Waste Management Division
PO Box 95, 29 Hazen Drive
Concord, NH 03302

Type of Submittal (Check One-Most Applicable)

☐ Work Scope ☐ Reimbursement Request	☐ Remedial Action • Remedial Action Plan • Bid Plans and Specifications • Remedial Action Implementation Report ☐ Treatment System and POE O&M ☐ Activity and Use Restriction
☐ UST Facility Report ☐ AST Facility Report	
☐ Emergency/Initial Response Action ☐ Groundwater Quality Assessment	☐ Temporary Surface Water Discharge Permit
☐ Initial Site Characterization ☐ Site Investigation • Site Investigation Report • Supplemental Site Investigation Report • GMZ Delineation • Source Area Investigation • Data Submittal • Annual Summary Report ☒ Unsolicited Limited Phase II Environmental Site Assessment ☐ Closure Documentation	☐ Groundwater Management Permit • Permit Application • Renewal Application • Deed Recordation Documentation • Abutter Notification Documentation • Release of Recordation ☐ Data Submittal ☐ Annual Summary Report

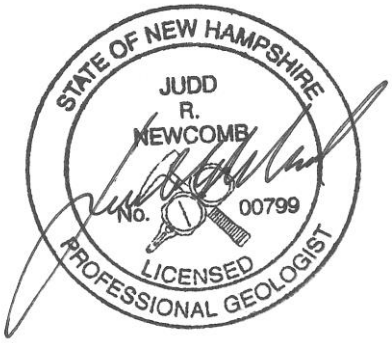
LIMITED PHASE II ENVIRONMENTAL SITE ASSESSMENT

Macosko Foundry
187 Chance Pond Road
Franklin, New Hampshire 03235
NHDES Site #201410017

City of Franklin
124 Memorial Street
Franklin, New Hampshire 03235
Phone: (603) 934-2341
Contact: Mr. Dick Lewis

Prepared For:
Lakes Region Planning Commission, Brownfields Assessment Grant
103 Main Street #3
Meredith, New Hampshire 03253
Phone: (603) 279-8171
Contact: Mr. Jeff Hayes

Prepared By:
CREDERE ASSOCIATES, LLC
776 Main Street
Westbrook, ME 04902
Phone: (207) 828-1272 ext. 16
Contact: Judd Newcomb, CG, PG



December 16, 2015

Recommended Risk Category (check one)

☐ 1. Immediate Human Health Risk (Impacted water supply well, etc.)	☐ 4. Surface Water Impact	☐ 7. Alternate Water Available/Low Level Groundwater Contamination (<1,000 X AGQS)
☐ 2. Potential Human Health Risk (Water supply well within 1,000' or Site within SWPA)	☐ 5. No Alternate Water Available/No Existing Wells in Area	☐ 8. No AGQS Violation/No Source Remaining
☐ 3. Free Product or Source Hazard	☐ 6. Alternate Water Available/High Level Groundwater Contamination (>1,000 X AGQS)	☐ Closure Recommended ☒ No Groundwater Data

CREDERE ASSOCIATES, LLC
776 Main Street
Westbrook, Maine 04092
Phone: 207-828-1272
Fax: 207-887-1051

December 16, 2015

Jeff Hayes
Lakes Region Planning Commission
103 Main Street #3
Meredith, NH 03253

Richard Lewis
City of Franklin Planning Department
124 Memorial Street
Franklin, NH 03235

Subject: **Limited Phase II Environmental Site Assessment**
Macosko Foundry, NHDES #201410017, Project #33910
187 Chance Pond Road, Franklin, New Hampshire

Dear Mr. Lewis:

This report has been prepared to present the results of a Limited Phase II Environmental Site Assessment completed for the above referenced property (the Site). Sections 5 and 6 of this report include the conclusions and recommendations generated during the performance of the Limited Phase II Investigation.

Please do not hesitate to contact me at (207) 828-1272 extension 16 if you have any questions, comments, or require additional information regarding this investigation.

Sincerely,

CREDERE ASSOCIATES, LLC

Judd Newcomb, PG, CG
Project Manager/Geologist

CC: Michael McCluskey, NHDES
Alan Peterson, EPA

CREDERE ASSOCIATES, LLC
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Westbrook, Maine 04092
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Limited Phase II Environmental Site Assessment

Macosko Foundry
NHDES Site #201410017
187 Chance Pond Road
Franklin, New Hampshire 03235

Prepared for and Funded by:
Brownfields Assessment Grant #: BF-96176301
Lakes Region Planning Commission
103 Main Street #3
Meredith, NH 03253

On Behalf of:
Richard Lewis
City of Franklin Planning Department
124 Memorial Street
Franklin, NH 03235

December 16, 2015

In Reference to:
Project No. 14001247

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EXECUTIVE SUMMARY

Credere Associates, LLC (Credere) was retained by Lakes Region Planning Commission (LRPC) on behalf of the City of Franklin to prepare this Limited Phase II Environmental Site Assessment (ESA) for the Macosko Foundry located at 187 Chance Pond Road in the City of Franklin, Merrimack County, New Hampshire (the Site). This Limited Phase II ESA was completed in general conformance with Credere's US Environmental Protection Agency (EPA) and New Hampshire Department of Environmental Services (NHDES) approved Site-Specific Quality Assurance Project Plan (SSQAPP) for the Site dated December 31, 2014.

The Site comprises a 0.691-acre south parcel and a 1.698 acre north parcel that is bisected by Chance Pond Brook. The Site is located in a rural area of Franklin characterized primarily by sparse residential development. The south parcel contains a building with a single story office and apartment area; a single-story garage and machine shop; a two story foundry area with a basement; and an exterior covered storage area. The Site building is in poor condition and contains equipment related to machine shop operations and auto repair. The northern parcel is wooded and overgrown, and contains a former foundry building foundation.

The Site is currently owned by the City of Franklin and is identified by the City on Map 97, Lots 37 and 38. Electricity is available to the Site from Eversource. Public water and sewer from the City of Franklin is provided to the Site from Chance Pond Road.

The Site building was constructed as a foundry in 1905. The Site was used as a foundry from construction through 1910, as a mica shop from 1910 through the 1950s, as a body shop from the 1950s through 1967, and again as a foundry from 1967 through the present. Prior to 1927 an onsite bridge spanned Chance Pond Brook but was removed during the mid-1960s. The Site was occupied by Norell Foundry and Machine, Incorporated from at least 2003 through 2008. The Site was most recently used for auto repair; however, has been vacant and owned by the City of Franklin since 2014.

