.

b. Wipe all the mounting tools clean with lens tissue and place them on a clean surface (such as lens tissue). All tools should be wiped clean prior to mounting each sample.

c. Using the glass rod supplied with the Wheaton balsam bottle, apply a drop of mounting solution onto the center of the slide. It may be necessary to adjust the quantity of solution so that after the cover slip has been placed on top, the solution extends only slightly beyond the filter boundary. If the quantity is greater than this, particle migration may occur.

d. Using another glass rod, spread the mounting media into a triangular shape. The size of this triangle should coincide with the dimension of the filter wedge.

e. Separate the middle and bottom sections of the field monitor case to expose the filter. Cut a triangular wedge from the center to the edge of the filter using .the scalpel. The size of the wedge should approximate one-eighth of the filter surface. The filter can be very carefully removed from the cassette for cutting, but this should only be done with great care.

f. Grasp the filter wedge with the tweezers on the perimeter of the filter which was clamped between the monitor case sections. Do not touch the filter with your fingers. Place the wedge, **sample side up**, upon the mounting medium.

g. Pick up a clean cover slip with tweezers and carefully place it on the filter wedge. Once this contact has been made, **do not reposition the cover slip**.

h. Label the slide with the sample number and current date before proceeding to the next filter: On the bottom (backside) of the slide, trace the perimeter of the filter wedge with a felt tip marking pen. This will ·enable the counter, after the filter has become transparent, to stay within the filter perimeter when counting.

i. The sample should become transparent within fifteen minutes. If the filter appears cloudy, it may be necessary to press very lightly on the cover slip. This is rarely necessary; however, counting should not be started until an hour after the mounting. This allows the microscopic texture of the filter to become invisible to microscope viewing.

j. Discard the sample mount after two days if it has not been counted. Crystals appearing similar to asbestos fibers may begin to grow at the mounting media/air interfaces. They seldom present any problems if the slide is examined before two days. In any case, stay away from the filter's edges when counting and sizing.

8.3. **Counting of Fibers**

8.3.1. Place the slide on the mechanical stage of the microscope and position the center of the wedge under the objective lens and focus upon the sample. Start counting from one end of the wedge and progress along a radial line to the other end (count in either direction from perimeter to wedge tip). Random fields are selected, without looking into the eyepieces, by slightly advancing· the slide in one direction with the mechanical stage control.

8.3.2. It is essential to continually scan over a range of focal planes (generally the upper 10 to 15 micrometers of the filter surface) with the fine focus control during each field count. This is especially necessary for asbestos fibers due to their impaction into the filter matrix.

8.3.3. On most airborne samples, asbestos fibers will generally have fiber diameters less than one micrometer. Therefore, it is necessary to look carefully for faint fiber images.

8.3.4. Regularly check phase ring alignment.

8.3.5. When an agglomerate (mass of material) covers a significant portion of the field of view (approx 1/6 or greater)--reject the field and select another. (Do not include it in the number of fields counted.) However, report the fact as it may have meaning on other data collection.

8.3.6. Bundles of fibers are counted as one fiber unless both ends of the fiber can be clearly resolved.

8.3.7. Count only fibers with a length to width ratio greater than or equal to 3:1.

8.3.8. Count only fibers greater than 5 micrometers in length. (Be as accurate as possible in accepting fibers near this length.) Measure curved fibers along the curve to estimate the total length.

8.3.9. Count as many fields as necessary to yield a total count of at least 100 fibers. Exceptions: a) count at least 20 fields even if you count more than 100 fibers, and b) stop at 100 fields even if you haven't reached 100 fibers.

8.3.10. For fibers that cross either one or two sides of the counting field, the following procedure is used to obtain a representative count.
COUNT any fiber greater than 5 micrometers in length that lies entirely within the counting area. COUNT as "1/2 fiber" any fiber with only one end lying within the counting area. DO NOT COUNT any fiber crossing any two sides.
Reject and do not count all other fibers. Refer to Figures 5 through 10. Note that the fibers in Figures 5 through 10 **are not representative** of the appearance of most asbestos fibers. Most fibers have a very faint image.

9. **Calibration and Standards**

9.1. Sampling Train Calibration
The accurate calibration of the sampling pump is essential to the correct calculation of the air volume sampled. The frequency of calibration is dependent on the use, care, and handling to which the pump is subjected. Pumps must be recalibrated if they have just been repaired, misused, or received from the manufacturer. If the pump receives hard usage, more frequent calibration may be necessary. Ordinarily, pumps should be calibrated in the laboratory both before they are used in the field and after they have been used to collect a large number of field samples.
The accuracy of calibration is dependent upon the type of instrument used as a reference. The choice of a calibration instrument will depend largely on where the calibration is performed. For laboratory testing, a 1-liter buret used as a soap bubble flow meter or wet-test meter is recommended. Other standard calibrating instruments, such as a spirometer, Marriott's bottle, or dry gas meter can be used. The calibration should be of sufficient precision that the 95% confidence limits on the flow rate are ±10% (95% of the flow rates will fall within ±10% of the calibrated value). Instructions for calibration with the soap bubble flow meter follow. The sampling train used (pump, hose, filter cassette) in the pump calibration should be the same as the one used in the field.

9.1.1. Check the voltage of the pump battery with a voltmeter both with the pump off and while it is operating to assure adequate voltage for calibration. If necessary, charge the battery to manufacturer's specifications.

9.1.2. Fill a beaker with 10 ml of soap solution.

9.1.3. Connect the filter cassette inlet to the top of the buret with a length of hose.

9.1.4. Turn the pump on and moisten the inside of the soap bubble meter by immersing the open end of the buret into the soap solution and drawing bubbles up the inside of the buret. Perform this task until the bubbles are able to travel the entire length of the buret without breaking.

9.1.5. Adjust the pump rotameter to provide a flow between 1.5 to 2.5 lpm.

9.1.6. With a water manometer, check that the pressure drop across the filter is less than 13 inches of water (about 1 inch of mercury).

9.1.7. Start a soap bubble up the buret and measure the time it takes for the bubble to travel a minimum volume of 1 liter.

9.1.8. Repeat the procedure in 9 .1. 7 at least three times, average the results, and calculate the calibrated flowrate by dividing the volume traveled by the soap bubble by the elapsed time. If the range between the highest and lowest of the three flow rates is greater than about 0.33 lpm, then the calibration should be repeated since it is likely that the precision is not adequate.

9.1.9. Data required for the calibration include the volume measured, elapsed time, pressure drop, air temperature, atmospheric pressure (or elevation), pump serial number, date, and name of person performing the calibration.

9.1.10. Corrections to the flow rate for pumps with rotameters may be necessary if the pressure (elevation) or temperature where the samples are collected (actual flow rate) differs significantly from that where the calibration was performed (indicated flow rate). Actual flow rates at time of sampling may be calculated for a linear scale rotameter by using the following correction formula:

$$Q_{actual} = Q_{indicated}\sqrt{\left(\frac{P_{cal}}{P_{actual}}\right) * \left(\frac{T_{actual}}{T_{cal}}\right)}$$

where both pressure (P) and temperature (T) are in absolute units such as:

psia = psig + 14.7
deg Rankin = deg Fahrenheit + 460
deg Kelvin = deg Celsius + 273

9.2. **Microscope Setup**

9.2.1. Porton Reticle and the Counting Field

The asbestos fiber count procedure consists of comparing fiber length to the diameters of calibrated circles of a Porton reticle, and counting all fibers greater than 5 micrometers in length lying within a given counting field area. The Porton reticle is a glass plate inscribed with a series of circles and rectangles. The left half of the reticle is divided into six rectangles constituting the counting field. The counting field is illustrated in Figures 5 through 10.

9.2.2. Placement in Eyepiece

The Porton reticle is placed inside the Huygenian eyepiece where it rests on the field limiting diaphragm. If other types of eyepieces are used, it may be necessary to insert a counting collar for retaining the reticle. The reticle should always be kept clean, since dirt on the reticle is in focus and could complicate the counting and sizing process.

9.2.3. Stage Micrometer

The Porton reticle cannot be used for counting until it has been properly calibrated with a stage micrometer. Most stage micrometer scales are approximately two millimeters long and are divided into units of one-hundredth of a millimeter (ten micrometers).

9.2.4. Microscope Adjustment

When adjusting the microscope, follow the manufacturer's instructions while observing the following guidelines.

a. The light source image must be in focus and centered on the condenser iris or annular diaphragm.
b. The particulate material to be examined must be in focus.
c. The illuminator field iris must be in focus, centered on the sample, and opened only to the point where the field of view is illuminated.
d. The phase rings (annular diaphragm and phase-shifting elements) must be concentric.

9.2.5. Porton Reticle Calibration Procedure

Each eyepiece-objective-reticle combination on the microscope must be calibrated. Should any of the three be changed (disassembly, replacement, zoom adjustment, etc.), the combination must be recalibrated. Calibration may change if interpupillary distance is changed. For proper calibration, the following procedure should be followed closely.
With a 10X objective in place, place the stage micrometer on the mechanical stage, focus the millimeter scale, and center the image. Change to the 40-45X objective and adjust the first millimeter scale division to coincide with the left boundary of the Porton rectangle. Measure the distance between the left and extreme right boundaries of the Porton rectangle, estimating any portion of the final division. This measurement represents 200 L units. The rectangle is 100 L units on the short vertical dimension. The calculated "L" is inserted into the formula $D = L(2^N)^{1/2}$ where "N" is the circle number (indicated on the reticle) and "D" is the circle diameter. Since the circle diameters vary logarithmically, every other circle doubles in diameter. For example, circle number three is twice the diameter of number one; number four is twice the diameter of number two. When the circle sizes have been determined, the counting field area which consists of the left six smaller rectangles can be calculated from the relation 10,000 L^2. This completes the reticle calibration for this specific objective-eyepiece-reticle combination.

Example for Porton Reticle

The following calibration was obtained for a pair of 10X Huygenian eyepieces and a 43X objective:

200 L = 0.148 mm = 148 micrometers

100 L = 0.074 mm = 74 micrometers

One L-unit = 0.74 micrometers

Thus Circle #1 has a diameter D = $L(2^N)^{1/2} = 0.74(2^1)^{1/2} = 0.74\ (1.414) = 1.05$ micrometers.

Then our circle diameter calibration table looks like:

Diameter of Circle #1 = 1.05 micrometers

#2 = 1.48

#3 = 2.09

#4 = 2.96

#5 = 4.19

#6 = 5.92

Field area = (10,000) (L^2) = (100 L) (100 L) = (0.074) (0.074) = 0.0055 mm^2

Thus fibers with a length greater than a distance halfway between the diameters of the #5 and #6 circles would be counted.

If a Patterson Globe and Circle reticle is used, a different calculation procedure is required. The circle diameters are related as follows. The #25 circle diameter is (0.1) (reticle length).

The circle diameters are proportional to the ratio of their numbers. Thus the #20 circle diameter is (20/25) or·0.8 times the #25 circle diameter.

10. **Calculations**

10.1. The average airborne asbestos fiber concentration estimated by the filter sample may be calculated from the following formula:

$$AC = \frac{\left(\left(\frac{FB}{FL}\right) - \left(\frac{BFB}{BFL}\right)\right)(ECA)}{(1000)(FR)(T)(MFA)}$$

where:·

AC = Airborne fiber concentration in (fibers >5 µm)/cm^3.

BFB = Total number of fibers counted in the BFL fiels of the blank or control filters in fibers >5 µm.

BFL = Total number of fields counted on the blank or control filters.

ECA = Effective collecting area of filter (855 mm^2 for a 37-mm filter with effective diameter of 33 mm).

FR = Pump flow rate in liters/min (lpm).

FB = Total number of fibers counted in the FL fields in fibers >5 µm.

FL = Total number of fields counted on the filter.

MFA = Microscope count field area in mm^2 (generally 0.003 to 0.006).

T = Sample collection time in minutes.

10.2. Recount criteria. It is very desirable for a counter to conduct a "blind recount" for about 1 in every 10 filter wedges (slides) counted. Alternatively, a second counter could perform the blind recount. In training sessions for novice counters, the trainee should conduct a blind recount for filter wedges counted by an experienced, proficient counter. In all cases, we will observe differences between the first and second counts of the same filter wedge. Most of these differences will be due to chance alone, that is, due to the random variability (precision) of the count method. Statistical recount criteria enable us to decide whether observed differences can reasonably be explained due to chance alone or are probably due to systematic differences between counters or microscopes or due to some other biasing factor.

The following recount criterion is for a pair of counts that estimate some airborne fiber concentration (AC) in fibers/cm^3. The criterion is given at the type-1 error level. That is, there is a 5% maximum risk that we will reject a pair of counts for the reason that one might be biased, when the large observed difference is really due to chance.

Reject a pair of counts because one might be biased if:

$$(AC_2 - AC_1)\ exceeds\ 2.77(\overline{AC})(CV_{FB})$$

where:

AC_1 = lower estimated airborne fiber concentration

AC_2 = higher estimated airborne fiber concentration

$\overline{AC}$ = average of the two airborne concentration estimates

CV_{FB} = average CV for the two concentration estimates which are a function of the total fiber count (FB) in each case. Use the relation in Section 4 or Figure 3.

For a pair of counts on the same filter, reject the pair because one might be biased if:

$$(FB_2 - FB_1)\ exceeds\ 2.77(\overline{FB})(CV_{\overline{FB}})$$

where:

FB_1 = lower fiber count on the filter (total fibers)

FB_2 = higher fiber count on the filter (total fibers)

$\overline{FB}$ = average of the two total fiber counts

$CV_{\overline{FB}}$ = CV_T for the value FB. Use the relation in Section 4 or Figure 3.

11. **References**

11.1. Lynch, J. R., K. J. Kronoveter, and N. A. Leidel, "Validity of the Poisson Distribution in Dust Counting", unpublished.

11.2. Weidner, R. B. and H. E. Ayer, "Dust Exposure in Asbestos Processing", Transactions of the American Conference of Governmental Industrial Hygienists, May 1972, pp. 103-121, San Francisco, California.

11.3. Conway, R. E. and W. D. Holland, "Statistical Evaluation of the Procedure for Counting Asbestos Fibers on Membrane Filters", LFE Corporation, Richmond, California. Prepared for the Asbestos on Membrane Assoc/North America, New York, 1973.

11.4. Leidel, N. A. and K. A. Busch, "An Evaluation of Phase Contrast Microscopes for Asbestos Counting", presented at the 1974 American Industrial Hygiene Conference, Miami Beach, Florida, May 18, 1974, unpublished.

11.5. Beckett, S.T. and M.D. Attfield, "Inter-Laboratory Comparison of the Counting of Asbestos Fibers Sampled on Membrane Filters", Ann Occup Hyg 17:85-96, 1974.

11.6. Rajhans, G. S. and G. M. Bragg, "A Statistical Analysis of Asbestos Fiber Counting in the Laboratory and Industrial Environment", Am Ind Hyg Assoc J 36(12):909-915, 1975.

11.7. Leidel, N. A. and K. A. Busch, "Statistical Methods for the Determination of Noncompliance with Occupational Health Standards", NIOSH Technical Publication 75-159, 1975.

11.8. Leidel, N. A., K. A. Busch, and J. R. Lynch, "Occupational Exposure Sampling Strategy Manual", NIOSH Technical Publication 77-173, 1977.

11.9. Leidel, N. A.; K. A. Busch, and W. E. Crouse, "Exposure Measurement Action Level and Occupational Environmental Variability", NIOSH Technical Publication 76-131, 1975.

11.10. Comments of the Johns-Manville Corporation with Respect to the Notice of Proposed Rulemaking: Occupational Exposure to Asbestos, Federal Register, October 9, 1975. Submitted to the public record at the U. S. Department of Labor, Occupational Safety and Health Administration, April 1976.

11.11. Leidel, N. A., S. G. Bayer, R. D. Zumwalde, and K. A. Busch, USPHS/NIOSH Membrane Filter Method for Evaluating Airborne Asbestos Fibers, to be published by NIOSH in 1977.

11.12. Needham, G. H., The Practical Use of the Microscope, Charles C. Thomas Publishing Corporation, Springfield, Illinois, 1958.

11.13. Clark, G. L., The Encyclopedia of Microscopy, Rheinhold Publishing Corporation, New York, 1961.

11.14. McCrone, W. C. and J. G. Delly, I. The Particle Atlas, Edition Two, Ann Arbor Science Publishers, Inc., Ann Arbor, Michigan, 1973.