Credere prepared a Phase I ESA for the Site dated October 16, 2014. Based on reviews of historical sources, environmental databases, interviews, information provided by the City of Franklin, a Site reconnaissance, and judgment by the Environmental Professional, the following recognized environmental conditions (RECs) were identified in connection with the Site:

- REC #1 – Threat of release from improper storage of petroleum, hazardous substances, and universal wastes
- REC #2 – Floor staining throughout the Site building
- REC #3 – Observed filling of the Site with foundry waste
- REC #4 – Reported filling of the Site with foundry waste
- REC #5 – Historical presence of a foundry on the northeast side of Chance Pond Brook
- REC #6 – Potential soil, groundwater, and sediment impacts in the developed and formerly developed portions of the Site from historical uses of the Site

Due to the documented containers and associated impacts to environmental media reported in Credere's Phase I ESA, EPA initiated a Removal Action to assess and partially cleanup portions of the Site. Much of the sampling proposed in Credere's December 31, 2014, SSQAPP was completed during an EPA Preliminary Assessment/Site Investigation. Therefore, proposed test pits and associated sampling to fully assess recognized environmental condition (REC) #3, REC #4, and REC #6 were not completed to avoid duplication of efforts. Credere only completed the portions of the SSQAPP not covered by EPAs Preliminary Assessment/Site Investigation. The EPA removal order will address/dismiss REC #1. Additionally, hazardous building materials (Environmental Finding #1) were previously assessed and reported in Credere's March 5, 2015, Hazardous Building Material Survey (HBMS) report.

The primary objective of this Limited Phase II ESA is to confirm or dismiss REC #2 – Floor staining throughout the Site building from potential PCB-containing materials, and REC #5 - Impacts associated with the historical presence of a foundry on the northeast side of Chance Pond Brook, and partially assess REC #3 - Observed filling of the Site with foundry waste, identified in Credere's October 16, 2014, Phase I ESA. The following objectives were established to aid in designing the scope of work:

- Assess the areas of floor staining within the Site building for polychlorinated biphenyls (PCBs, REC #2)
- Assess the potential presence of ash and fill beneath the Site building (REC #3)

Assess possible impacts associated with the historical presence of a foundry on the northeast side of Chance Pond Brook (REC #5). The following sampling program was developed and completed to accomplish the above objectives:

- Collect surface soil samples and advance observational hand auger borings (REC #3 and REC #5)
- Collect concrete samples (REC #2)

The following is a summary of results from the field activities completed by Credere:

Floor staining was observed in many areas throughout the Site building likely from the use of lubricating, cutting, or waste oils used in the foundry, machine shop, or automotive related operations that took place at the Site. The operation of the Site occurred throughout the era of peak production of PCBs and the lubricating and waste oils used at the Site may have contained PCBs. Concrete samples were collected from stained areas in the auto shop area bay, former furnace area, and basement. Laboratory analytical results were below the laboratory reporting limits for PCBs.

During the previous Phase I ESA, Credere observed fill materials to the southeast of the Site building that contained metal shavings and ash fill in the basement of the Site building that are likely a waste product of industrial operations at the Site. The exterior fill material with metal shavings was assessed during EPA's assessment; however, Credere collected samples of the

comingled ash, soil and debris in the basement, and the former furnace area. Analytical results indicated the material contained low level polycyclic aromatic hydrocarbons (PAHs) below the NHDES Soil Remediation Standards (SRSs); however, antimony, arsenic, copper, lead, and zinc concentrations exceeded the NHDES SRSs or the EPA Regional Screening Levels (RSLs) where SRSs were not available. In the area of the former furnace copper, lead, and zinc concentrations were 34,000 milligrams per kilogram (mg/kg), 3,100 mg/kg, and 21,000 mg/kg, respectively. Additionally, the recent EPA assessment identified similar metals concentrations in exterior fill containing metal shavings. There are no hazardous waste guidelines for copper or zinc; however, the lead concentration exceeds the hazardous waste determination using the 20 times rule indicating these metals may be leaching to groundwater. The elevated concentrations of heavy metals, which are typical of foundry waste[1], detected in the sampled material in the basement and in the area the former furnace can be attributed to historical operations at the Site.

Two surface soil samples were collected and observational hand auger borings were advanced in the area of the former foundry foundation across Chance Pond Brook. Low levels of PAHs were detected below the NHDES SRSs. Arsenic results exceeded the NHDES SRSs; however, based on the lack of other heavy metals typical of foundries[1] (e.g., concentrations identified in the southwest portion of the Site), these concentrations are likely naturally occurring. Trace solid waste including rusty metal fasteners and brick debris were observed within the former foundry foundation, but ash or slag was not observed.

Based on these results, Credere makes the following conclusions with regard to the RECs addressed as part of this Limited Phase II ESA:

- REC #2 – Floor staining throughout the Site building from potential PCB-containing materials: DISMISSED
- REC #3 – Observed filling of the Site with foundry waste: CONFIRMED
- REC #5 – Impacts associated with the historical presence of a foundry on the northeast side of Chance Pond Brook: DISMISSED

Based on the findings and conclusions of this investigation, Credere makes the following recommendation:

- Complete remedial action in accordance with EPA removal requirements and associated work plans to reduce the exposure potential and threat of release from containerized material or migration of impacted fill throughout the developed portion of the Site

The following recommendations also carry over from the HBMS and are recommended based in EPA's June Site Investigation Report:

- During building demolition, appropriately segregate, as necessary according to disposal facility requirements, the asbestos-containing felt paper located beneath the upper asphalt roof of the Site building. In addition, either sample the coated corrugated metal roofing

1 Shineldecker, Chris. *Handbook of Environmental Contaminants: A Guide for Site Assessment.* Lewis Publisher, Chelsea, Michigan: 1992

and Roof Field 4 for asbestos analysis, or assume the roofing materials are asbestos-containing for appropriate disposal.