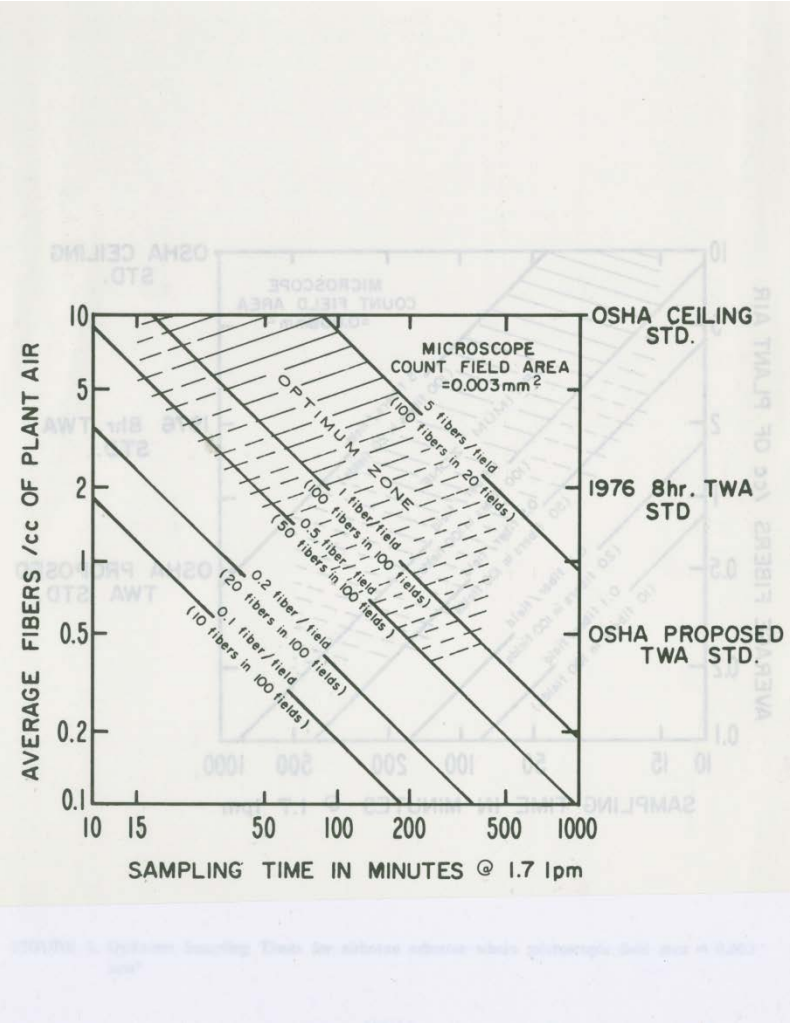


Figure 1 Optimum Sampling Times for airborne asbestos where microscopic field area = 0.003 mm²

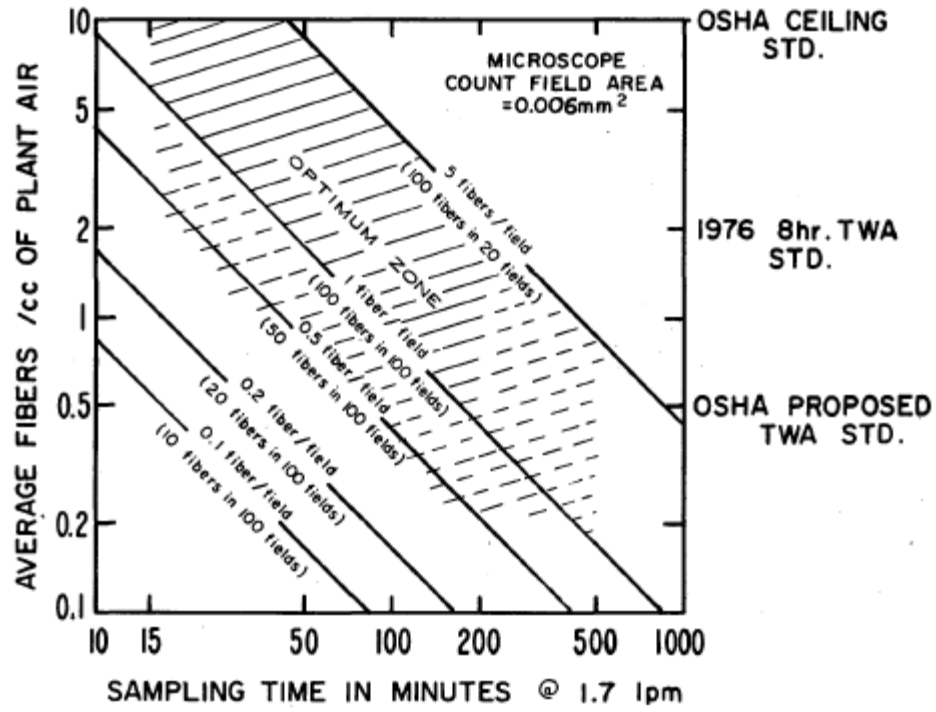


Figure 2 Optimum sampling times for airborne asbestos where microscopic field area = 0.006 mm²

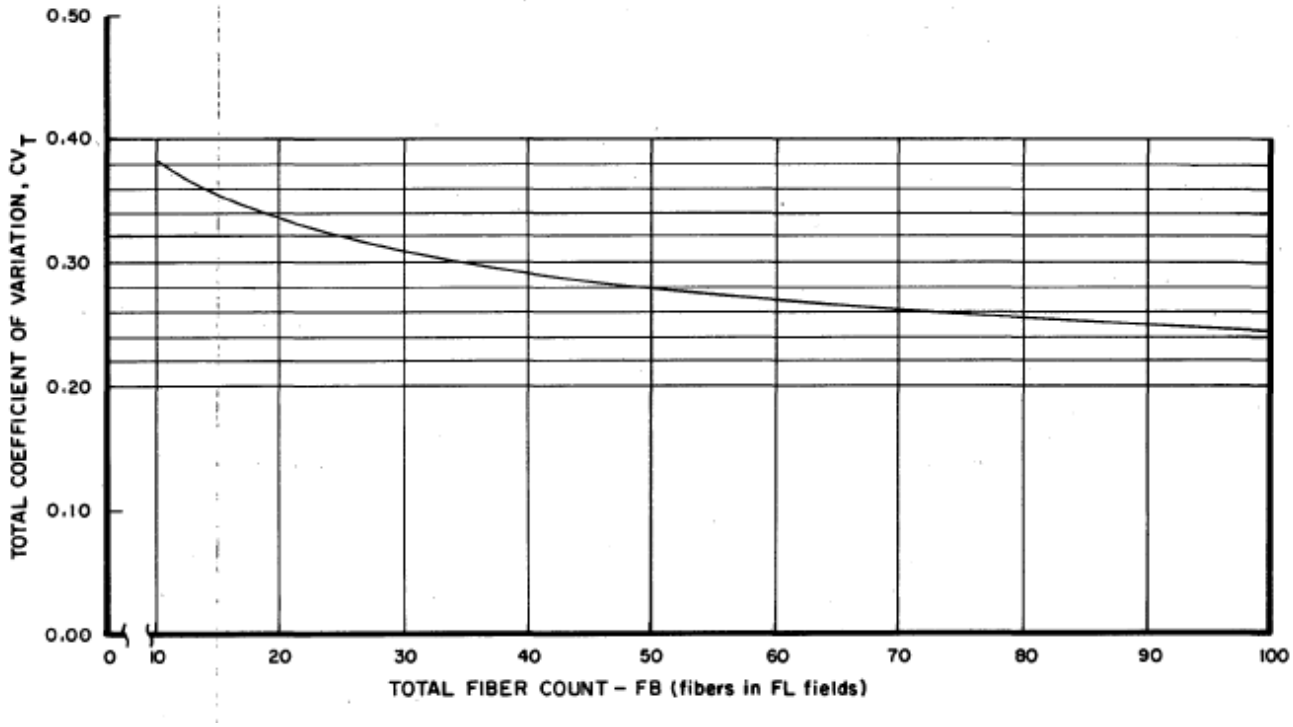


Figure 3 Total coefficient of variation as a function of total fiber count

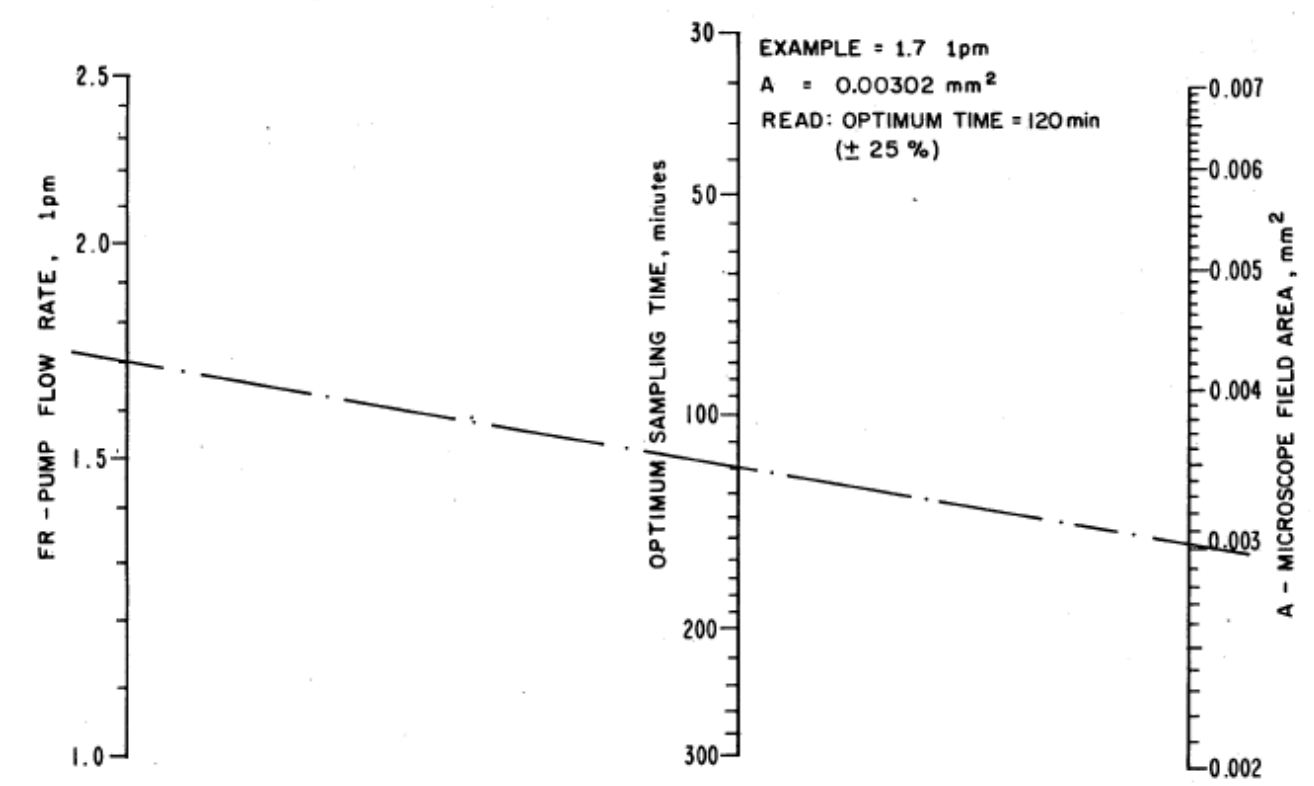


Figure 4 Nomogram of optimum sampling times for airborne asbestos fibers in concentrations of 1 to 10 fibers/cm³

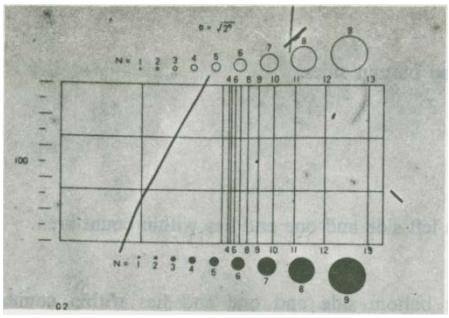


Figure 5 DO NOT COUNT. Fiber crosses top and bottom sides.

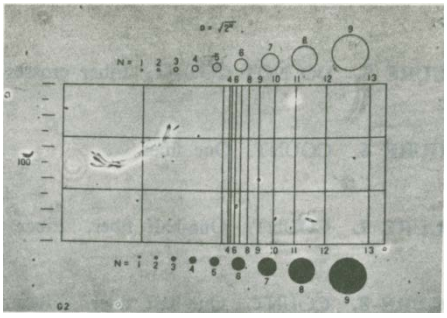


Figure 6 COUNT. One fiber.

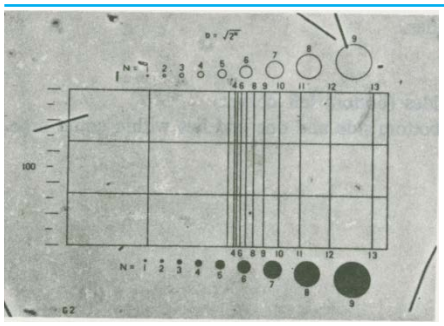


Figure 7 COUNT. One-half fiber. Fiber crosses left side and one end lies within the count area.

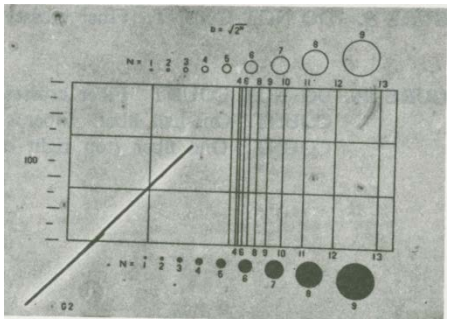


Figure 8 COUNT. One-half fiber. Fiber crosses bottom side and one end lies within count area.

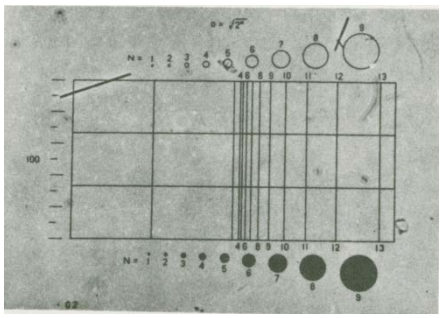


Figure 9 DO NOT COUNT. Fiber crosses two sides.

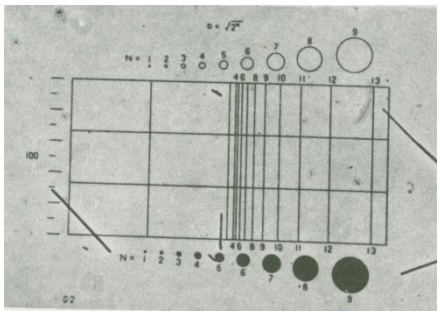


Figure 10 DO NOT COUNT. Fiber crosses two sides (bottom left corner). COUNT. One-half fiber. Fiber crosses bottom side and one end lies within count area. COUNT. One fiber (top right corner).

Schneider Laboratories Global, Inc.
Standard Operating Procedure for Acid Digestion of Solid Samples for Metals Analysis (FLAA, GFAA, ICP) using EPA Method 3050B

Uncontrolled When Printed

Reviewed by: _____
Department Manager

Approved by: _____
QA/QC Department

Approved by: _____
Laboratory/Technical Director

Standard Operating Procedure for Acid Digestion of Solid Samples for Metals Analysis (FLAA, GFAA, ICP) using EPA Method 3050B

1. Scope and Application

1.1. This method includes two different digestion procedures, one for the preparation of sediments, soils, sludge, wipes, paints and other solid waste (bulk) samples for analysis by flame atomic absorption (FLAA) spectroscopy or inductively coupled plasma optical emission spectroscopy (ICP-OES) and one for the preparation of sediments, soils, sludge, and other solid waste (bulk) samples for analysis by graphite furnace atomic absorption (GFAA).

NOTE: The digestates from these two procedures are NOT interchangeable and should only be used with the analytical determination outlined in this method.

1.2. This method is not a total digestion technique for most samples. It is a very strong acid digestion that will dissolve almost all elements that could become "environmentally available". By design, elements bound in silicate structures are not normally dissolved by this procedure as they are not usually mobile in the environment.