- Prior to or concurrent with building renovation and/or demolition activities, all paint containing lead be properly managed in accordance with the OSHA Lead in Construction Standard and applicable State of New Hampshire solid waste rules. Proper management includes proper disposal of lead-containing materials in the portion(s) of the building to be demolished.
- If the Site building is to be reused for residential or child-occupied purposes, a Lead Inspection should be conducted according to New Hampshire Department of Health and Human Services, Division of Public Health Services, Healthy Homes and Lead Poisoning Prevention Program rules, and all LBP should be properly managed according to those rules.
- During demolition, segregate all PCB-containing painted materials for appropriate disposal, or dispose of all demolition debris at a facility that is permitted to accept non-TSCA regulated PCBs at the at-found concentrations.
- All universal, hazardous, and/or other wastes identified at the Site should be properly consolidated and properly disposed prior to or concurrent with building renovations and/or demolition.

1. INTRODUCTION

Credere Associates, LLC (Credere) was retained by Lakes Region Planning Commission (LRPC) on behalf of the City of Franklin to prepare this Limited Phase II Environmental Site Assessment (ESA) for the Macosko Foundry located at 187 Chance Pond Road in the City of Franklin, Merrimack County, New Hampshire (the Site). This Limited Phase II ESA was completed in general conformance with Credere's US Environmental Protection Agency (EPA) and New Hampshire Department of Environmental Services (NHDES) approved Site-Specific Quality Assurance Project Plan (SSQAPP) for the Site dated December 31, 2014, which is included as **Appendix A**.

Due to the documented containers and associated impacts to environmental media reported in Credere's Phase I ESA, EPA initiated a Removal Action to assess and partially cleanup portions of the Site. Much of the sampling proposed in Credere's December 31, 2014, SSQAPP was completed during an EPA Preliminary Assessment/Site Investigation. Therefore, proposed test pits and associated sampling to fully assess recognized environmental condition (REC) #3, REC #4, and REC #6 were not completed to avoid duplication of efforts. Credere only completed the portions of the SSQAPP not covered by EPAs Preliminary Assessment/Site Investigation. The EPA removal order will address/dismiss REC #1. A summary of EPA activities is provided in **Section 2.3**. Additionally, hazardous building materials (Environmental Finding #1) were previously assessed and reported in Credere's March 5, 2015, Hazardous Building Material Survey (HBMS) report. Therefore, these RECs and environmental findings are not further discussed in this Limited Phase II ESA.

1.1 STATEMENT OF OBJECTIVES

This section was developed to provide clarity and transparency in communicating and interpreting Phase II results. The primary objective of this Phase II is to confirm or dismiss REC #2 and REC #5, and partially assess REC #3 identified in Credere's October 16, 2014, Phase I ESA. The following objectives were established to aid in designing the scope of work:

- Assess the areas of floor staining within the Site building for polychlorinated biphenyls (PCBs, REC #2)
- Assess the potential presence of ash and fill beneath the Site building (REC #3)
- Assess possible impacts associated with the historical presence of a foundry on the northeast side of Chance Pond Brook (REC #5)

2. BACKGROUND INFORMATION

2.1 SITE DESCRIPTION

The Site comprises a 0.691-acre south parcel and 1.698 acre north parcel that are bisected by Chance Pond Brook (**Photographs 1 through 3**). The Site is located in a rural area of Franklin characterized primarily by sparse residential development. The south parcel was developed with a building that was observed to be in fair to poor condition. The Site building contained a single story office and apartment area, a portion of which was raised on columns due to the sloping grade at the Site; a single-story garage and machine shop; a two story foundry area with a basement; and an exterior covered storage area. The Site building contained equipment related to machine shop operations and auto repair. The northern parcel is wooded and overgrown and contains a former foundry building foundation.

The Site is currently owned by the City of Franklin and is identified by the City on Map 97, Lots 37 and 38. Electricity is available to the Site from Eversource. Public water and sewer from the City of Franklin is provided to the Site from Chance Pond Road. A Site Location Plan has been provided as **Figure 1,** and **Figure 2** depicts pertinent Site features.

2.2 SITE HISTORY

The Site building was constructed as a foundry in 1905. The Site was used as a foundry from construction through 1910, as a mica shop from 1910 through the 1950s, as a body shop from the 1950s through 1967, and again as a foundry from 1967 through the present. Prior to 1927 an onsite bridge spanned Chance Pond Brook but was removed during the mid-1960s. The Site was occupied by Norell Foundry and Machine, Incorporated from at least 2003 through 2008. The Site was most recently used for auto repair; however, has been vacant and owned by the City of Franklin since 2014.

2.3 PREVIOUS ENVIRONMENTAL INVESTIGATIONS

Level I Environmental Site Assessment, Provan & Lorber, Inc. (P&L), April 6, 1992

In April 1992, P&L conducted a Level I ESA on behalf of Concord Savings Bank of the Norell Foundry, which was operated by the Macosko family. The report was very brief but indicated the Site building was originally constructed in 1905 as a foundry and had been occupied by various industrial entities since its development. During P&L's reconnaissance, five (5) 55-gallon drums of unknown contents and approximately 90 drums of waste foundry sands were observed. The report indicated sands had been tested in 1988 and were not characteristic of a hazardous waste; however, the test results were not included in the report. Despite the long industrial use of the Site, P&L concluded there was no evidence of "environmental problems" at the Site; however, recommended the waste foundry sands and drums of unknown contents be removed from the Site.

Phase I ESA, Credere, October 16, 2014

Credere completed a Phase I ESA for Lakes Region Planning Commission (LRPC) on behalf of the City of Franklin, New Hampshire, on October 16, 2014. Based on review of historical sources, environmental databases, interviews, User provided information, Site reconnaissance, and judgment by the Environmental Professional; Credere identified the following RECs in connection with the Site:

- REC #1 – Threat of release from improper storage of petroleum, hazardous substances, and universal wastes
- REC #2 – Floor staining throughout the Site building
- REC #3 – Observed filling of the Site with foundry waste southeast of the Site buildings
- REC #4 – Reported filling of the Site with foundry waste northwest of the Site buildings
- REC #5 – Impacts associated with the historical presence of a foundry on the northeast side of Chance Brook
- REC #6 – Potential soil, groundwater, and sediment impacts in the developed and formerly developed portions of the Site from historical uses of the Site

The following environmental findings, which did not meet the definition of a REC, historical REC (HREC), controlled REC (CREC), or *de minimis* condition (DMC) as defined by the ASTM E 1527-13 standard; however, warranted the opinion of the environmental professional and may have represented some degree of business environmental risk, were identified:

- Environmental Finding #1 – Possible hazardous building materials throughout the Site

Based on the RECs and environmental finding identified during the Phase I ESA, Credere recommended the following:

- Removal and proper disposal of containers of petroleum and hazardous materials and all universal wastes from the Site building
- Observation of the estimated 1,000-gallon fuel oil AST for potential evidence of spills or releases that could not be observed during the Phase I ESA
- A Phase II investigation to confirm or dismiss the RECs and environmental finding identified in this Phase I ESA
- A HBMS to assess the presence of hazardous building materials and universal wastes throughout the Site

HBMS, Credere, March 5, 2015

To assess the presence of hazardous building materials within and on the Site building, Credere completed a HBMS for LRPC on behalf of the City of Franklin on March 5, 2015. The HBMS identified the following hazardous building materials:

- Black felt paper roofing material was confirmed to be an asbestos-containing material (ACM) and the painted corrugated metal roof was assumed ACM coated
- Lead-containing paints at concentrations that require proper handling in accordance with Occupational Safety and Health Administration (OSHA) Lead in Construction standards included white, red, and gray exterior paint, and white and light-green interior paint on walls and windows
- PCBs were identified in yellow wall paint, a tacky floor coating, and light green paint on the interior of the Site building at concentrations that require proper disposal if removed from use (e.g., during demolition of the Site building)
- Many containers of hazardous or other waste were inventoried in the Site building and thermostats, lead-acid batteries, freon-containing equipment, and fluorescent light fixtures were inventoried as universal waste

The following limitations were noted during the HBMS:

- Credere did not access the Site building's roofs during the inspection due to snow and ice conditions and building deterioration causing safety concerns. Roofs were therefore assessed by ladder from low-hanging edges and/or collecting materials from collapsed roof sections within the Site building.
- Due to the secured nature of the kerosene aboveground storage tank (AST) area (i.e., it was boarded up), Credere did not enter the AST area during the survey.
- The crawl space beneath the office area was not entered due to the unknown nature of the fill material beneath the building (i.e., potential contaminated materials).
- The exterior of the Site building located along Chance Pond Brook could not be inspected due to the building's foundation forming the river's edge; however, is assumed to be similar to other portions of the building.

Based on these findings, Credere made the following recommendations:

- During building demolition, appropriately segregate, as necessary according to disposal facility requirements, the identified ACM. In addition, either sample the coated corrugated metal roofing and other previously inaccessible roof areas for the presence of asbestos, or assume the roofing materials are asbestos-containing for appropriate disposal.
- Prior to or concurrent with building renovation and/or demolition activities, all paint containing lead be properly managed in accordance with the OSHA Lead in Construction Standard and applicable State of New Hampshire solid waste rules. Proper management

includes proper disposal of lead-containing materials in the portion(s) of the building to be demolished.

- If the Site building is to be reused for residential or child-occupied purposes, a Lead Inspection should be conducted according to New Hampshire Department of Health and Human Services, Division of Public Health Services, Healthy Homes and Lead Poisoning Prevention Program rules, and all lead-based paint (LBP) should be properly managed according to those rules.
- During demolition, segregate all PCB-containing painted materials for appropriate disposal, or dispose of all demolition debris at a facility that is permitted to accept non-TSCA regulated PCBs at the at-found concentrations.
- All universal, hazardous, and/or other wastes identified at the Site should be properly consolidated and properly disposed prior to or concurrent with building renovations and/or demolition.

Removal Program Preliminary Assessment/Site Investigation Report, Weston Solutions, Inc., June 2015

On April 15, 2015, Weston Solutions, Inc.'s (Weston's) Superfund Technical Assessment and Response Team (START) mobilized to the Site. Weston in conjunction with the EPA inventoried the hazardous materials and areas of concern throughout the Site. Based on this inventory, the following were collected for the respective analyses in accordance with a *Sampling and Analysis Plan for the Macosko Foundry Site, Franklin, New Hampshire*:

- Nine (9) surface soil samples (SS-01 through SS-09) for metals, volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and polychlorinated biphenyls (PCBs)
- Three (3) waste/debris samples (WS-01 through WS-03) for metals, VOCs, SVOCs, and PCBs
- Three (3) metal shavings samples (MF-01 through MF-03) for VOCs
- One (1) product samples (C-1) for VOCs and pH
- Two (2) oil waste samples (C-2 and C-3) for metals and PCBs

Soil analytical results indicated concentrations of SVOCs 3&4-methylphenol, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and indeno(1,2,3-cd)pyrene; and metals arsenic, lead, and zinc exceeded the NHDES Soil Remediation Standards (SRSs)/Method 1 Risk Based standards. Lead was also detected in one drum. Waste/ash sample results were below the NHDES SRSs/Method 1 Risk Based standards, and metal shavings results were below the laboratory reporting limits.

3. SCOPE OF WORK & METHODOLOGY

The following sampling program was developed to investigate select environmental media at the Site and meet the objectives identified in **Section 1**. Sampling was conducted in accordance with Credere's December 31, 2014, SSQAPP for the Site, which is included in **Appendix A**. A photo log of field activities is included as **Appendix B**.

3.1 SURFACE SOIL SAMPLING & HAND AUGER BORINGS

Two surface soil samples were collected on January 14, 2015, from the ash beneath/within the Site building (CA-SS-7 and CA-SS-8, **Photographs 9 and 10**) during the HBMS. CA-SS-7 was collected from the soil/ash mixture in the basement and CA-SS-8 was collected from the soil and debris in the location of two (2) former furnaces. Surface soil samples were collected across Chance Pond Brook on July 29, 2015, to assess possible impacts associated with the historical foundry (CA-SS-1 and CA-SS-2). Soil was collected with a decontaminated shovel or hand tools into a decontaminated stainless steel bowl, homogenized, and transferred directly into laboratory provided glassware. Volatile samples were collected directly from the hand excavations using a dedicated soil syringe. Samples were placed on ice and submitted to Absolute Resource Associates (ARA) of Portsmouth, New Hampshire, for analysis. Sample locations are depicted on **Figure 2**, and **Table 1** summarizes the sample justification and requested analyses.

On July 29, 2015, three (3) exploratory hand auger borings (HA-1 through HA-3) were completed to observe possible subsurface fill in the area of the former foundry materials (**Photographs 4 and 5**). Shallow refusal was encountered in HA-2 on the initial attempt; therefore, two additional hand auger borings were advanced approximately 5 feet laterally from the original location. Similar shallow refusal was continually encountered.