1.3. Samples prepared by the method may be analyzed for the following:

FLAA/ICP-OES		GFAA
Aluminum	Manganese	Antimony
Antimony	Magnesium	Arsenic
Arsenic	Molybdenum	Beryllium
Barium	Nickel	Cadmium
Beryllium	Potassium	Chromium
Boron	Selenium	Copper
Cadmium	Silver	Lead
Calcium	Sodium	Silver
Chromium	Thallium	Thallium
Cobalt	Tin	
Copper	Titanium	
Iron	Vanadium	
Lead	Zinc	

2. Summary of Method

2.1. A representative 0.3 g paint subsample, 0.5 g bulk subsample or a 1.0 g soil subsample is digested with repeated additions of nitric acid and hydrogen peroxide.

Uncontrolled When Printed

2.2. For GFAA analysis, the resultant digestate is reduced in volume while heating and then diluted with DI water to a final volume of 50 mL.

2.3. For ICP-OES or FLAA analyses, hydrochloric acid (HCl) is added to the initial digestate and the sample is refluxed. The sample is then brought to a final volume of 50 mL.

3. Definitions

3.1. Reagent Blank (RB) – Laboratory grade reagents which are carried through the entire analytical procedure. The reagent blank is used to define the level of laboratory background and reagent contamination.

3.2. Matrix Blank (MB) - A matrix blank is performed with each batch of wipe, soil or paint samples. A matrix blank consists of a blank wipe, soil or paint which is carried through the entire preparation and analytical process. The matrix blank is used to define the level of contamination within the sample matrix.

3.3. Matrix Spike (MS) – A sample is prepared by adding a known amount of target analyte to a specified amount of the sample. Matrix spikes are used to determine the effect of the sample preparation on analyte recovery and the effect of matrix interference.

3.4. Duplicate (D) – A duplicate sample that is carried through the entire preparation and analytical process to determine the precision of the analytical method.

3.5. Laboratory Control Sample (LCS) - These are Certified Reference Material standards that are carried through the entire analytical procedure. An LCS also serves as a means of verifying the capability or accuracy of the entire analytical process. For wipe samples the LCS takes the place of the Matrix Spike and is prepared by adding a known quantity of CRM material to a blank wipe and then carried through the entire preparation and analytical procedure.

3.6. Laboratory Control Sample Duplicate (LCSD) - This is a second aliquot of Certified Reference Material standard that is carried through the entire analytical procedure. It is used to check laboratory and instrument performance by determining the precision of the analytical method. For wipe samples the LCSD takes the place of the Duplicate and is prepared by adding a known quantity of CRM material to a blank wipe and then carried through the entire preparation and analytical procedure.

Uncontrolled When Printed

3.7. Certified Reference Material (CRM) - A reference material having one or more property values that are certified by a technically valid procedure, accompanied by or traceable to a certificate or other documentation that is issued by a certifying authority.

3.8. RLV spike or Reporting Limit Verification spike – The RLV spike is a quality system matrix spiked sample prepared to have a concentration at the desired reporting limit and taken through the entire preparation and analytical process. The RLV is prepared daily for lead analysis for wipes, paints, and soils.

4. Interferences

4.1. Sludge samples can contain diverse matrix types, each of which may present its analytical challenge. Spiked samples and any relevant standard reference material should be processed in accordance with the quality control requirements listed in this method to aid in determining whether this method is applicable to a given waste.

4.2. Reagents, glassware, and other sample processing hardware may yield artifacts and/or interferences to sample analysis. All of these materials must be demonstrated to be free from interferences under the conditions of the analysis by analyzing reagent or method blanks.

4.3. Analyses of reagent blanks provide information about the presence of contaminants.

4.4. Contamination by carryover can occur whenever high-level and low-level samples are sequentially digested and analyzed. After the analysis of sample(s) containing high concentration(s) of analyte(s), sufficient rinse time should follow the analysis on the instrument.

5. Safety

This SOP does not address all safety issues associated with its use. The laboratory is responsible for maintain a safe work environment and a current awareness file of OSHA regulations regarding the safe handling of the chemicals included in this method. A reference file of material data safety sheets (MSDS) is available to all personnel involved in these analyses.

5.1. The preparation of all standards, reagents, and glassware procedures that involve acids will be conducted in a fume hood with the sash closed as far as the operations will permit.

Uncontrolled When Printed

5.2. Gloves, goggles, or face shield must be used when employees are using acids to rinse or clean glassware.

5.3. Work areas should be isolated and posted with signs. Glassware and tools should be segregated.

5.4. Exposure of chemicals will be maintained so it is as low as reasonable possible. All samples should be opened, transferred, and prepared in a fume hood, or under other means of ventilation.

5.5. The acidification of samples containing reactive materials may result in the release of toxic gases, such as cyanides or sulfides. For this reason, the acidification and digestion of samples should be performed in a fume hood.

5.6. Waste containers must be kept closed unless transfers are being made.

5.7. In the event of a known or potential problem with the safety or health of an individual working in the laboratory, all work must be stopped. The situation must be reported to a laboratory supervisor or the laboratory manager immediately.

6. Apparatus and Materials

6.1. Analytical balance, capable of weighing to 0.001 g.

6.2. Drying oven – capable of drying at approximately 100°C.

6.3. Centrifuge tubes, plastic 50mL, with caps.

6.4. Erlenmeyer Flasks, glass, 125 mL

6.5. Hot blocks: adjustable and can maintain the samples at a temperature of 95° $\pm$ 5° C.

6.6. Syringes, plastic, disposable, 20mL

6.7. Filters for syringes, plastic, disposable, 25 mm, 1.5 µm glass fiber

7. Reagents and Standards

7.1. Deionized water: water should be monitored for impurities

Uncontrolled When Printed

7.2. Concentrated nitric acid: reagent grade HNO_3: acid should be analyzed to determine levels of impurities. If the method blank is <RL, the acid can be used.

7.3. Concentrated hydrochloric acid; reagent grade, HCL: acid should be analyzed to determine levels of impurities. If the method blank is <RL, the acid can be used.

7.4. Hydrogen peroxide (30%) reagent grade; H_2O_2, oxidant should be analyzed to determine levels of impurities. If the method blank is <RL, the peroxide can be used.

7.5. 50% (v/v) nitric acid solution: Mix 1 part concentrated nitric acid with 1 part deionized water.

7.6. Wipe samples should be stored at room temperature upon receipt and digested within 180 days of sample collection.

7.7. Examine the paperwork for necessary client information regarding processing and reporting of the samples and record the area of the wiped surface in square feet. If standard, write 1 ft^2 in column. If area is given in inches, calculate the square feet. Example: 12" x 3" sampled = 36 sq. inches; 36/144 = 0.25 $feet^2$. Always divide sample area in sq. inches by 144 to get square feet. [1 foot = 12 inches; 1 $foot^2$ = 144 $inches^2$]. This may be selectable as a standard unit of measurement in the data management program.

7.8. Dimensions given in cm or cm^2 must be converted to inches or $inches^2$ before they are converted to square feet. [1 inch = 2.54 cm; 1 $inch^2$ = 6.45 cm^2; 1 $foot^2$ = 929.03 cm^2]. This may be selectable as a standard unit of measurement in the data management program.

8. Sample Collection, Preservation, and Handling

8.1. SLGi does not collect samples on behalf of its clients. It is the responsibility of the client to provide a representative sample.

8.2. All sample containers must be prewashed with detergents, acids, and deionized water, or purchased as certified clean. Plastic and glass containers are both suitable.

8.3. Samples may be crushed and ground to reduce subsample variability. Wet samples may be dried if requested by the customer.

8.4. Non-aqueous samples also requesting organic analysis should be refrigerated at 4°C ± 2°C upon receipt and analyzed as soon as possible.

Uncontrolled When Printed

8.5. Samples must be digested and analyzed within 180 days of sample collection.

9. Procedure

9.1 **Procedure for soil, bulk and paint:** Mix the sample thoroughly to achieve homogeneity prior to subsampling. For each digestion procedure, weigh to the nearest 0.001g into a 50mL centrifuge tube a 0.300g to 0.350g portion of the paint sample, 0.500g to 0.550g of bulk sample and 1.000g to 1.150g portion of the soil sample. When a sample weighs less than method recommendations, a disclaimer is added to customer report.

Note: If the client request that a soil sample be dried, a small portion of the sample is dried in the drying oven at 100 ± 5ºC. Drying time varies from sample to sample, but the normal drying time is 30 minutes. When the sample is dried a note code is placed on the final report stating that the sample was dried prior to subsampling.

9.2. **For Paint-CM procedure**, weigh entire sample received and if sample weighs too much, transfer into a 150ml flask and digest on HOTPLATE.

9.3. **Procedure for TTLC samples**: Mix the sample thoroughly to achieve homogeneity. Weigh to the nearest 0.001g into a 150mL Beaker, 5.000g to 5.150g portion of the bulk sample, and digest samples using the HOTPLATE

9.4. **Quarantined samples:** Samples will be marked with Quarantined descriptions on them. Weigh total weight and weight needed for prep. Record information in assigned book and prep samples using assigned utensils different from utensils used for non-quarantined samples. Store samples in assigned container for autoclaving.

9.5. Label one sample with the SLGi sample ID. Label the matrix spike sample as the "SLGi sample ID-spike" (i.e. 12345-spike) and the duplicate sample as "SLGi sample ID-DUP" (i.e. 12345-DUP). Record the weight of each on the worksheet.

9.6. Matrix Spikes

9.6.1. For FAAS analysis, spike the matrix spike sample by adding 100 µl of 1000 µg/ml standard into a 50mL tube. The spike increases the value of the un-spiked native sample by 2 µg/mL.

9.6.2. For GFAA analysis, prepare an MS by spiking with 500 µL of 1µg/mL multi-elemental standard into a lead free matrix blank in a 50mL tube to give

Uncontrolled When Printed

a 10 µg/L spike concentration of lead in the MS. Other metals being analyzed via GFAA may be spiked at a different level, refer to the GFAA SOP for additional preparations.

9.6.3. For ICP analysis, prepare an MS by spiking with 500 µL of 100µg/mL multi-elemental standard into a lead free matrix blank and dilute with water in a 50 mL tube to give a 1.0µg/mL spike concentration of multi analytes in the MS.

9.7. Prepare a laboratory matrix blank (MB) for each batch of 20 wipes or 19 paints, bulks or soil samples using a known Lead-free matrix blank.

9.8. Prepare a laboratory control spike (LCS) sample and laboratory control spike duplicate (LCSD) for each batch:

9.8.1 For the analysis of lead by FAA Analysis, prepare an LCS/LCSD by weighing a known amount of a CRM material into a lead-free matrix blank.

9.8.1.1. Soils – 24 mg of Soil CRM
9.8.1.2. Paints – 48-49 mg of Paint CRM
9.8.1.3. Wipes – 24-25 mg of Soil CRM

9.8.2 For multi-metal GFAA analysis, prepare an LCS/LCSD by spiking with 500 µL of 1µg/mL multi-elemental standard into a matrix blank in a 50mL tube to give a 10ug/L final concentration of lead in the LCS/LCSD. Other metals being analyzed via GFAA may be spiked at a different level, refer to the GFAA SOP for additional preparations.

9.8.3 For multi-metal ICP analysis, prepare an LCS/LCSD by spiking with 500 µL of 100µg/mL multi-elemental standard into a matrix blank and dilute with water in a 50 mL tube to give a 1.0µg/mL final concentration of multi analytes in the LCS/LCSD. All analyses for lead that fall under the ELLAP program analyzed by ICP must use a solid CRM.

9.9. <u>Procedure for Wipes</u>

9.9.1 Wipe samples received in plastic bags, are transferred to a centrifuge tube using forceps.

9.9.2 Wipe samples received in centrifuge tubes will be digested in the plastic centrifuge tubes they are received in. Do not transfer to another vessel unless the sample is a bulky, non-standard wipe. Bulky, non-standard wipes must be digested in a glass flask on a hotplate.

Uncontrolled When Printed

9.9.3 Lab Control Spike (LCS/LCSD) samples are prepared at a rate of 1 per 20 wipe samples and carried throughout the entire sample preparation and analytical process. For wipe samples the LCS takes the place of the Matrix Spike and the LCSD takes place of the duplicate. LCS acceptance is ± 20% Recovery. LCS/LCSD duplicate acceptance is ± 20% RPD.

9.9.3.1 Prepare an LCS/LCSD by weighing 25 mg of a soil CRM material into a wipe blank and take through the entire preparation and analysis process.

9.9.4 If the sample must be digested using the HOTPLATE method, make a clearly written notation on the paperwork. (e.g., "Hotplate – large wipes = 25 mL final volume). These wipes will be on a tray separate from block wipes and will need standard hotplate QC.

9.9.5 Composite wipe (comp-wipes) and baby wipe samples will generally not be digested using the BLOCK procedure. There is no change in procedure for comp-wipes.

Note: Composite wipe testing does not fall under Schneider Laboratories Global AIHA program and the following disclaimer is put on the report for composite wipe analysis:

"Analyzed as a single wipe per client request. Analysis not recognized under our AIHA accreditation."

9.10 Digestion of Samples

9.10.1 For the digestion of paint, soil and bulk samples matrices including GFAA samples, GFAA samples utilize trace nitric acid for the digestion and FAA and ICP can utilize either trace or reagent Nitric Acid:

9.10.1.1 Add 5 mL of 1:1 nitric acid, mix the slurry, and cover the centrifuge tube with a refluxing cap. Place the sample in the hot block, heat the sample to 95ºC ± 5ºC, and reflux for 15 minutes WITHOUT boiling.

9.10.1.2 Add 3mL of concentrated nitric acid.

9.10.1.3 Heat the sample to 95ºC ± 5ºC, and reflux for 15 minutes without boiling. Maintain a covering solution over the bottom of the vessel at all times. Do not allow the sample to go to dryness.

Uncontrolled When Printed

9.10.1.4 Add 2mL of deionized water and 2mL of 30% H_2O_2. Care must be taken to ensure that losses do not occur due to vigorous effervescence. Heat at 95ºC ± 5ºC until effervescence subsides for about 15 minutes without boiling.

9.10.1.5 If needed, add additional portions of 30% H_2O_2 until the general sample appearance is unchanged.

NOTE: Do not add more than a total of 5mL 30% H_2O_2.

9.10.1.6 The sample is now ready for GFAA analysis. After cooling, dilute the sample to 50mL with deionized water. For FLAA or ICP-OES analysis continue below.

9.10.1.7 Remove particulates in the digestate for GFAA analysis with filtration.

9.10.1.8 For the analysis of samples for FLAA or ICP-OES: Add a small squirt of DI water and then 5mL of concentrated HCL to the sample digest from Section 9.10.4/9.10.5. Reflux at 95ºC ± 5ºC without boiling for 15 minutes.

9.10.1.9 After cooling dilute the sample to 50 mL with deionized water.

9.10.1.10 Remove particulates in the digestate with filtration. The sample is now ready for FLAA or ICP-OES analysis.

9.10.2 For the digestion of wipe samples matrices, GFAA samples do not utilized HCl to protect the instrument from advanced deterioration:

9.10.2.1 Add 10 mL DI Water, 2 mL HNO3 and 2 mL HCL. Cover the centrifuge tube with a refluxing cap.

9.10.2.2 Place the sample in the hot block, heat the sample to 95ºC ± 5ºC, and reflux for 45 minutes WITHOUT boiling.

9.10.2.3 Remove from hot block and allow to cool for approximately 10 minutes.

9.10.2.4 After cooling, dilute the sample to 25mL with deionized water.

Uncontrolled When Printed

9.10.2.5 Remove particulates in the digestate with filtration. The sample is now ready for analysis.

9.11 **Wipe Sample Digestion by Hot Plate** (for thick wipes, composite wipes, or dirty wipes):

9.11.1 Using forceps transfer the wipe into a pre-labeled 125 ml flask.

9.11.2 There is a separate digestion logbook for the HOTPLATE. Keeping the hot plate process entirely separate will help provide reliable documentation of solution volume.

Note: For dirty wipes samples that cannot be prepared in centrifuge tubes, add at least 10 mL of deionized water to the flask. Add additional portions of deionized water as needed. Some wipes may require 20-30 mL of deionized water depending on how thick the wipe is and to prevent the vessel from going to dryness. This will prevent foaming or bubbling of the sample. Follow the same digestion procedure as above in 9.10.2.

10. Quality Control

10.1 Blank Analyses

10.1.1 Matrix Blank - For each analytical batch of 19 paint, soil or bulk sample or 20 wipe or paint-cm samples a matrix matched blank is carried throughout the entire sample preparation and analytical process.

10.1.2 Reagent Blank - For every analytical batch of 19 paint, soil or bulk sample or 20 wipe or paint-cm samples a reagent blank is prepared by having an empty centrifuge tube or Erlenmeyer flask in the sample tray. The Reagent Blank has the same reagents as a sample and is taken through the entire process.

10.1.3 If the blank is less than the lower level of quantitation or less than 10% of the lowest sample concentration for the analyte, whichever is greater, then the blank would be considered acceptable. If the blank cannot be considered acceptable, the blank should be re-run once and if still unacceptable then all samples after the last acceptable method blank must be reprepped and reanalyzed along with the other appropriate batch QC samples. These blanks will be useful in determining if samples are being contaminated.

10.2 Duplicate samples should be processed on a routine basis. A duplicate sample is a

Uncontrolled When Printed

sample brought through the whole sample preparation and analytical process. A duplicate sample will be processed with each analytical batch or every 19 samples. Duplicate acceptance is ± 20% RPD.

10.3 Matrix Spiked (MS) samples are employed to determine accuracy. A spiked sample is included with each batch of samples processed and whenever a new sample matrix is being analyzed. A spiked sample will be processed with each analytical batch or every 19 samples. Matrix spiked sample acceptance is ± 25% Recovery. See Section 9.6.

10.4 Lab Control Spike (LCS/LCSD) samples are prepared at a rate of 1 per 20 (wipe or paint-cm) samples or 19 (paint, soil or bulk) and carried throughout the entire sample preparation and analytical process. For wipe samples the LCS takes the place of the Matrix Spike and the LCSD takes place of the duplicate. LCS acceptance is ± 20% Recovery. LCS/LCSD duplicate acceptance is ± 20% RPD. See Section 9.8.

10.5 Reporting Limit Verification Spike (RLV) – Every day a lead RLV spike must be digested for each ELLAP matrix: Paint, Wipe, and Soil. The spike is prepared at the low-level concentration and undergoes the entire preparation and analytical procedure. The acceptance range for the RLV is 80 – 120% Recovery.

10.5.1 Soil – Blank soil is spiked with 100 µL of 100 ppm stock lead standard, digested and brought to 50 mL final volume.

10.5.2 Paint – Blank paint is spiked with 100 µL of 100 ppm stock lead standard, digested and brought to 50 mL final volume.

10.5.3 Wipe - Blank wipe is spiked with 50 µL of 100 ppm stock lead standard, digested and brought to 25 mL final volume.

11 Method Performance

11.1. The above method is a modification of the EPA 3050B method on which it is based, although much of the text of this SOP is verbatim.

11.2. The method with its modifications has been used for all samples of the applicable matrix at SLGi and has been verified with quality control samples, both in-house and those which are part of nationally-recognized proficiency testing programs.

12 Data Analysis and Calculations

Uncontrolled When Printed

12.1. The quantitative values must be reported in the appropriate units of milligrams per kilogram (mg/kg) for solid, paint and soil and ug/ft^2 for wipes.

12.2. If dilutions were performed, the appropriate corrections must be applied to the sample values.

12.3. Results must be reported in units commensurate with their intended use and all dilutions must be taken into account when computing final results.

13 Calibration and Standardization

13.1. See specific analysis SOPs for the calibration and standardization information.

14 Pollution Prevention

14.1. Pollution prevention encompasses any technique that reduces or eliminates the quantity and/or toxicity of waste at the point of generation. Numerous opportunities exist for pollution prevention in the laboratory.

14.2. Standards should be prepared in volumes consistent with laboratory use to minimize the volume of expired standards to be disposed of. The threat to the environment from solvents and/or reagents used in this method may be minimized when recycled or disposed of properly.

15. Waste Management

15.1 All waste will be disposed in accordance with all Federal, State, and local regulations governing waste management, particularly the hazardous waste identification rules and land disposal restrictions, and to protect the air, water, and land by minimizing and controlling all releases from fume hoods and bench operations. Compliance with all sewage discharge permits and regulations is also required. The storage and disposal of hazardous waste is further detailed in SLGi SOP AD-019.

15.2 For further information on waste management, consult "The Waste Management Manual for Laboratory Personnel," and "Less is Better: Laboratory Chemical Management for Waste Reduction," both available from the American Chemical Society's Department of Government Relations and Science Policy, 1155 16th Street N.W., Washington, D.C. 20036.

16 Handling Non-Conformance Data

Uncontrolled When Printed

16.1 Refer to Table 3: Corrective action flowchart for Non-Conformance handling information.

17 References

17.1. EPA SW 846 3050B: Acid Digestion of Sediments, Sludges, and Soils, Revision 2, December 1996

Uncontrolled When Printed

Table 3: Corrective Action Flowchart

Sample Type	Test Result	Condition	Corrective Action	Note
Reagent/Matrix Blank (RB/MB)	Blank Reading> Reporting Limit (RL)	Samples are non-detect for that analyte.	Note on internal tracking sheet. No action is taken.	NA
		Samples are positive for that analyte.	Note on internal tracking sheet and notify QA dept.	If the sample is a soil, paint, bulk, or aqueous sample and there is more sample left, re-extraction of the batch is needed. Air and wipe samples are consumed during extraction. In this case, notify QA dept. Disclaimer is placed on report for any failing QC
Laboratory Control Sample / Laboratory Control Sample Duplicate (LCS/LCSD)	LCS > Upper Limit	Samples are non-detect for that analyte.	Note on internal tracking sheet. No action is taken. Note what the %R is on the internal tracking sheet.	NA
		Samples are positive for that analyte.	Note on internal tracking sheet. Notify QA dept. Note what the %R is on internal tracking sheet. Re-extract samples if possible as noted in next column.	If the sample is a soil, paint, bulk, or aqueous sample and there is more sample left, re-extraction of the batch is needed Air and wipe samples are consumed during extraction. In this case, notify QA dept. Report the batch that has passing QC. If both batches fail, notify QA dept. QA dept will decide what to do. Disclaimer is placed on report for any failing QC
	LCS < Lower Limit	Samples are non-detect for that analyte	Note on internal tracking sheet. Notify QA dept. Note what the %R is on the internal tracking sheet. Re-extract samples if possible as noted in next column.	If the sample is a soil, paint, bulk, or aqueous sample and there is more sample left, re-extraction of the batch is needed. Since there is no more wipe or air sample, re-extraction cannot occur so notify QA dept. Report the batch that has passing QC. If both batches fail, notify QA dept. QA dept will decide what to do. Disclaimer is placed on report for any failing QC
		Samples are positive for that analyte.		
Matrix Spike (MS) and MS Duplicate (MSD)	MS/MSD > or < QC Limit	Samples are positive or non-detect for that analyte.	Note on internal tracking sheet. If the MS/MSD is unacceptable, notify QA dept or follow table as listed above for LCS/QC Samples.	Disclaimer is placed on report containing the failing MS/MSD.
Duplicate Sample (D) (If used)	%RSD > Upper Limit	Samples are positive or non-detect for that analyte.	Note on internal tracking sheet. Notify QA dept	Disclaimer is placed on report containing the failing duplicate.

Uncontrolled When Printed

Revision Page

11/21/2023 (23-001)

Revised:

Samples prepared by the method may be analyzed for the following:

FLAA/ICP-OES		GFAA
Aluminum	Manganese	Antimony
Antimony	Magnesium	Arsenic
Arsenic	Molybdenum	Beryllium
Barium	Nickel	Cadmium
Beryllium	Potassium	Chromium
Boron	Selenium	Copper
Cadmium	Silver	Lead
Calcium	Sodium	Nickel
Chromium	Thallium	Manganese
Cobalt	Tin	Selenium
Copper	Titanium	Silver
Iron	Vanadium	
Lead	Zinc	

Revision:

Samples prepared by the method may be analyzed for the following:

FLAA/ICP-OES		GFAA
Aluminum	Manganese	Antimony
Antimony	Magnesium	Arsenic
Arsenic	Molybdenum	Beryllium
Barium	Nickel	Cadmium
Beryllium	Potassium	Chromium
Boron	Selenium	Copper
Cadmium	Silver	Lead
Calcium	Sodium	Silver
Chromium	Thallium	Thallium
Cobalt	Tin	
Copper	Titanium	
Iron	Vanadium	
Lead	Zinc	

Revised:

3.8. RLV spike or Reporting Limit Verification spike – The RLV spike is a quality system matrix spiked sample prepared to have a concentration at the desired reporting limit and taken through the entire preparation and analytical process. The RLV is prepared daily for lead analysis for wipes, paints, soils and airs.

Revision:

3.8. RLV spike or Reporting Limit Verification spike – The RLV spike is a quality system matrix spiked sample prepared to have a concentration at the desired reporting limit and taken through the entire preparation and analytical process. The RLV is prepared daily for lead analysis for wipes, paints, and soils.

Uncontrolled When Printed

Revised:

9.6.2. For GFAA analysis, prepare an MS by spiking with 500 µl of 1µg/ml multi-elemental standard into a lead free matrix blank in a 50ml tube to give a 10ug/l spike concentration of lead in the MS.

Revision:

9.6.2. For GFAA analysis, prepare an MS by spiking with 500 µL of 1µg/mL multi-elemental standard into a lead free matrix blank in a 50mL tube to give a 10 µg/L spike concentration of lead in the MS. Other metals being analyzed via GFAA may be spiked at a different level, refer to the GFAA SOP for additional preparations.

Revised:

9.7. Prepare a laboratory matrix blank (MB) for each batch of 20 wipes or 19 paints or soil samples using a known Lead-free matrix blank.

Revision:

9.7. Prepare a laboratory matrix blank (MB) for each batch of 20 wipes or 19 paints, bulks or soil samples using a known Lead-free matrix blank.

Revised:

9.8.2 For multi-metal GFAA analysis, prepare an LCS/LCSD by spiking with 500 µl of 1µg/ml multi-elemental standard into a matrix blank in a 50ml tube to give a 10ug/l final concentration of lead in the LCS/LCSD.

Revision:

9.8.2 For multi-metal GFAA analysis, prepare an LCS/LCSD by spiking with 500 µL of 1µg/mL multi-elemental standard into a matrix blank in a 50mL tube to give a 10ug/L final concentration of lead in the LCS/LCSD. Other metals being analyzed via GFAA may be spiked at a different level, refer to the GFAA SOP for additional preparations.

Revised:

9.10.1 For the digestion of paint, soil and bulk samples matrices including GFAA samples

Revision:

9.10.1 For the digestion of paint, soil and bulk samples matrices including GFAA samples, GFAA samples utilize trace nitric acid for the digestion and FAA and ICP can utilize either trace or reagent Nitric Acid:

Revised:

9.10.1.1 Add 5 ml of 1:1 nitric acid, mix the slurry, and cover the centrifuge tube with a refluxing cap. Place the sample in the hot block, heat the sample to 95oC ± 5oC, and reflux for 10-15 minutes WITHOUT boiling.

Revision:

9.10.1.1 Add 5 mL of 1:1 nitric acid, mix the slurry, and cover the centrifuge tube with a refluxing cap. Place the sample in the hot block, heat the sample to 95oC ± 5oC, and reflux for 15 minutes WITHOUT boiling.

Revised:

9.10.1.3 Heat the sample to 95oC ± 5oC, and reflux for 10-15 minutes without boiling. Maintain a covering solution over the bottom of the vessel at all times. Do not allow the sample to go to dryness.

Uncontrolled When Printed

Revision:

9.10.1.3 Heat the sample to 95oC ± 5oC, and reflux for 15 minutes without boiling. Maintain a covering solution over the bottom of the vessel at all times. Do not allow the sample to go to dryness.

Revised:

9.11.2 There is a separate digestion logbook for the HOTPLATE. Keeping the hot plate process entirely separate will help provide reliable documentation of solution volume.

Note: For dirty wipes samples that cannot be prepared in centrifuge tubes, add at least 10 ml of deionized water to the flask. Add additional portions of deionized water as needed. Some wipes may require 20-30 ml of deionized water depending on how thick the wipe is. This will prevent foaming or bubbling of the sample. Follow the same digestion procedure as above in 9.10.2.

Revision:

9.11.2 There is a separate digestion logbook for the HOTPLATE. Keeping the hot plate process entirely separate will help provide reliable documentation of solution volume.

Note: For dirty wipes samples that cannot be prepared in centrifuge tubes, add at least 10 mL of deionized water to the flask. Add additional portions of deionized water as needed. Some wipes may require 20-30 mL of deionized water depending on how thick the wipe is and to prevent the vessel from going to dryness. This will prevent foaming or bubbling of the sample. Follow the same digestion procedure as above in 9.10.2.

Revised:

10.1.1 Matrix Blank - For each analytical batch is carried throughout the entire sample preparation and analytical process.

Revision:

10.1.1 Matrix Blank - For each analytical batch of 19 paint, soil or bulk sample or 20 wipe or paint-cm samples a matrix matched blank is carried throughout the entire sample preparation and analytical process.

Revised:

10.5 Reporting Limit Verification Spike (RLV) – Every day a lead RLV spike must be digested for each ELLAP matrix: Paint, Wipe, Soil and Air. The spike is prepared at the low level concentration and undergoes the entire preparation and analytical procedure. The acceptance range for the RLV is 80 – 120% Recovery.

Revision:

10.5 Reporting Limit Verification Spike (RLV) – Every day a lead RLV spike must be digested for each ELLAP matrix: Paint, Wipe, and Soil. The spike is prepared at the low-level concentration and undergoes the entire preparation and analytical procedure. The acceptance range for the RLV is 80 – 120% Recovery.

Uncontrolled When Printed

REVISION TABLE

Revision #	Date	Revised By	Revision
23-001	11/25/2022	Taro Mandokoro/ Jennifer Lee	Updated section 1.3 to remove GFAA analytes no longer tested for Updated section 3.8 to remove Air reference Updated section 9.6.2 updated to refer to GFAA SOP for MS spiking protocol Updated section 9.7 to add that bulks are batches of 19 Updated section 9.8.2 updated to refer to GFAA SOP for LCS/LCSD spiking protocol Updated section 9.10.1 to refer that GFAA samples utilize Trace nitric acid and ICP/FAA can use either Trace or reagent nitric acid Updated section 9.10.1.1 to update time of reflux from 10-15 to 15 Updated section 9.10.1.3 to update time of reflux from 10-15 to 15 Updated section 9.11.2 to add that addition water needs to be added to prevent dryness Updated section 10.1.1 to update that MB are matrix matched to samples Updated section 10.5 to remove the reference to Air
22-001	11/25/2022	Davis Bailey/ Jennifer Lee	No revisions necessary
21-001	12/20/21	Jennifer Lee	Updated watermark
20-002	11/23/2020	Irma Faszewski	Updated chart in section 1.1 to show correct list of metals. Updated section 4.1 to remove note about going to a specific section number. Updated section 9.3 to reference use of a beaker rather than flask for TTLC analysis. Updated section 9.4 removing note about weighing quarantine samples to be autoclaved since it is a calculation. Updated 9.9.1.3 to show correct weight of wipe RLV. Updated 9.9.2 byu removing note about AIHA lead samples. Updated section 9.9.3 to better document use of solid CRM for ICP RLVs for ELLAP lead program. Updated section 9.10.1.6 to remove section number and state below. Added reference to paint-cm to section 10.1.2 Removed whichever is greater note in section 10.2 and 10.3 Added reference to paint-cm to section 10.4.
20-001	1/3/2020	Irma Faszewski	Changed process for wipe preparation in order to meet AIHA and NNLAP requirements for wipe analysis.
19-002	10/3/2019	Irma Faszewski	Corrected section 17.1 with correct reference method revision # & Date. No process changes.
19-001	09/06/2019	Irma Faszewski	Updated Section 9.8.1.3 to document range of Soil CRM weighed for wipes.

Uncontrolled When Printed

Schneider Laboratories Global, Inc.
Standard Operating Procedure for
Analysis by Flame Atomic Absorption Spectrophotometry

Uncontrolled When Printed

Reviewed by: _____
Department Manager

Approved by: _____
QA/QC Department

Approved by: _____
Laboratory/Technical Director

Schneider Laboratories Global, Inc.
Standard Operating Procedure for
Analysis by Flame Atomic Absorption Spectrophotometry

Uncontrolled When Printed

1. Scope and Application

1.1. This method describes basic instructions for proper instrument set-up, maintenance, and calibration of Flame Atomic Absorption Spectrophotometer for use in the analysis of lead by EPA 7000 and NIOSH 7082.