3.2 CONCRETE SAMPLES

On July 29, 2015, Credere collected three (3) concrete samples from areas of observed floor staining within the auto shop area bay (CA-CC-1), the room located between the auto shop area and office (CA-CC-2), and the basement (CA-CC-3) to assess if the stained concrete floors/pads would be regulated as PCB remediation waste as a result of a historical release of presumably PCB-containing lubricating and waste materials (**Photographs 6 through 8**).

A hammer drill with a 1/2-inch carbide drill bit was used to pulverize the concrete for sampling. A half inch depth was measured and marked on the drill bit. An aluminum foil mat with a 1-inch diameter hole was placed over the location to be sampled to aid in collected of concrete dust. Multiple 0.5-inch depth holes were advanced through the aluminum foil hole using the hammer drill to collect sufficient dust volume for the sample. Concrete dust was collected into a glass container with a stainless steel scoopula. Dedicated sampling tools were used at each location. Samples were placed on ice and submitted to ARA to be analyzed for PCBs by EPA method 8082A with soxhlet extraction. Sample locations are summarized on **Figure 2**, and sample descriptions are provided in **Table 2**.

3.3 REGULATORY CRITERIA

Sample results were compared to the following applicable state and federal standards and/or guidelines.

Soil

Soil analytical results were compared to the June 1, 2015, New Hampshire Code of Administrative Rules Chapter Env-Or 600 – Contaminated Site Management Table 600-2 SRSs and NHDES Risk Characterization and Management Policy Appendix E Method 1 Soil Standard Selection S-2 and S-3 as updated February 2013.

Since concentrations of copper were elevated and NHDES does not have a standard for copper in their SRSs or Method 1 Risk Based standards, the EPA Region 3, 6 and 9 Regional Screening Levels (RSLs) were used to assess concentrations of copper. Results were compared to the residential regional screening level for copper of 3,100 milligrams per kilogram (mg/kg).

Concrete

Concrete sample results were compared to the 40 CFR 761.61 definition of PCB remediation waste for high occupancy areas (i.e., unrestricted use) of 1 mg/kg due to the likely source of PCBs being a liquid spill of unknown source concentration.

4. RESULTS

The following subsections present the results of the data collected during the field work portion of this Phase II ESA.

4.1 SOIL OBSERVATIONS

Sampled soil (CA-SS-1 and CA-SS-2) in the northern parcel was observed to be dark brown topsoil in the top foot underlain by light brown to light gray silt and clay. Hand auger borings at HA-1 and HA-3 proceeded to depths of 2 feet with some metal rusty fasteners and brick observed around 1 foot bgs in HA-3. HA-2 encountered refusal at six inches, most likely on the former concrete foundation.

Sampled fill (CA-SS-7 and CA-SS-8) from beneath the Site building on the southern parcel was observed to contain coal ash and slag intermixed with soil.

4.2 SOIL ANALYTICAL RESULTS

Requested analyses are summarized in **Table 1**. Soil analytical results are summarized on **Table 3**, and complete laboratory analytical reports are provided in **Appendix C**.

VOCs

VOCs results were below the laboratory reporting limits for samples collected during this Limited Phase II ESA except for CA-SS-7 where naphthalene was detected at a concentration matching the laboratory reporting limit.

SVOCs

Several SVOCs were detected in samples CA-SS-1, CA-SS-7, and CA-SS-8; however, concentrations were below the NHDES SRSs. SVOCs analytical results were below the laboratory reporting limits in CA-SS-2.

PCBs

PCB analytical results were below the laboratory reporting limits for the soil samples collected as part of this Phase II ESA.

Priority Pollutant Metals

Metals were detected in each sample collected from the Site as part of this Phase II ESA. The following metals concentrations exceeded the NHDES SRSs or the EPA RSLs (for copper only) in the indicated samples:

- Antimony: CA-SS-8
- Arsenic: CA-SS-1 and CA-SS-8
- Copper: CA-SS-7 and CA-SS-8
- Lead: CA-SS-7 and CA-SS-8
- Zinc: CA-SS-7 and CA-SS-8

4.3 CONCRETE ANALYTICAL RESULTS

PCBs

PCB analytical results were below the laboratory reporting limits in the three concrete samples collected from the Site building.

A field duplicate was not collected during this Phase II ESA as specified by the SSQAPP; however, since analytical results were below the laboratory reporting limits, results would not have been useful in assessing laboratory precision.

4.4 DATA USABILITY

The contracted laboratory, ARA, provided analytical data in accordance with Credere's Maine Generic Quality Assurance Project Plan (QAPP, RFA#14123) and the SSQAPP Addendum. The laboratories provided the following information in analytical reports:

- Data results sheets
- Method blank results
- Surrogate recoveries and acceptance limits
- Duplicate results/acceptance limits
- Spike/duplicate results/acceptance limits
- Laboratory control sample (LCS) results
- Description of analytical methods and results
- Other pertinent results/limits as deemed appropriate

As outlined in the SSQAPP, at the completion of the field tasks and upon receipt of the analytical results, a data usability analysis was conducted to document the precision, bias, accuracy, representativeness, comparability, and completeness of the results. The complete Data Usability

Assessment (DUA) is included in **Appendix D** and the following section summarizes this analysis.

In general, the data reviewed for this project are usable for making project decisions. Data are considered representative with regard to the sample design. Laboratory non-conformances did not result in qualification of the data and are not expected to alter the conclusions drawn from this data.

5. CONCLUSIONS

We have performed a Limited Phase II ESA at the Macosko Foundry located at 187 Chance Pond Road in Franklin, New Hampshire, in accordance with portions of Credere's December 31, 2014, SSQAPP. This investigation successfully met the following objectives:

- Assess the areas of floor staining within the Site building for polychlorinated biphenyls (PCBs, REC #2)
- Assess the potential presence of ash and fill beneath the Site building (REC #3)
- Assess possible impacts associated with the historical presence of a foundry on the northeast side of Chance Pond Brook (REC #5)

Due to the documented containers and associated impacts to environmental media reported in Credere's Phase I ESA, EPA initiated a Removal Action to assess and partially cleanup portions of the Site. Much of the sampling proposed in Credere's December 31, 2014, SSQAPP was completed during an EPA Preliminary Assessment/Site Investigation. Therefore, proposed test pits and associated sampling to fully assess recognized environmental condition (REC) #3, REC #4, and REC #6 were not completed to avoid duplication of efforts. Credere only completed the portions of the SSQAPP not covered by EPAs Preliminary Assessment/Site Investigation. The EPA removal order will address/dismiss REC #1. Additionally, hazardous building materials (Environmental Finding #1) were previously assessed and reported in Credere's March 5, 2015, Hazardous Building Material Survey (HBMS) report.