1.2. Atomic absorption (AA) is the process that occurs when a ground state atom absorbs energy in the form of light of a specific wavelength and is elevated to an excited state. The amount of light energy absorbed at this wavelength will increase as the number of atoms of the selected element in the light path increases. The relationship between the amount of light absorbed and the concentration of analyte present in known standards can be used to determine unknown concentrations by measuring the amount of light the unknown concentrations absorb.

1.3. The Flame AA is an instrument for atomic absorption. The instrument contains a primary light source (a hollow cathode lamp (HCL)), an atom source, a monochromator to isolate the specific wavelength of light to be used, a detector to measure the light accurately, electronics to treat the signal, and a data display. A sample containing desired analyte is introduced as an aerosol into a flame via a burner and nebulizer. The flame burner head is aligned so that the light beam passes through the flame, where the light is absorbed by desired atom.

2. Summary of Method

2.1. Routine use of the Flame AA requires the following basic steps: powering up instrument, adjustments and checks, calibration, sample analysis, shut-down, calculations, and maintenance.

2.2. The LOQ for the analysis of lead by FLAA is based on a low calibration standard of 0.20 mg/L which leads to a LOQ of 0.20 mg/L for aqueous samples, 10.0 µg for soil, bulk and paint samples (50 mL final volume), 5.0 µg for wipe samples (25 mL final volume) and 2.0 µg for air samples (10 mL final volume).

3. Definitions

3.1. Reagent Blank (RB) – Laboratory grade reagents which are carried through the entire analytical procedure. The reagent blank is used to define the level of reagent contamination.

3.2. Method Blank (MB) - A method blank is performed with each batch of samples. A method blank consists of a blank matrix which is carried through the entire preparation and analytical process. The method blank is used to define the level of contamination within the sample matrix.

3.3. Matrix Spike (MS) – A sample is prepared by adding a known amount of target analyte to a specified amount of the sample. Matrix spikes are used to determine the effect of the sample preparation on analyte recovery and the effect of matrix interference. If too little sample is submitted then a note is put on the report.

3.4. Duplicate (Dup) – A duplicate sample carried through the entire preparation and analytical process to determine the precision of the analytical method. If too little sample is submitted then a note is put on the report.

3.5. Laboratory Control Sample (LCS) - These are Certified Reference Material standards that are carried through the entire analytical procedure. An LCS also serves as a means of verifying the capability or accuracy of the entire analytical process.

3.6. Laboratory Control Sample Duplicate (LCSD): This is a second aliquot of Certified Reference Material standard that is carried through the entire analytical procedure. It is used to check laboratory and instrument performance by determining the precision of the analytical method. The LCSD takes place of the MS and MSD for air and wipe samples.

3.7. Certified Reference Material (CRM) - A reference material having one or more property values that are certified by a technically valid procedure, accompanied by or traceable to a certificate or other documentation that is issued by a certifying authority.

3.8. RLV- The RLV or reporting limit verification is a spiked blank matrix run thru the entire preparation and analysis procedure on a daily basis.

3.9. ICV or Initial Calibration Verification – The ICV is a second source standard measured to verify the calibration of the instrument in question.

3.10. CCV or Continuing Calibration Verification – The CCV is a quality measure to ensure the instrument remains in calibration before, after, and during analysis of sample(s).

3.11. LLCCV (Low Limit Continuing Calibration Verification) – The LLCCV is a second standard measurement to verify the reporting limit of the instrument in question.

Uncontrolled When Printed

4. Interferences

4.1. Reagents, glassware, and other sample processing hardware may yield artifacts and/or interferences to sample analysis. All of these materials must be demonstrated to be free from interferences under the conditions of the analysis by analyzing reagent.

4.2. Analyses of reagent blanks provide information about the presence of contaminants.

4.3. Contamination by carryover can occur whenever high-level and low-level samples are sequentially digested and analyzed. After the analysis of a sample containing high concentrations of lead, sufficient rinse time should follow the analysis on the instrument.

4.4. The most troublesome type of interference in atomic absorption spectrophotometry is usually termed "chemical" and is caused by lack of absorption of atoms bound in molecular combination in the flame. This phenomenon can occur when the flame is not sufficiently hot to dissociate the molecule, as in the case of phosphate interference with magnesium, or when the dissociated atom is immediately oxidized to a compound that will not dissociate further at the temperature of the flame. The addition of lanthanum will overcome phosphate interference in magnesium, calcium, and barium determinations. Similarly, silica interference in the determination of manganese can be eliminated by the addition of calcium.

4.5. The presence of high dissolved solids in the sample may result in an interference from non-atomic absorbance such as light scattering. A background correction lamp will help eliminate this problem. If background correction is not available, a non-absorbing wavelength should be checked. Preferably, samples containing high solids should be extracted.

4.6. Ionization interferences occur when the flame temperature is sufficiently high to generate the removal of an electron from a neutral atom, giving a positively charged ion. This type of interference can generally be controlled by the addition, to both standard and sample solutions, of a large excess (1,000 mg/L) of an easily ionized element such as K, Na, Li or Cs.

4.7. Spectral interference can occur when an absorbing wavelength of an element present in the sample but not being determined falls within the width of the absorption line of the element of interest. The results of the determination will then be erroneously high, due to the contribution of the interfering element to the atomic absorption signal. Interference can also occur when resonant energy from another element in a multielement lamp, or from a metal impurity in the lamp cathode, falls within the

Uncontrolled When Printed

bandpass of the slit setting when that other metal is present in the sample. This type of interference may sometimes be reduced by narrowing the slit width.

4.8. Samples and standards should be monitored for viscosity differences that may alter the aspiration rate.

5. Safety

5.1 General

5.1.1. For safety reasons and to avoid contaminating samples, be sure that the instrument and work area are kept scrupulously clean. This is especially important when working with toxic elements or when measuring trace amounts of any element. Clean up spilled chemicals immediately and dispose of them properly.

5.1.2. Do not smoke in or around the work area. Smoking is a source of significant contamination as well as a potential route for ingesting harmful chemicals.

5.1.3. Food should not be stored, handled, or consumed in the work area.

5.1.4. Do not use the instrument in an area where explosion hazards may exist.

5.1.5. Make sure that the workbench for the instrument is capable of sustaining a weight of 300 kg (661 lbs.).

5.1.6. Toxic combustion products, fumes, vapors, and ozone can be generated by the system, depending upon the type of analysis. Therefore, an efficient ventilation system must be provided for the instrument.

5.1.7. Hazardous ultraviolet radiation can be emitted by the flame when it is heated to incandescence, hollow cathode or electrodeless discharge lamps, and deuterium background corrector lamps. Prolonged exposure to ultraviolet radiation can cause serious damage to your eyes. To avoid this, always wear safety glasses that protect eyes from ultraviolet radiation.

5.2. Electrical

5.2.1. The instrument has been designed to protect the operator from potential electrical hazards. The instrument must be correctly connected to a suitable electrical supply. The supply must have a correctly installed protective conductor (earth/ground) and must be installed or checked by a qualified electrician before you connect the instrument. Any interruption of the

Uncontrolled When Printed

protective conductor (earth/ground) inside or outside the instrument or disconnection of the protective conductor terminal is likely to make the instrument dangerous. Intentional interruption is prohibited.

5.2.2. Do not operate the instrument with any covers or internal parts removed.

5.2.3. Do not attempt to make internal adjustments or replacements except as directed in the manuals.

5.2.4. Whenever it is possible that the instrument is no longer electrically safe for use, make the instrument inoperative and secure it against any unauthorized or unintentional operation.

5.3. Gas

5.3.1. Store cylinders in accordance with the regulations and standards applicable to your locality, state, and country.

5.3.2. When gas cylinders are stored in confined areas, storage room, ventilation should be adequate to prevent toxic or explosive accumulations. The storage room should be well ventilated and dry.

5.3.3. Do not store cylinders near elevators, gangways, or in locations where heavy moving objects may strike or fall against them.

5.3.4. Use and store cylinders away from exits and exit routes.

5.3.5. Locate gas cylinders away from heat sources, including heat lamps. Compressed gas cylinders should not be subjected to temperatures above 52°C (125°F)

5.3.6. Store all gas cylinders only in a vertical position, with the valve cap in place, and fastened securely to an immovable bulkhead or a permanent wall.

5.3.7. If you are storing cylinders outdoors, store them above ground on a suitable floor where they are protected against temperature extremes (including the direct rays of the sun).

5.3.8. Use only approved regulators, tubing, and hose connectors. When connecting fittings, keep in mind that left-hand thread fittings are used for fuel gas tank connections for acetylene gas cylinders.

Uncontrolled When Printed

5.3.9. Arrange gas hoses where they will not be damaged or stepped on and where things will not be dropped on them.

5.3.10. Do not "crack the valve" or open the valve of an acetylene cylinder before attaching a regulator.

5.3.11. Do not attempt to refill gas cylinders.

5.3.12. Check the condition of pipes, hoses, and connectors regularly.

5.4. Reagent Use, Storage, and Disposal

5.4.1. Use, store, and dispose of chemicals in accordance with the manufacturer's recommendations and regulations applicable to the locality, state, and/or country.

5.4.2. When preparing chemical solutions, always work in a fume hood that is suitable for the chemicals you are using.

5.4.3. Conduct sample preparation away from the instrument to minimize corrosion and contamination.

5.4.4. Clean up spills immediately using the appropriate equipment and supplies such as spill cleanup kits.

5.4.5. Do not put open containers of solvent near the instrument.

5.4.6. Store solvents in an approved cabinet (with the appropriate ventilation, as required) away from the instrument.

5.5. Drain Vessel Contents

5.5.1. Carefully monitor the collection of effluent in the drain vessel and empty the drain vessel frequently.

5.5.2. When switching between organic and aqueous solutions, flush the drain tube thoroughly and empty and flush out the drain vessel.

5.5.3. Drain vessels may contain flammable, acidic, caustic, or organic solutions, and small amounts of the elements analyzed. The collected effluent may have to be disposed of as hazardous waste.

5.6. Primary Source Lamps

Uncontrolled When Printed

5.6.1. Hollow cathode lamps and electrodeless discharge lamps contain small quantities of the element listed on the label. When you dispose of lamps containing toxic elements, you must regard them as hazardous waste.

5.6.2. Hollow cathode lamps are maintained under reduced pressure. Handle and dispose of them correctly to minimize the implosion risk.

5.7. Flame

5.7.1. Never leave the flame unattended.

5.7.2. Do not adjust the nebulizer when using a nitrous oxide-acetylene flame. This can cause erratic flame conditions or a flashback.

5.7.3. Keep open containers of flammable liquids and solvents away from the flame.

5.7.4. It is essential to carefully follow proper procedures and regularly inspect and maintain the burner system to avoid flashbacks.

5.7.4.1. Should a flashback ever occur: Thoroughly check the burner and drain system and replace damaged parts. Do not reignite the flame until the problem has been corrected.

5.7.5. Keep the flame door closed while the flame is lit.

5.7.6. To avoid serious burns, let the burner head cool to room temperature before touching it.

5.7.7. Acetylene is dissolved in acetone. As the cylinder pressure falls, the concentration of acetone in the gas stream rises, increasing the possibility of acetone carryover which can damage valves or tubing within the gas control system. Such damage can lead to a serious explosion. Acetone carryover may also result if tanks are overfilled, improperly filled, or stored on their sides.

5.7.7.1. Replace acetylene cylinders when the cylinder pressure falls below 600 kPa (90-100 psi).

5.7.8. When high concentrations of mercury, copper, or silver are aspirated into the air-acetylene flame, unstable acetylides may form in the burner chamber. When permitted to dry, these compounds are likely to explode. Thoroughly flush the burner-mixing chamber and drain system with water immediately

Uncontrolled When Printed

after analyzing these elements. Visually inspect the chamber to be sure that all traces of residue have been removed.

6. Apparatus and Materials

6.1. Flame Atomic Absorption Instrument

6.2. Burner Assembly

6.3. Drain Assembly

6.4. Drain Vessel

6.5. Burner Door

6.6. Nebulizer Assembly

6.7. Hollow Cathode Lamp, Lead

6.8. Air Compressor

6.9. Acetylene

6.10. Printer

6.11. Computer

6.12. Volumetric Flasks, 200-mL & 10-mL

6.13. Centrifuge Tubes, 50-mL

6.14. Beakers, 250-mL

6.15. Flask, 250-mL

7. Reagents

7.1. Reagent Water

7.2. Nitric Acid (HNO_3), reagent grade

Uncontrolled When Printed

7.3. Calibration Lead Standard Stock, 1000ppm - Purchased as certified solution. Should be checked frequently for signs of degradation or evaporation. Protect from light. All purchased standards solutions have a manufacturer's expiration date on the label.

7.4. Second Source Lead Standard Stock, 1000ppm - Purchased as certified solutions from another vendor. Second source standards should be checked frequently for signs of degradation or evaporation. Protect from light. All purchased second source standards solutions have a manufacturer's expiration date on the label

7.5. Paint Lead Reference Material – Purchased as certified paint standard. Should be checked frequently for signs of degradation or contamination. Protect from light. All purchased standards have a manufacturer's expiration date on the label.

7.6. Soil Lead Reference Material - Purchased as certified soil standard. Should be checked frequently for signs of degradation or contamination. Protect from light. All purchased standards have a manufacturer's expiration date on the label.

7.7. Calibration Standards

7.7.1. Daily Calibration Standards – Prepare working solutions at 0.2, 0.5, 1.0, 2.0, 5.0, and 10.0ppm in 100-mL volumetric flask for the calibration curve and spike according to the table below. Calibrate daily or when quality control samples are failing, with working standards. Standards are made weekly or sooner if quality control parameters indicate problem with current stock standards.

Calibration Level	Final Conc. (ppm)	1000 ppm Calibration Lead Standard Stock (µL)	Nitric Acid (mL)	Hydrochloric Acid (mL)
1	0.2	20	10	10
2	0.5	50	10	10
3	1.0	100	10	10
4	2.0	200	10	10
5	5.0	500	10	10
6	10.0	1000	10	10

7.8. Initial Calibration Verification (ICV) – Daily prepare a solution at 5.0 ppm from a second source lead standard. Prepare solution in 10-mL volumetric flask, according to the table below.

Uncontrolled When Printed

ICV Level	Final Concentration	Second Source Lead Standard diluted to 1,000 ppm Stock (µL)	Nitric Acid (mL)	Hydrochloric Acid (mL)
1	5.0	50	1.0	1.0

7.9. Low Level Continuing Calibration Verification (LLCCV) or the RLV Standard - is a standard prepared at the 0.2 ppm level in a 100 mL volumetric flask according to the chart below.

LLCCV	Final Conc. (ppm)	1000 ppm Calibration Lead Standard Stock (µL)	Nitric Acid (mL)	Hydrochloric Acid (mL)
1	0.2	20	10	10

7.10. Continuous Calibration Verification (CCV) – Prepare a solution at 5.0ppm in 500-mL volumetric flask according to the table below.

CCV Level	Final Conc. (ppm)	1000 ppm Calibration Lead Standard Stock (µL)	Nitric Acid (mL)	Hydrochloric Acid (mL)
1	5.0	2,500	50	50

7.11. Reporting Limit Verification (RLV) – Prepare a matrix-matched sample at 0.2ppm for each matrix analyzed in 50-mL centrifuge tubes, according to the table below. RLVs are digested and handled in the same manner as samples.

Reporting Limit Verification

RLV Matrix	Spikes	Final Volume
RLV Wipe	50 µL / 100ppm	25 mL
RLV Paint	100 µL / 100ppm	50 mL
RLV Soil	100 µL / 100ppm	50 mL
RLV Air	20 µL / 100ppm	10 mL

7.12. Laboratory Control Sample (LCS) – Prepare a matrix-matched sample at a mid-range concentration, for each matrix analyzed, in 50-mL centrifuge tubes. Prepare them according to the table below. They are digested and handled in the same manner as samples.

Uncontrolled When Printed

LCS Matrix	Preparation
Air	Place a blank air filter in tube and spike with 50 µL of 1000 ppm Calibration Lead Standard Stock.
Paint	Weigh-out 49-50 mg of the Paint Lead Standard.
Soil	Weigh-out 24 mg of the Soil Lead Standard.
Wipe	Weigh-out 24-25 mg of the Soil Lead Standard and place a blank ghost wipe in tube.

7.13. Laboratory Control Spike Duplicate (LCSD) – Prepare the same as LCS.

7.14. Matrix Spike (MS) – Add 100 µL of 1000 ppm Calibration Lead Standard Stock solution to the sample chosen as the MS sample. Final volume of the MS sample is 50 mL. If the sample final volume differs, adjust the spike volume comparably.

7.15. Blanks – Three types of blanks are required for the analysis of samples. The calibration blank is used in establishing the analytical curve and the method blank is used to identify possible contamination resulting from either the reagents or the equipment used during sample processing and filtration.

7.15.1 Reagent Blanks – An empty tube carried through the process during samples digestion and contains all reagents.

7.15.2 Continuing Calibration Blank (CCB) and Initial Calibration Blank (ICB) – CCB and the ICB are prepared in the same acid concentrations as the calibration standards. Add 200 mL of concentrated HNO_3 to a 2-liter flask and bring to volume with DI water.

7.15.3 The method blank (MB) is a blank matrix containing all reagents in the same volumes as used during the processing of samples. The method blank must be carried through the complete procedure and contain the same acid concentration in the final solution as the sample solution used for analysis.

8. Sample Collection, Preservation, and Handling

8.1. SLGi does not collect samples on behalf of its clients. It is the responsibility of the client to provide a representative sample.

8.2. When working with the sample, care must be taken so as to prevent any portion of the collected sample coming in contact with the analysts' gloves, thus causing contamination.

Uncontrolled When Printed

8.3. Wear appropriate eye protection at all times while handling chemicals. Use safety glasses with side shields, goggles, or full-face shields, depending on the types of chemicals handling.

8.4. Wear suitable protective clothing, including gloves specifically resistant to the chemicals being handled

9. Procedure

9.1. Powering up the FAA Instrument

9.1.1. "Open" gas tank.

9.1.2. Flip switch located at the bottom on instrument to "ON" position

9.1.3. Once powered up, A screen will show up with element Pb. Press ok and the lamp will automatically come up.

9.1.4. Press the instrument setup icon on the right side of the screen to setup the lamp wavelength.

9.1.5. Once lamp wavelength is adjusted, and then the flame is ready to be turn on.

9.1.6. Touch the flame icon; a screen with the absorbance value and flame control will come on.

9.1.7. If the box with the interlock has a check-marked and is green, then it is safe to turn on the flame by touching the on/off switch.

9.1.8. After 30mins optimize the absorbance with standard (5 PPM) before calibrating.

9.2. Adjustments and Checks

9.2.1. Align Lamp

9.2.1.1. Press [Energy] – Should appear midscale

9.2.1.2. If the bar chart is off scale, or does not extend about halfway across the screen, press [Energy] to bring the bar on scale.

9.2.1.3. To maximize the energy, adjust the two lamp alignment screws located on the mount, until you have obtained maximum energy.

Uncontrolled When Printed

There is a vertical lamp alignment screw and a horizontal lamp alignment screw. (If a lamp turret is installed skip to this step)

9.2.1.4. If the bar chart goes off scale, press [Energy] to bring it on scale.

9.2.1.5. Lamp alignment is complete

9.2.2. Adjust the Burner Height

9.2.2.1. Place a piece of cardboard or a white business card above the burner head perpendicular to the slot. This will confirm the presence and general location of the light beam.

9.2.2.2. Make sure the burner head is not blocking the beam and that the beam is centered. Ideally, the beam needs to pass over the length of the burner head and to be centered over the burner slot. If it is not, or if the burner head is blocking the beam, turn the horizontal adjustment knob until the light beam is approximately centered directly over the burner slot

9.2.2.3. Lower the burner using the vertical adjustment knob so that the burner head is well below the light beam

9.2.2.4. Press [A/Z] – Autozero is preformed

9.2.2.5. Raise the burner with the vertical adjustment knob until the display indicates a slight positive absorbance (0.002 to 0.004 abs)

9.2.2.6. Now, slowly turn the vertical adjustment knob clockwise until the absorbance returns to zero (0.000).

9.2.2.7. Finally, rotate the vertical adjustment knob an additional quarter-turn clock-wise.

9.2.2.8. The burner height adjustment is now complete.

9.2.3. Adjusting the Gas Flow for Ignition

9.2.3.1. Set the pressure regulators on the gas cylinders that you'll be using as follows: Acetylene: 85-100 kPa (14-16 psi), Air: 345-450 kPa (50-65 psig)

Uncontrolled When Printed

Note: Always monitor the acetylene tank pressure. Change the tank before the tank pressure drops below 600 kPa (90 psi). If the pressure falls below this level, acetone may contaminate the burner regulator, valves and tubing.

Note: the [Gases On/Off] key will allow the fuel and oxidant to flow through the gas control system and out the burner head. Make sure that the vent above the instrument has been turned on.

9.2.3.2. Press [Gases On/Off] and observe the flowmeter tube labeled "Oxidant" on the instrument. Using the "Oxidant" control knob, adjust the oxidant flow until it reads "4" units.

9.2.3.3. Press [Gases On/Off] and observe the flowmeter tube labeled "Fuel." Using the "F5 minuel" control knob, adjust the acetylene flow until it reads about "2" units.

9.2.4. Safety Checks Before Ignition

Use the safety checks that follow to make sure that all components are properly installed and in good condition for safe operation. Inadequate inspection or maintenance of the burner system can cause the escape of fuel gas or the fuel gas mixture, which can cause a serious explosion or fire.

9.2.4.1. The vent is on and drawing properly.

9.2.4.2. The burner door is closed.

9.2.4.3. There is sufficient gas in the cylinders for your intended analyses.

9.2.4.4. A fire extinguisher is located near the instrument.

9.2.4.5. Burner Head Check

9.2.4.5.1. Be sure that:

- The burner head O-ring is in good condition. The O-ring is easily frayed when burner heads are interchanged and should be replaced when worn.

- The proper burner head has been selected based on your flame and sample conditions.

Uncontrolled When Printed

- The burner head slot is clean.
- The burner head is fully seated into the burner-mixing chamber.

9.2.4.6. Burner Mixing Chamber and End Cap

9.2.4.6.1. Be sure that:

- The standard end cap gasket (for aqueous solutions) or an organic-resistant gasket is properly seated and in good condition.
- The end cap is securely tightened.
- The fuel and auxiliary oxidant tubing connected to the burner is in good condition and the fittings have been properly tightened.

9.2.4.7. Nebulizer

9.2.4.7.1. Be sure that:

- The nebulizer O-rings that seal to the end cap are in good condition.
- The proper nebulizer has been selected based on the type of solutions that will be aspirated.
- The nebulizer is securely clamped in place.
- The nebulizer tubing is in good condition and the connection is tight.
- The nebulizer tubing is connected to the nebulizer side arm.
- The nebulizer interlock is intact.

9.2.4.8. Drain System

9.2.4.8.1. Be sure that:

- The drain system has been properly installed.

Uncontrolled When Printed

- The drain tubing is securely connected to the front of the burner and in good condition (i.e., it does not show signs of cracking or discoloration). The drain tubing should be checked regularly, especially if using organic solvents.

- Any waste collected in the drain vessel has been properly disposed of and the vessel and drain loop refilled as specified for your system.

9.2.5. Igniting the Flame

Never directly view the flame without protective eyewear. Potentially hazardous ultraviolet radiation may be emitted from the flame. In general, ordinary safety glasses will provide sufficient protection, but additional side shields will insure a further margin of safety. The safety glasses will also provide mechanical protection for the eyes.

9.2.5.1. Press the [Flame On/Off] key. The ignitor arm will swing over and light the burner. If the flame does not light on the first try, it may be necessary to press the [Flame On/Off] key a second time.
Note that sometimes when gases are first turned on, the flame may not ignite the first time due to air in the lines. As a safety feature, if the gases do not ignite within 9 seconds, the system will turn off the gas flow and will display an error message.
If the flame still does not light, an interlock might not be satisfied and an error message will be displayed.

9.2.5.2. With the flame on, aspirate the blank solution (25% HNO3) and let the flame stabilize for about 30 to 60 seconds.

9.2.5.3. If you see bubbles coming out of the capillary tube, the nebulizer needs an adjustment. Loosen the nebulizer locking ring and turn the nebulizer adjustment nut clockwise until the bubbles stop.

9.2.5.4. Press [A/Z] again. Always press the Autozero key when aspirating the blank.

9.2.6. Adjusting the Burner Position

9.2.6.1. Aspirate a standard that produces a signal of 0.2 or more absorbance units (use standard 5 ppm)

Uncontrolled When Printed

9.2.6.2. Turn the horizontal adjustment knob on the burner assembly until you obtain maximum absorbance.

9.2.7. Adjusting the Nebulizer

9.2.7.1. Aspirate the standard used in 9.3.6.1.

9.2.7.2. Loosen the nebulizer locking ring by turning it clockwise (CW) until it is free of the nebulizer adjustment nut

9.2.7.3. To establish a start point, slowly turn the nebulizer adjustment nut counterclockwise (CCW) until bubbles begin to appear at the end of the capillary tube in the standard solution.

9.2.7.4. Slowly turn the nebulizer adjustment nut CW until the absorbance goes to a maximum and then begins to decrease. The inversion point at which absorbance changes marks the optimum setting. Slowly turn the nebulizer adjustment nut CCW to obtain maximum absorbance.

9.2.7.5. Continue to adjust CW or CCW until the maximum absorbance is found.

9.2.7.6. Lock the nebulizer in this optimum position by firmly holding the nebulizer adjustment nut in place with one hand while turning the nebulizer locking ring CCW with the other. Turn it until it is snug against the nut. The ring will prevent the nut from moving.

9.3. Calibration

9.3.1. Obtain a "Run Number" from the Run Number Log Book.

9.3.2. On the computer, open [SLIAPPS] then [SM-Metals] then [Run Data]

9.3.3. In the Run Data window enter in run number, date, instrument (500A or 500B), analyte (Pb), and analyst initials.

9.3.4. Select [Set-up Run]. Calibration table will appear.

9.3.5. On instrument autozero with blank

Uncontrolled When Printed

9.3.6. Aspirate standards (0.2, 0.5, 1.0, 2.0, 5.0, 10.0 ppm) one by one and enter in corresponding absorbance into table on computer. A 0.2 ppm standard should have an absorbance of about 0.007.

9.3.7. Once all standards have been read and absorbance entered into the table click on [Check Cal] on computer.

9.3.8. A R2 value of 0.995 or greater is acceptable and analysis can continue.

9.3.9. Continue with analysis of ICV 5.0, ICB, TSP LLCCV, CCV 5.0, CCB and RLV 0.2 Std.

9.3.10. All ICVs must have a percent recovery between 90-110% to be acceptable and to continue with analysis of RLVs.

9.3.11. Continue with analysis of RLV Wipe, RLV Paint, RLV Soil, RLV Air, RLV TCLP and RLV TSP.

9.3.12. The RLVs for the 0.2ppm STD and TSP Filter must be between 85-115% and all other RLVs must have a percent recovery between 80-120% to be acceptable.

9.3.13. When all criteria have been met click on [Add to slim] and save a copy in Cute Pdf

9.3.14. Instrument and Computer is now ready for sample analysis.

9.4. Sample analysis

9.4.1. Click on [Results Tray] in Metals Prep and Analysis window.

9.4.2. Enter in tray number, sample volume, analyst initials, and run number. Then click on [Select Tray].

9.4.3. Analyze samples on tray and then [Print and Save] when complete.

9.4.4. Below is an example analytical sequence of a tray

1. 25% HNO3 - to flush system
2. First 10 samples on tray
3. CCV 5.0 ppm
4. CCB
5. Next 9 or 10 samples on tray

Uncontrolled When Printed

6. Dup/MS
7. LCS/LCSD
8. MB
9. CCV
10. CCB

9.5. If the instrument is shut down after the calibration and then re-started on the same day as the calibration a CCV must be analyzed prior to analyzing samples to ensure the calibration is still stable.

9.6. After analysis save results by clicking save.

9.7. A CCV/CCB pair is run at the end of each analytical run.

9.8. Shut-down for FAA Instrument

9.8.1. When analysis is complete, aspirate 25% HNO_3 for one minute.

9.8.2. On the main screen, press the on/off icon to turn off the flame.

9.8.3. Close the regulator on acetylene tank

9.8.4. Press the "Bleed Gases" on the screen to bring the needles on the acetylene tanks to zero.

9.8.5. Turn the main switch off.

9.9. Calculations

9.9.1. Relative percent difference (RPD):

$$\frac{|R_1 - R_2|}{R_{ave}} x\ 100$$

$R_1 - R_2$ is the absolute difference between two values being compared

9.9.2. Spike Recovery:

$$\frac{(X_s - X_o)}{C_s}\ x\ 100$$

X_s = Concentration of spike sample

Uncontrolled When Printed

X_n = Concentration of unspiked sample
C_s = Concentration of spike added

9.10. Maintenance

9.10.1. Cleaning the Burner Head

9.10.1.1. The burner head should provide an even "blue" flame over the length of the burner slot. An uneven flame may indicate the slot needs cleaning.

9.10.1.2. Quick Cleaning Procedure

9.10.1.2.1. If the instrument is running, extinguish the flame, turn off the gases, and let the burner head cool. Open the burner door. Carefully work along and between the burner head slot using the burner head cleaning tool. Be sure not to nick the edges of the burner slot.

9.10.1.3. Complete Cleaning Procedure

9.10.1.3.1. If the instrument is running, extinguish the flame, turn off the gases, and power down the instrument. Let the burner head cool. Open the burner door.

9.10.1.3.2. Remove the burner head by pressing the safety latch on the igniter box while gently pulling and twisting the burner head until it comes off the chamber.

9.10.1.3.3. Once the head is removed, carefully work through the slot with the burner head cleaning tool. Do not nick the edges of the slot. Remove scrapings from inside and outside of the burner head.

9.10.1.3.4. If more cleaning is necessary, the burner head can also be soaked overnight in a detergent solution and then rinsed with deionized water and blown dry with a clean air supply.

9.10.1.3.5. Put the burner head back onto the burner chamber while pressing the safety latch tab. Position the magnetic strip on the burner head ring around the back of the

Uncontrolled When Printed

assembly. Release the safety latch. Be sure the burner head is fully seated on the chamber. Once seated the arrows on the burner head assembly should line up with the markings on the burner head to ensure a proper rotational alignment. A gentle twisting and pushing may be necessary. The burner head is fully seated when the ignitor will swing over the burner.

9.10.1.3.6. Close the burner door.

9.10.2. Cleaning the Burner Chamber

9.10.2.1. When samples with high solids content are aspirated, clean the burner daily.

9.10.2.2. When switching from aqueous to organic solutions, the burner chamber should always be inspected for deposits and cleaned if necessary.

9.10.2.3. Be sure to clean the burner chamber after working with organic samples.

9.10.2.4. Cleaning the Burner Chamber After Use with Organic Solvents

9.10.2.4.1. If aqueous samples are aspirated right after aspirating organic samples the absorption signal produced can be noisy and erratic.

9.10.2.4.2. After aspirating organic samples, aspirate an organic solvent miscible with the samples that have just been aspirated for 5 minutes.

9.10.2.4.3. Aspirate methanol or another solvent miscible with both the organic solvent and water for 5 minutes.

9.10.2.4.4. Aspirate 25% HNO3 for 5 minutes.

9.10.2.4.5. Flush the drain tube thoroughly with water. Empty the collection vessel and refill with water. Dispose of hazardous or corrosive solutions properly and observe local codes concerning the effect of the waste on the environment.

Uncontrolled When Printed

9.10.3. Cleaning the Burner Chamber Parts

9.10.3.1. Remove and disassemble the burner chamber

9.10.3.2. To remove the stubborn deposits from inside the burner chamber, from the end cap, from the flow spoiler and on the burner head, gently scrub them with a bottle brush, and a detergent solution. Be careful not to scratch the inner surfaces. Be sure to clean the drain outlet thoroughly. Do not soak the burner parts in acid or use kitchen-type cleaners.

9.10.3.3. Rinse the chamber, end cap, flow spoiler and head thoroughly with deionized water and allow to dry.
Note: An Ultrasonic cleaner can be used also. Let them soak in a detergent solution in the machine until they are completely clean. Remove, rinse with deionized water and allow to dry.