Credere's conclusions related to REC #2, REC #3 and REC #5 are presented below:

REC #2 – Floor staining throughout the Site building from potential PCB containing materials: DISMISSED

Floor staining was observed in many areas throughout the Site building likely from the use of lubricating, cutting, or waste oils used in the foundry, machine shop, and/or automotive related operations that took place at the Site. The operation of the Site occurred throughout the era of peak production of PCBs and the lubricating and waste oils used at the Site may have contained PCBs.

Concrete samples were collected from stained areas in the auto shop area bay, area between the auto shop area and office, and basement metal shop. Laboratory analytical results were below the laboratory reporting limits. Based on these results, there is no evidence of a release of PCB-containing oil to the Site building; therefore, impacts associated with the floor staining are dismissed.

REC #3- Observed filling of the Site with foundry waste: CONFIRMED

Credere observed fill materials to the southeast of the Site building that contained metal shavings and ash fill beneath the Site building that are likely a waste product of industrial operations at the Site. The exterior metal shavings fill material was assessed during EPA's assessment; however,

Credere collected samples of the comingled ash and soil in the basement and soil and debris from the former furnace area. Analytical results indicated the samples contained low level PAHs below the NHDES SRSs; however, antimony, arsenic, copper, lead, and zinc concentrations exceeded the NHDES SRSs or the EPA Regional Screening Levels where SRSs were not available. In the area of the former furnace, copper, lead, and zinc concentrations were 34,000 mg/kg, 3,100 mg.kg, and 21,000 mg/kg, respectively. There are no hazardous waste guidelines for copper or zinc; however, the lead concentration exceeds the hazardous waste determination using the 20 times rule indicating these metals may be leaching to groundwater.

The elevated concentrations of heavy metals, which are typical of foundry waste, detected in the sampled material in the basement and in the area the former furnace can be attributed to historical operations at the Site. Additionally, the recent EPA assessment identified similar metals concentrations in exterior fill containing metal shavings. Therefore, the observed filling of the Site with foundry waste is confirmed. Additional assessment is necessary to assess the extent of foundry waste.

REC #5 – Impacts associated with the historical presence of a foundry on the northeast side of Chance Pond Brook: DISMISSED

According to information obtained from the Franklin Historical Society, in 1910 a foundry was constructed across the brook in the area where a building foundation was observed during the Site reconnaissance. In 1920, this foundry burned and was never reconstructed. Similar conditions to the current foundry (i.e., petroleum or hazardous materials storage and use, filling, etc.) may have been present in this portion of the Site during operation of the historical foundry.

Two surface soil samples collected and supplemental observational hand auger borings were advanced in the area of the historical foundry. Low levels of PAHs were detected below the NHDES SRSs. Arsenic results exceeded the NHDES SRSs; however, based on the lack of other heavy metal exceedances typical of foundries[2] (e.g., concentration identified in the developed portion of the Site), these concentrations are likely naturally occurring. Trace debris including rusty metal fasteners and brick debris were observed within the former foundry foundation, but no ash, slag, or metal shavings were observed. It is likely the debris is from the burning of the building.

Based on the field observation and analytical results, impacts associated with the historical foundry on the northeast side of Chance Pond Brook are dismissed.

6. RECOMMENDATIONS

Based on the findings and conclusions of this investigation, Credere makes the following recommendation:

- Complete remedial actions in accordance with EPA removal requirements and associated work plans to reduce the exposure potential and threat of release from containerized material or migration of impacted fill throughout the developed portion of the Site

The following recommendations also carry over from the HBMS and are recommended based in EPA's June Site Investigation Report.

- During building demolition, appropriately segregate, as necessary according to disposal facility requirements, the asbestos-containing felt paper located beneath the upper asphalt roof of the Site building. In addition, either sample the coated corrugated metal roofing and Roof Field 4 for asbestos analysis, or assume the roofing materials are asbestos-containing for appropriate disposal.
- Prior to or concurrent with building renovation and/or demolition activities, all paint containing lead be properly managed in accordance with the OSHA Lead in Construction Standard and applicable State of New Hampshire solid waste rules. Proper management includes proper disposal of lead-containing materials in the portion(s) of the building to be demolished.
- If the Site building is to be reused for residential or child-occupied purposes, a Lead Inspection should be conducted according to New Hampshire Department of Health and Human Services, Division of Public Health Services, Healthy Homes and Lead Poisoning Prevention Program rules, and all LBP should be properly managed according to those rules.
- During demolition, segregate all PCB-containing painted materials for appropriate disposal, or dispose of all demolition debris at a facility that is permitted to accept non-TSCA regulated PCBs at the at-found concentrations.
- All universal, hazardous, and/or other wastes identified at the Site should be properly consolidated and properly disposed prior to or concurrent with building renovations and/or demolition.

7. LIMITATIONS

This report has been prepared by Credere for the LRPC on behalf of the City of Franklin, New Hampshire, in order to provide information upon which it can rely concerning the existence or likely existence of various environmental contaminants on or adjacent to the property evaluated.

This report does not reflect:

1. Conditions in untested areas and the characteristics of untested media.
2. Variations in chemical concentrations that can occur between sample locations.
3. The total understanding of historical Site activities, uses, equipment, or fixtures that may have contributed or are currently contributing to Site contamination, particularly relating to building material history.
4. Knowledge of the potential presence of compound sources other than what was surficially visible at the time of survey performance.
5. The potential presence of analytes that were not analyzed or that may be present below minimum Laboratory Reporting Limits for the methods tested.
6. Potential variation in the Site conditions that may have occurred at a time other than when the Site survey was completed.

In the event that any conditions different from those described herein are encountered at a later time, Credere requests an opportunity to review such differences and modify the assessment and conclusions of this report. This report was prepared expressly for the purpose described. The information in this report may not be suitable for any other use without adaptation for the specific purpose intended. Any such reuse of this report, without adaptation, shall be at the sole risk and liability of the party undertaking the reuse.