9.10.3.4. Reassemble the burner chamber.

9.10.4. Cleaning the Nebulizer

9.10.4.1. Disassemble the nebulizer

9.10.4.2. Push the copper cleaning wire all the way through the threaded side of the capillary holder and out the sapphire tip. Move the wire in and out to dislodge any solid particles. Take care not to scratch the insides.

9.10.4.3. Pull the Teflon tubing out of the gland nut.

9.10.4.4. Clean the capillary holder, Teflon tubing and gland nut in an ultrasonic cleaner with distilled water. If they still look dirty, discard the Teflon tubing and gland nut and replace them with new ones

9.10.4.5. All parts of the nebulizer can be cleaned in an ultrasonic cleaner

9.10.4.6. Inspect the o-rings. They can be cleaned with detergent and water. If they look damaged, replace them.

9.10.4.7. Reassemble the nebulizer

9.10.5. Cleaning (or Flushing) the Drain System

Uncontrolled When Printed

9.10.5.1. It is recommended that the drain system be flushed thoroughly with water at the end of each working day to remove caustic, corrosive, or organic waste materials that could otherwise damage the burner chamber or drain tubing.

9.10.5.2. To flush the system, remove the burner head then slowly pour about 500 mL of water into the burner chamber. Allow the water to drain into the drain vessel.

9.10.6. Cleaning the Drain Float Assembly

9.10.6.1. Extinguish the flame, turn off the gases and power down the instrument.

9.10.6.2. Have a bucket or a container of water large enough in which to dip the drain trap assembly up to the water line. The drain trap is found in the drain vessel

9.10.6.3. Unscrew the retainer cap form the drain vessel. Slide out the drain trap assembly and the drain loop (leaving the hose and wire attached).

9.10.6.4. Clean the drain trap assembly with soap and water using a test tube brush.

9.10.6.5. Rinse with water.

9.10.6.6. Reassemble the system in reverse order

9.10.7. Gas Lines

9.10.7.1. Perform periodic gas leak tests at all joints and seals of the gas system regularly by applying an approved gas leak detection solution

10. Quality Control

10.1. All quality control data should be maintained and available for easy reference or inspection. All QC passing ranges for the analysis of TSP filters via FLAA can be located in the SOP ME-012 Metals Analysis of High-Volume Filters.

Uncontrolled When Printed

10.2. Dilute samples if they are more concentrated than the highest standard or if they fall on the plateau of a calibration curve.

10.3. Calibration

10.3.1. The calibration curve usually consists of at least three non-zero points (low-mid-high range) and a calibration blank. However, more calibration points may be analyzed as deemed necessary.

10.3.2. The calibration coefficient must be at least 0.995 or higher. The linearity of the curve must not be forced thru zero. If these evaluation criteria are not met, analysis must be stopped and recalibration performed. If the recalibration fails, the standards must be re-made and/or the equipment must be evaluated.

10.3.3. Upon completion of the calibration the precent relative error must also be analyzed with the precent error falling below 15% for each calibration point charted.

10.4. Initial Calibration Verification (ICV)

10.4.1. After the daily calibration, the initial calibration verification (ICV) standard is analyzed.

10.4.2. The ICV standard is prepared from a second source and or made in a different way.

10.4.3. The percent recovery (%R) of the ICV standards must be between 90%-110%. If the second source fails calibration criteria, recalibration is necessary.

10.5. Continuing Calibration Verification (CCV)

10.5.1. A CCV is analyzed twice in a batch, after every first 10 samples and next set of 10 samples.

10.5.2. The concentration of the CCV is at 5 ppm to verify the calibration curve.

10.5.3. The %R of the CCVs must be within 90%-110%.

10.6. Reporting Limit Verification Spike (RLV)

10.6.1. This must be a matrix matched sample and analyzed after the ICVs.

Uncontrolled When Printed

10.6.2. The concentration of the RLV is at 0.2 ppm, which is the reporting limit of the calibration.

10.6.3. The RLV is run thru the entire preparation process as the samples.

10.6.4. The RLVs for the 0.2ppm STD and TSP Filter must be between 85-115% and all other RLVs must be within 80%-120%.

10.7. Laboratory Control Sample (LCS) and Laboratory Control Sample Duplicate (LCSD)

10.7.1. LCS samples are prepared and run at a frequency of 1 per 19 aqueous, soil, paint or bulk samples and 20 air or wipe samples or 1 per batch, whichever is greater.

10.7.2. LCS samples are digested and handled in the same manner as the samples.

10.7.3. The %R of the LCS must be between 80-120% or within statistical calculation and then continue with sample analysis.

10.7.4. The LCSD is prepared the same as the LCS for air and wipe samples. The result of the LCS/LCSD duplicate analyses should match within 20% Relative Percent Difference (RPD).

10.8. Duplicates

10.8.1. Duplicates are prepared and run at a frequency of 1 per 19 aqueous, paint, soil or bulk samples or 1 per batch, whichever is greater. A batch can be no greater than 19 samples.

10.8.2. Duplicate samples are digested and handled in the same manner as sample(s) being analyzed.

10.8.3. Duplicates monitor analysis precision. The results of the duplicate analyses should match the original results within 20% Relative Percent Difference (RPD).

10.9. Matrix Spikes (MS)

10.9.1. Matrix Spikes are matrix matched and run at a frequency of 1 per 19 client samples or 1 per batch, whichever is greater. A batch can be no greater than 19 samples.

10.9.2. MS are digested and handled in the same manner as sample(s) being analyzed

Uncontrolled When Printed

10.9.3. The %R of the MS must be between 75-125% except for TSP samples which are 80 – 120%.

10.10. Blank Analyses

10.10.1. Method Blank - For each analytical batch containing of 20 wipe or air samples a method blank (blank wipe or air matrix) is carried throughout the entire sample preparation and analytical process.

10.10.2. Reagent Blank - For every analytical batch of 19 paint, soil or bulk samples or 20 wipe or air samples a reagent blank is prepared by having a centrifuge tube or Erlenmeyer flask with DI water go through the entire preparation and analytical process.

10.10.3. If the blank is less than the lower level of quantitation or less than 10% of the lowest sample concentration for the analyte, whichever is greater, then the blank would be considered acceptable. If the blank cannot be considered acceptable, the blank should be re-run once and if still unacceptable then all samples after the last acceptable method blank must be re-prepped and reanalyzed along with the other appropriate batch QC samples. These blanks will be useful in determining if samples are being contaminated.

11. Method Performance

11.1. The method detection limit (MDL) is defined as the minimum concentration of a substance that can be measured and reported with 99% confidence that the value is above zero. The MDL concentrations actually achieved will vary depending on instrument sensitivity and matrix effects. MDLs are determined annually for aqueous samples from data collected quarterly.

11.1.1. The analytical group must generate a valid MDL for each individual analyte of interest. The MDL must be below the reporting limit or low-level standard for each analyte. The procedure for determination of the MDL is given in SOP AD-013.

11.2. The Lower Limit of Quantitation (LLOQ) is defined as the lowest concentration on the calibration curve. The LLOQ is initially verified by the analysis of at least 7 replicates spiked at the LLOQ and processed through all preparation and analysis steps of the method.

Uncontrolled When Printed

11.2.1. The mean recovery and relative standard deviation of these samples provide an initial statement of the precision and bias at the LOQ. In most cases the mean recovery should be +/- 35% of the true value and RSD should be ≤20%.

11.2.2. Ongoing LLOQ verification should be performed at a minimum of a quarterly basis. This verification may be accomplished either with clean control material (e.g., reagent water, Ottawa sand) or a representative sample matrix (free of target compounds).

11.2.3. Individual methods may recommend procedures for verifying the LLOQ and acceptance limits for use until the laboratory has sufficient data to determine acceptance limits. LLOQs shall be verified at least annually for soil matrices.

11.3. The Linear range establishes the highest concentration that may be reported without diluting the sample.

11.3.1. Following calibration, the laboratory may choose to analyze a standard at a higher concentration than the high standard in the calibration. The standard must recover within 10% of the true value, and if successful, establishes the linear range.

12. Data Analysis and Calculations

12.1. The quantitative values must be reported in the appropriate units of milligrams per kilogram (mg/kg), milligrams per meters cubed (mg/m^3) or milligram per liter (mg/L) as per the analysis method.

12.2. If dilutions were performed, the appropriate corrections must be applied to the sample values.

12.3. Results must be reported in units commensurate with their intended use and all dilutions must be taken into account when computing final results.

13. Pollution Prevention

13.1. Pollution prevention encompasses any technique that reduces or eliminates the quantity and/or toxicity of waste at the point of generation. Numerous opportunities exist for pollution prevention in the laboratory.

13.2. Standards should be prepared in volumes consistent with laboratory use to minimize the volume of expired standards to be disposed of. The threat to the environment from acids and/or reagents used in this method may be minimized when recycled or disposed of properly.

Uncontrolled When Printed

14. Waste Management

14.1. All waste will be disposed in accordance with all Federal, State, and local regulations governing waste management, particularly the hazardous waste identification rules and land disposal restrictions, and to protect the air, water, and land by minimizing and controlling all releases from fume hoods and bench operations. Compliance with all sewage discharge permits and regulations is also required.

14.2. The storage and disposal of hazardous waste is further detailed in SLGi SOP AD-019.

14.3. For further information on waste management, consult "The Waste Management Manual for Laboratory Personnel," and "Less is Better: Laboratory Chemical Management for Waste Reduction," both available from the American Chemical Society's Department of Government Relations and Science Policy, 1155 16th Street N.W., Washington, D.C. 20036.

15. Handling Non-Conformance Data

15.1. Refer to Table 3: Corrective action flowchart for Non-Conformance handling information.

16. References

16.1. EPA SW-846 7000B; Flame Atomic Absorption Spectrophotometry; Revision 2, February 2007

16.2. NIOSH 7082M, Lead by FLAA, Issue 2, August 15, 1994

16.3. Flame Atomic Absorption Instrument User Guides

Uncontrolled When Printed

Table 3: Corrective Action Flowchart

Sample Type	Test Result	Condition	Corrective Action	Note
Matrix/Reagent Blank (MB/RB)	Blank Reading> Reporting Limit (RL)	Samples are non-detect for that analyte.	Note on internal tracking sheet. No action is taken.	NA
		Samples are positive for that analyte.	Note on internal tracking sheet and notify QA dept.	If the sample is a soil, paint, bulk, or aqueous sample and there is more sample left, re-extraction of the batch is needed. Air and wipe samples are consumed during extraction. In this case, notify QA dept.
Laboratory Control Sample / QC Sample (LCS)	LCS > Upper Limit	Samples are non-detect for that analyte.	Note on internal tracking sheet. No action is taken. Note what the %R is on the internal tracking sheet.	NA
		Samples are positive for that analyte.	Note on internal tracking sheet. Notify QA dept. Note what the %R is on internal tracking sheet. Re-extract samples if possible as noted in next column.	If the sample is a soil, paint, bulk, or aqueous sample and there is more sample left, re-extraction of the batch is needed Air and wipe samples are consumed during extraction. In this case, notify QA dept. Report the batch that has passing QC. If both batches fail, notify QA dept. QA dept will decide what to do.
	LCS < Lower Limit	Samples are non-detect for that analyte	Note on internal tracking sheet. Notify QA dept. Note what the %R is on the internal tracking sheet. Re-extract samples if possible as noted in next column.	If the sample is a soil, paint, bulk, or aqueous sample and there is more sample left, re-extraction of the batch is needed. Since there is no more wipe or air sample, re-extraction cannot occur so notify QA dept. Report the batch that has passing QC. If both batches fail, notify QA dept. QA dept will decide what to do.
		Samples are positive for that analyte.		
Matrix Spike (MS) and MS Duplicate (MSD)	MS/MSD > or < QC Limit	Samples are positive or non-detect for that analyte.	No action is needed as long as the LCS/QC sample was acceptable. If the LCS and the MS/MSD is unacceptable, notify QA dept or follow table as listed above for LCS/QC Samples.	NA
Duplicate Sample (D) (If used)	%RSD > Upper Limit	Samples are positive or non-detect for that analyte.	No action is needed for duplicates.	NA

Uncontrolled When Printed

Revision Page

11/24/2023 (23-001)

Revised:

1.1. This method describes basic instructions for proper instrument set-up, maintenance, and calibration of Flame Atomic Absorption Spectrophotometer for use in the analysis of lead by EPA 7000, EPA 7420 and NIOSH 7082.

Revision:

1.1. This method describes basic instructions for proper instrument set-up, maintenance, and calibration of Flame Atomic Absorption Spectrophotometer for use in the analysis of lead by EPA 7000 and NIOSH 7082.

Revised:

7.7.1 Daily Calibration Standards – Prepare working solutions at 0.2, 0.5, 1.0, 2.0, 5.0, and 10.0 ppm in 100-mL volumetric flask for the calibration curve and spike according to the table below. Calibrate daily or when quality control samples are failing, with working standards. Standards are made weekly or sooner if quality control parameters indicate problem with current stock standards.

Calibration Level	Final Conc. (ppm)	1000 ppm Calibration Lead Standard Stock (µL)	Nitric Acid (mL)
1	0.2	20	15
2	0.5	50	15
3	1.0	100	15
4	2.0	200	15
5	5.0	500	15
6	10.0	1000	15

Revision:

7.7.1 Daily Calibration Standards – Prepare working solutions at 0.2, 0.5, 1.0, 2.0, 5.0, and 10.0ppm in 100-mL volumetric flask for the calibration curve and spike according to the table below. Calibrate daily or when quality control samples are failing, with working standards. Standards are made weekly or sooner if quality control parameters indicate problem with current stock standards.

Calibration Level	Final Conc. (ppm)	1000 ppm Calibration Lead Standard Stock (µL)	Nitric Acid (mL)	Hydrochloric Acid (mL)
1	0.2	20	10	10
2	0.5	50	10	10
3	1.0	100	10	10
4	2.0	200	10	10
5	5.0	500	10	10
6	10.0	1000	10	10

Revised:

7.8 Initial Calibration Verification (ICV) – Daily prepare a solution at 5.0 ppm from a second source lead standard. Prepare solution in 10-mL volumetric flask, according to the table below.

ICV Level	Final Concentration	10,000 ppm Second Source Lead Standard diluted to 1,000 ppm Stock (µL)	Nitric Acid (mL)
1	5.0	50	1.5

Uncontrolled When Printed

Revision:

7.8 Initial Calibration Verification (ICV) – Daily prepare a solution at 5.0 ppm from a second source lead standard. Prepare solution in 10-mL volumetric flask, according to the table below.

ICV Level	Final Concentration	10,000 ppm Second Source Lead Standard diluted to 1,000 ppm Stock (µL)	Nitric Acid (mL)	Hydrochloric Acid (mL)
1	5.0	50	1.0	1.0

Revised:

7.9 Low Level Continuing Calibration Verification (LLCCV) or the RLV Standard - is a standard prepared at the 0.2 ppm level in a 100 mL volumetric flask according to the chart below.

LLCCV	Final Conc. (ppm)	1000 ppm Calibration Lead Standard Stock (µL)	Nitric Acid (mL)
1	0.2	20	15

Revision:

7.9 Low Level Continuing Calibration Verification (LLCCV) or the RLV Standard - is a standard prepared at the 0.2 ppm level in a 100 mL volumetric flask according to the chart below.

LLCCV	Final Conc. (ppm)	1000 ppm Calibration Lead Standard Stock (µL)	Nitric Acid (mL)	Hydrochloric Acid (mL)
1	0.2	20	10	10

Revised:

7.10 Continuous Calibration Verification (CCV) – Prepare a solution at 5.0ppm in 500-mL volumetric flask according to the table below.

CCV Level	Final Conc. (ppm)	1000 ppm Calibration Lead Standard Stock (µL)	Nitric Acid (mL)
1	5.0	2,500	75

Revision:

7.10 Continuous Calibration Verification (CCV) – Prepare a solution at 5.0ppm in 500-mL volumetric flask according to the table below.

CCV Level	Final Conc. (ppm)	1000 ppm Calibration Lead Standard Stock (µL)	Nitric Acid (mL)	Hydrochloric Acid (mL)
1	5.0	2,500	50	50

Revised:

7.15.2 Continuing Calibration Blank (CCB) and Initial Calibration Blank (ICB) – CCB and the ICB are prepared in the same acid concentrations as the calibration standards. Add 100 mL of concentrated HNO3 to a 2-liter flask and bring to volume with DI water.

Uncontrolled When Printed

Revision:

7.15.2 Continuing Calibration Blank (CCB) and Initial Calibration Blank (ICB) – CCB and the ICB are prepared in the same acid concentrations as the calibration standards. Add 200 mL of concentrated HNO3 to a 2-liter flask and bring to volume with DI water.

Added:

10.3.3. Upon completion of the calibration the precent relative error must also be analyzed with the precent error falling below 15% for each calibration point charted.

Uncontrolled When Printed

REVISION TABLE

Revision #	Date	Revised By	Method Check	Revision
23-001	11/24/2023	Daniel McKee/ Jennifer Lee	X	Updated section 1.1 to remove erroneous EPA methods Updated section 7.7.1 to update calibration standard preparation Updated section 7.8 to update ICV standard preparation Updated section 7.9 to update LLCCV standard preparation Updated section 7.10 to update CCV preparation Updated section 7.15.2 to update acid concentration in blank Added section 10.3.3 to reference criteria for relative error
22-001	12/09/2022	Eisen Zhao/ Jennifer Lee	X	Updated watermark Updated numbering throughout Updated section 7.7.1. to update calibration solutions made weekly and volume of standard made 100mL Updated section 7.9 to update preparation of LLCCV to 100mL total volume Updated section 9.3.3. to update instrument selection Updated section 9.3.9. to update TSP LLCCV addition to opening QC run Updated section 9.3.12. to update percent recovery of RLVs Updated section 9.8.1. to clean our instrument with 25% HNO3 at end of analytical day Updated section 9.10.1.3.5. to update new method for burner head installation Updated section 10.1 to reference TSP method for QC parameter passing ranges Updated section 10.6.4. to update percent recovery of RLVs Updated section 10.10.2 to add airs to the method
21-001	8/20/21	Jennifer Lee	X	Revised section 7.8 for the daily preparation of the ICV. Revises section 6.12 to update materials used
20-001	11/20/20	Irma Faszewski	X	Revised section 2.2 to show the correct LOQ for wipe samples Removed section 4.9 discussing other metals – only lead analyzed by FAA. Revised section 7.7.1 to show correct preparation process for the calibration standards. Revised section 7.8 and 7.9 to clearly state that ICV comes from a second source and the correct preparation process in the tables provided. Updated section 7.10 volume of nitric acid used in the CCV in the table in section Updated section 7.11 the prep of the RLV for wipes based on a 25 ml final volume Updated section 7.12 with the weight of standard used in the LCS prep for wipes with a final volume of 25ml Updated section 9.2.1.1 by adding that the energy appears midscale Updated section 9.2.3.1 with the correct psig for Acetylene gas Updated section 9.2.3.2 and 9.2.3.3 to remove reference to acetylene ball.

Uncontrolled When Printed

				Updated section 9.2.5.2 to show that 25% HNO3 is used rather than reagent water in the blank solution Updated section 9.3.3 to show all the instrument numbers Updated section 9.4.4 to show the 1st item in the analytical sequence is 25% HNO3 not reagent water Updated section 9.6 to show that the results are saved by just hitting save button. Deleted section 9.8.5 which is not performed Revised section 9.10.2.4.4 to show we aspirate with 25% HNO3 Removed section 9.10.2.5 about other metals not performed by FAA Removed section 10.5.1 about LLCCV which is not needed Updated section 10.9.3 to show that MS recovery for TSP is between 80-120% Updated section 10.10.2 to show that a reagent blank consists of water that is prepped in the same manner as samples. Updated method performance section 11.1 to say that MDL data is collected quarterly
19-001	05/06/2019	Irma Faszewski		Revised section 9.9.4 to accurately document an example of a analytical run. Added sections 9.9.5 and 9.9.6 concerning restart of instrument requiring a CCV analysis prior to analyzing samples and the need to end each analytical run with a CCV/CCB pair respectively.

Uncontrolled When Printed

Appendix H – Clay Point Standard Operating Procedure

- Procedures for Collection of Asbestos Air Samples (Project Clearance).
- Procedures for Collection of Lead Dust Wipe Samples (Project Clearance)



Procedures for Collection of Asbestos Air Samples
(Project Clearance)

I. Setup of Sampling Equipment

A. Don appropriate personal protection, including but not limited to, respiratory protection and protective clothing. Decisions to wear respiratory protection shall be made in accordance with 29 CFR Part 1926.1101.

B. Determine the number of air samples to be collected in accordance with the Vermont Regulations for Asbestos Control (VRAC). The required amount ranges from two (2) to five (5) depending on the quantity of asbestos that was removed. Additional samples may be collected at the Consultant's discretion and may be appropriate if there are many small rooms within the designated abatement work area.

C. Use an air sampling cassette manufactured for Phase Contrast Microscopy (PCM) air sample collection. CPAI uses 25 mm cassettes. The cassette medium shall be mixed cellulose ester (mce) having a pore size of 0.8 µm.

D. Label all sampling cassettes to be used in the following manner: month (2 digits), day (two digits), year (two digits), CPAI project number (five digits) and unique sample number. For instance, the first sample to be collected for project number 15979 on August 1, 2024 shall be labeled 08012415979-01.

E. If one is not available, draw an informal floor plan of the abatement work area (not to scale). Utilize this sketch to assist in locating specific air sample collection points. In large abatement work areas, divide each room into nine (9) equal subareas. Utilize a random numbers chart to label each subarea as #1 - #9. Determine which subareas will be sampled based on the number of air samples to be collected. For instance, if three (3) samples are to be collected from one room, the fixed sample locations should be in the approximate center of subareas #1 - #3 as previously labeled on the sketch.

F. Setup air sampling equipment at each selected collection point, including high volume air sampling pump, cassette stand, tygon tubing and extension cord (if necessary). Set the top of the cassette stand at the breathing zone height (approximately 4 ft. 6 in. above the floor). Make sure that the cassette stand will not be vibrated by the air sampling pump or other sources. All sampling pump cords/extension cords shall be equipped with portable GFCI adapters. All extension cords should be taped to the floor to discourage tripping. Do not tape cords if the flooring material is suspect asbestos in fair or poor condition. Check the two glass jars on the sampling pump beneath the pump nozzle to ensure that they are firmly attached. Do not over tighten. Insert one end of tygon tubing through the ring at the top of the cassette stand. Connect the other end of the tygon tubing to the pump nozzle. Choose a labeled sampling cassette and remove the end cap at the outlet side of the cassette. Attach the cassette to the tygon tubing at the top of the cassette stand. The cassette shall point downward at a 45-degree angle. Do not turn the sampling pump on when the endcap is in place.

II Pump Startup/Calibration

G. Remove the entire end cap of the sampling cassette at the inlet side of the cassette. Inspect the sampling medium to be sure the mce portion is present and not damaged (i.e., folded, bunched, cut, etc.). If the mce portion is damaged, discard the sampling cassette and choose a new cassette, relabel it and remount/inspect. If the cassette is undamaged, replace the entire end cap.

H. Perform field calibration as follows:
Remove the small plug of the end cap at the inlet side of the sampling cassette and insert the end of the high flow field rotometer. Turn on the sampling pump and read the flow rate at the center of the ball of the rotometer. Make sure that the rotometer tygon tubing is parallel to the ground, that the ball of the rotometer is at eye level and that your fingers do not block the intake port at the back of the rotometer. **The flow rate shall be between 11 - 15 liters per minute (lpm)**. If necessary, adjust the pump flow rate by turning the adjustment knob at the base of the pump nozzle. Once the flow rate is adjusted, turn off the sampling pump, remove the rotometer and replace the small plug into the endcap. Record the rotometer flow rate and actual flow rate on the CPAI Air Sample Collection Field Data Sheet. Repeat the calibration procedure for each sample.

H. cont. The field rotometer is a secondary calibration standard. Each field rotometer shall be calibrated to a primary standard (bubble burette, Dry-Cal, Buck Calibrator, etc.) at least once every six months. When utilizing the field rotometer, the rotometer flow (from the scale embossed on the side of the rotometer) shall be recorded as well as the actual flow as determined by the primary calibration process (the primary calibration conversions shall be taped to the side of the rotometer for quick reference). For instance, the rotometer may indicate a flow rate of 12 lpm. The primary calibration conversion chart will indicate that the actual flow for a 12 lpm reading on the rotometer is 12.37 lpm. Both of these numbers shall be recorded.

I. Clearance air samples shall be collected using aggressive methods. Setup and turn on fans (at least 1 per 10,000 cubic meters of space). The fans should point towards the substrate from where asbestos was removed and/or the ceiling.

J. Start air sampling in the following fashion. Remove the entire endcap at the inlet portion of the sampling cassette and set aside (usually in the pump case). Start the sampling pump and immediately note and record the start time (to the closest minute). **Do not start the sampling pump with the inlet endcap in place.** Start all remaining pumps as described above.

K. Once all air sampling pumps have been turned on, utilize a leaf blower to stimulate the air space and entrain any fibers that may not be visible. All surfaces within the abatement work area shall receive full flow from the leaf blower.

L. Determine the duration of the pump run time as follows. **A minimum of 1,200 liters of air shall be collected**. Use the actual flow rate (from the rotometer conversion chart) to approximate how many minutes the air sampling pumps will have to run to collect the proper volume of air. Use the following formula:

(actual flow rate) x (? minutes) = 1,200 liters

$$(\text{? minutes}) = \frac{1{,}200 \text{ liters}}{(\text{actual flow rate})}$$

L. cont. For example, if the actual flow rate is 12.37 lpm and you need to collect at least 1,200 liters of air, then:

$$(\text{? minutes}) = \frac{1{,}200 \text{ liters}}{12.37 \text{ liters per minute}}$$

$$(\text{? minutes}) = 97.008 \text{ minutes}$$

The pump would have to run at least 98 minutes (1 hours, 38 minutes) to collect 1,200 liters of air. It is optimal to collect more than 1,200 liters of air.

III Documenting Sample Location and Technical Information

M. Indicate the approximate location of each sample collection point on the floor plan described in Section I, Item E. Using a tape measure or laser, triangulate the location of the sample collection point to the inch. Record the distance of the cassette from two walls (indicate N, S, E or W) and from the floor.

N. Document all other technical information on the CPAI Air Sample Collection Field Data Sheet.

IV Completing the Sampling Activity

O. At the expected time of completion, perform calibration using the field rotometer in accordance with Section II, Item H. Keep the sampling pump running during the calibration activity. Do not adjust the pump flow rate under any circumstance. If the flow rate has decreased during sampling, recalculate the number of minutes required for sampling to collect at least 1,200 liters of air. The lower flow rate from the two (2) calibration activities will be considered the sampling flow rate.

P. When the proper sampling duration has been achieved, turn off the sampling pump. Record the stop time and flow rate. Place the entire endcap from the inlet side of the cassette, disconnect the sampling cassette from the tygon tubing and place the endcap from the outlet side of the sampling cassette. Repeat this activity at each sampling location. Place each sampling cassette in a secure container. All sampling cassettes must remain in the consultant's possession or in a secure location (i.e., locked car).

Q. Clean all sampling equipment, including pumps, pump cases, cassette stands and extension cords, by wiping them down with a damp cloth. Remove sampling equipment from the abatement work area.

R. Calculate total volume collected for each sample and record. Ensure that all information on the CPAI Air Sample Collection Field Data Sheet has been recorded and is accurate. Complete the CPAI Air Sample Analysis Request Form. Initiate the CPAI Chain of Custody Form.

Analysis Method:	Phase Contrast Microscopy (PCM). EPA Method 15885
Equipment:	High Volume Air Sampling Pumps Sampling Cassettes, 25 mm, 0.8 µm pore size, mixed cellulose ester media Field Rotometer Cassette Stands Extension Cords
Forms:	CPAI Air Sample Collection Field Data Sheet CPAI Analysis Request Form, Routine & Clearance Air Sample Analysis CPAI Chain of Custody Form Hand Drawn Sketch

Clay Point Associates, Inc.
www.claypointassociates.com



Procedures for Collection of Lead Dust Wipe Samples
(Project Clearance)

I. Preparation

A. The following will be needed to collect lead dust wipe samples.

Dust Wipes (sterile and individually packaged).
Non-Alcohol Baby Wipes
Plastic Template that can be easily cleaned (12" x 12" opening)
Plastic Centrifuge Tubes (sterile and unopened)
Disposable Non-Latex Gloves
Tape Measure
Plastic Bags
Permanent Marker

B. Choose a staging area in the building/work area. Wipe the surface of the staging area (table, counter, etc.) with a baby wipe until visibly clean. This area should be the only location where sampling materials are placed. Place the baby wipe in a plastic bag for disposal at the CPAI Office.

C. If one is not available, draw an informal floor plan of the rooms to be tested (not to scale). Utilize this sketch to designate a unique room number for each room. The sketch must include door and window locations.

D. After completion of the visual inspection (if sampling is for clearance) or upon arrival, determine the number of samples that will be collected. Applicable HUD and Vermont regulations require the following:

One (1) sample collected from the floor of each room. If there are twenty (20) rooms in the building/work area, twenty (20) samples will need to be collected from floor surfaces.

In every room with a window(s), collect one (1) sample from a window sill or window well (trough). Alternate the window component tested, room by room. If there are eight (8) rooms with windows, four (4) samples will need to be collected from window sills in four (4) unique rooms and four (4) samples will need to be collected from window wells in four (4) unique rooms. If there are multiple windows in a room, only one (1) window needs to be tested.

D. Prepare and measure window sill or window well surfaces that will be wiped. Typically, the entire window sill or window well surface should be wiped. If less than the entire surface is to be wiped, designate edges with painters tape. Measurements should be to the nearest 1/8 inch and obtained without touching the surface to be wiped. Record the location (room number and window location/number), measurements, sample number, substrate and paint condition on the Dust Sample Collection Form. Relative to window location, if there are three (3) windows on the A (street side) wall and the middle window will be tested, the location will be described as Window A-2.

E. Each wipe will be placed into a sterile centrifuge tube. Label centrifuge tubes in the following manner and place them in numerical order in your staging area (keep the tube closed):
CPAI project number (five digits), unique sample number, and code for component tested (F = Floor, S = Windowsill, and W = Window Well). For instance, the first sample to be collected for project number 15979 should be labeled 15979-01F.

F. Label one (1) centrifuge tube for every twenty (20) samples that will be collected. This centrifuge tube(s) will be used for a blank sample and should be randomly numbered (i.e., not always the first or last sample number). The sample number is labeled as a floor sample, for instance 15979-07F, and its dimension is 12" x 12" on the Dust Sample Collection Form. If twenty-two (22) samples are collected, there will need to be two (2) blank samples collected. The analytical service should not be able to determine which sample(s) are blanks.

II Dust Wipe Sample Collection

G. Clean your hands with a baby wipe, open the wipe package, remove the wipe, open it fully and then close it again to look like a wipe sample that has been collected from a floor or window component. Place the wipe into the centrifuge tube you labeled as a blank. This will be the blank sample for the first twenty (20) samples collected. If more than one blank is needed, collect it as described above after you have collected twenty (20) samples, forty (40) samples, etc.

H. For window samples, wipe your hands with a baby wipe and don clean gloves. Open a dust wipe package and fully open the dust wipe. Wipe the entire designated window sill or window well surface. Press firmly and wipe the entire surface. Fold the wipe so a clean surface is exposed and wipe the entire surface again. Place the wipe into the appropriate centrifuge tube and close the cap tightly. Remove gloves and place the wipe wrapper, baby wipe, gloves and tape (if used) into a plastic bag for disposal at the CPAI Office. After sampling, make sure the window is fully closed and locked.

I. For floor samples, utilize the same process as above with a few additions.
Prior to donning gloves, wipe the 12" x 12" floor template with a clean baby wipe.
Place the 12" x 12" template on the floor surface carefully. Don't drop or throw it onto the floor.
When wiping, first wipe left to right, fold the wipe and then wipe up and down (or vice versa). Finally, wipe around all edges

J. When finished with sampling, make sure all samples are present, all information has been accurately recorded on the Dust Sample Collection Form, all equipment/samples are removed from the building/area, and doors are locked.
Complete the CPAI Lead-Based Paint Analysis Request Form. Initiate the CPAI Chain of Custody Form. Send samples to the analytical service. Make sure the turnaround time is designated.

Analysis Method: Flame Atomic Absorption
EPA Method 7000B

Forms: CPAI Dust Sample Collection Form
CPAI Lead-Based Paint Analysis Request Form
CPAI Chain of Custody Form
Hand Drawn Sketch