8. SIGNATURES OF ENVIRONMENTAL PROFESSIONALS

The following individual(s) meet the qualifications for individuals completing or overseeing all appropriate inquiries, and possess sufficient specific education, training, and experience necessary to exercise professional judgment to develop opinions and conclusions regarding the existence of environmental conditions on the Site. Any work completed on this ESA by an individual who is not considered an environmental professional was completed under the supervision or responsible charge of the environmental professional.

Allison Drouin, PG
Geologist/Primary Reviewer

Judd Newcomb, PG, CG
Geologist/Project Manager

Rip Patten, PE, LSP
Vice-President/Secondary Review

Theresa Patten, PE
President/Technical Review

FIGURES

DRAWN BY: **MTG**	DATE: **9/18/15**
CHECKED BY: **ASD**	PROJECT: **14001247**

Credere Associates, LLC
776 MAIN STREET
WESTBROOK, MAINE
Tel. 207.828.1272
Fax 207.887.1051
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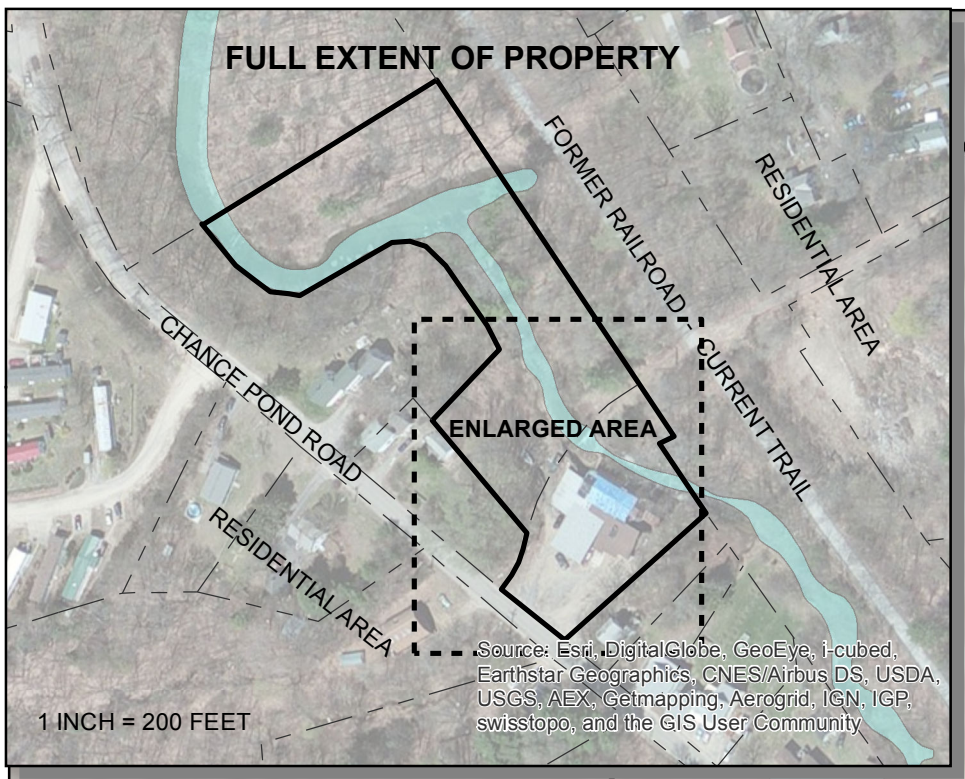
FIGURE 1 - SITE LOCATION PLAN

MACOSKO FOUNDRY
NHDES# 201410017
187 CHANCE POND ROAD
FRANKLIN, NEW HAMPSHIRE 03235

1,000 0 2,000 Feet

1 inch = 2,000 feet.

T:\Data\NH\Town\Franklin\14001247-Ferrari Mill



FORMER RAILROAD - CURRENT TRAIL

OBSERVED FORMER FOUNDRY FOUNDATION

HA-2

CA-SS-1

HA-1

CA-SS-2

HA-3

SS-05

SS-04

CHANCE POND BROOK

REPORTED FILL AREA

REPORTED 1,000-GALLON KEROSENE AST

FORMER BRIDGE

OBSERVED ASH FILL BENEATH BUILDING

COVERED STORAGE AREA

SS-01

SS-02

SS-03

CA-CC-2

CA-SS-7

SS-07

SS-06

CA-CC-3 (BASEMENT)

CA-SS-8

CA-CC-1

SS-09

SS-08

OBSERVED METAL FILL MATERIALS

SAND SHAKER PIT

LOCATION OF TWO (2) FORMER FURNACES AND STAINED SOIL OR ASH

RESIDENTIAL PROPERTY 191 CHANCE POND ROAD

161 CHANCE POND ROAD

RESIDENTIAL PROPERTY

Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

NOTES:

1. EXISTING CONDITIONS FEATURES SHOWN ON THIS PLAN ARE APPROXIMATE AND ARE BASED ON INFORMATION OBTAINED FROM THE CITY OF FRANKLIN TAX MAP 97 AND THE FIELD WORK PERFORMED ON JULY 29, 2015.

2. AS PART OF THE EPA ASSESSMENT ON APRIL 15, 2015, WESTON SOLUTIONS IN ADDITIONAL THE THE SURFACE SAMPLES DEPICTED ON THIS MAP, COLLECTED THE FOLLOWING WASTE (WS), CONTAINER (C),AND METAL FILINGS (MF) SAMPLES IN THE DESCRIPED LOCATION:

WS-01 - CRAWL SPACE ADJACENT TO THE BASEMENT ENTRANCE
WS-02 - A BUCKET OF FOUNDRY SAND WITHIN THE SITE BUILDING
WS-03 - FLOOR SURFACE BENEATH THE FURNACE AREA.
MF-01 - 5-GALLON CONTAINER
MF-02 - BOTTOM OF A 55-GALLON DRUM
MF-03 - INTERIOR BOTTOM OF A MILLING MACHINE
C-1 - PINK 5-GALLON POLYETHYLENE CONTAINER OF LIQUID
C-2 - RED 5-GALLON POLYETHYLENE CONTAINER
C-3 - 55-GALLON DRUM OF SUSPECTED WASTE OIL

30 0 60 Feet

1 INCH = 30 FEET

DRN BY: **MAK/MTG**	DATE: **9/18/2015**
CHKD BY: **JRN**	PROJECT:**14001247**

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FIGURE 2
SAMPLE LOCATION PLAN

MACOSKO FOUNDRY
NHDES# 201410017
187 CHANCE POND ROAD
FRANKLIN, NEW HAMPSHIRE 03235

- SURFACE SOIL SAMPLE
- C CONCRETE SAMPLE
- HAND
- SURFACE SAMPLE COLLECTED BY WESTEN (APRIL 2015)
- ABOVEGROUND STORAGE TANK (AST)
- PROPANE CYLINDERS
- T POLE MOUNTED TRANSFORMER
- AREA OF POTENTIAL CONCERN
- BUILDING
- CHANCE POND BROOK
- FORMER BRIDGE
- SITE BOUNDARY
- PARCEL BOUNDARY
- RELIC BUILDING FOUNDATION

T:\Data\NH\Town\Franklin\14001247\MACOSKO FOUNDRY

TABLES

Table 1
Soil Sample Summary
Macosko Foundry
187 Chance Pond Road, Franklin, New Hampshire

Sample Location	Location Rationale	Sample ID	Requested Analytical Method	Sample Observations
CA-SS-1	To assess surface soil impacts from the historical presence of a foundry (REC #5)	CA-SS-1 (0-2)	VOCs (EPA Method 8260C) SVOCs (EPA Method 8270D) Priority Pollutant Metals (EPA Methods 6010C & 7471B) PCBs (EPA Method 8082A)	None
CA-SS-2		CA-SS-2 (0-2)	VOCs (EPA Method 8260C) SVOCs (EPA Method 8270D) Priority Pollutant Metals (EPA Methods 6010C & 7471B) PCBs (EPA Method 8082A)	None
CA-SS-7	To assess the ash fill beneath the Site building (REC #3)	CA-SS-7 (0-2)	SVOCs (EPA Method 8270D) Priority Pollutant Metals (EPA Method 6010C & 7471B) PCBs (EPA Method 8082A)	Ash and slag comingled with soil
CA-SS-8		CA-SS-8 (0-2)		Ash and slag comingled with soil
HA-1	To assess the area of the former foundry on the northeast side of the river to observed possible subsurface/surficial fill and evaluate the extent of fill (if observed)	Not sampled	No samples analyses requested	Concrete refusal at 6"
HA-2		Not sampled	No samples analyses requested	None
HA-3		Not sampled	No samples analyses requested	Some brick and rusty fasteners at 1'

Notes:
REC - Recognized Environmental Condition
bgs - Below ground surface
Priority pollutant metals (Sb,As,Be,Cd,Cr,Cu,Pb,Hg,Ni,Se,Ag,Ti,Zn)
VOCs - Volatile organic compounds
SVOC - Semi-volatile organic compound
EPA - Environmental Prtoection Agency
PCB - Polychlorinated biphenyl

Table 2
PCB Sample Summary and Results
Macosko Foundry
187 Chance Pond Road, Franklin, New Hampshire

Sample Name	Location	Material	Regulatory Criteria (mg/kg)	Total PCBs (mg/kg)
CA-CC-1	Auto shop area	Gray Concrete	1*	ND<0.2
CA-CC-2	Room located between the auto shop area and office	Gray Concrete		ND<0.1
CA-CC-3	Basement metal shop	Gray Concrete		ND<0.2

Notes:

ND<0.2- Not detected above indicated laboratory reporting limit

* Results are compared to 40 CFR 761.61 definition of PCB remediation waste for high occupancy areas (i.e., unrestricted use) due to the likely source of PCBs being a liquid spill of unknown source concentration.

Table 3
Summary of Soil Analytical Results
Macosko Foundry Property
187 Chance Pond Road, Franklin, New Hampshire

Parameter*	Regulatory Criteria[1, 2] (mg/kg)	Sample ID, Depth, Sample Date				
		CA-SS-1		CA-SS-2	CA-SS-7	CA-SS-8
		0-2		0-2	0-2	0-2
		7/29/2015	CA-DUP	7/29/2015	1/14/2015	1/14/2015
Volatile Organic Compounds (VOCs) by EPA Method 8260C (mg/kg)						
napthalene	5	ND<0.2	ND<0.2	ND<0.1	**0.1**	NS
Semivolatile Organic Compounds (SVOCs) by EPA Method 8270D (mg/kg)						
chrysene	120	**0.19**	**0.12**	ND<0.06	ND<0.05	ND<0.05
benzo(b)fluoranthene	1	**0.14**	**0.11**	ND<0.06	ND<0.05	ND<0.05
benzo(k)fluoranthene	12	**0.16**	**0.09**	ND<0.06	ND<0.05	ND<0.05
benzo(a)pyrene	0.7	**0.14**	**0.08**	ND<0.06	ND<0.05	ND<0.05
fluoranthene	960	**0.35**	**0.18**	ND<0.06	ND<0.05	**0.23**
benzo(a)anthracene	1	**0.12**	ND<0.07	ND<0.06	ND<0.05	ND<0.05
phenanthrene	NE	**0.26**	**0.15**	ND<0.06	ND<0.05	**2.8**
pyrene	720	**0.25**	**0.14**	ND<0.06	ND<0.05	**1.0**
naphthalene	5	ND<0.08	ND<0.07	ND<0.06	**0.07**	**0.30**
2-methylnaphthalene	96	ND<0.08	**0.08**	ND<0.06	**0.08**	**1.8**
flourene	77	ND<0.08	ND<0.07	ND<0.06	ND<0.05	**0.40**
bis(2-ethylhexal)phthalate	72	ND<0.8	ND<0.7	ND<0.6	ND<0.5	**1.9**
Polychlorinated Biphenyls (PCBs) by EPA Method 8082A (mg/kg)						
Total PCBs	1	ND<0.2	ND<0.2	ND<0.2	ND<0.8	ND<0.7
Priority Pollutant Metals by EPA Method 6010C & 7471B (mg/kg)						
antimony	9	ND<1.0	ND<0.9	ND<0.8	**0.7**	**9.5**
arsenic	11	**17**	**19**	**7.4**	**3.8**	**13**
beryllium	12	**0.7**	**0.7**	ND<0.5	**0.4**	**0.4**
cadmium	33	**1.2**	**1.2**	ND<0.5	**7.0**	**24**
chromium (total)	130	**17**	**12**	**18**	**9.0**	**54**
copper	3,100^	**76**	**69**	**58**	**4,000**	**34,000**
lead	400	**180**	**130**	**47**	**600**	**3,100**
mercury	7	**1.3**	**1.2**	ND<0.22	ND<0.18	**0.28**
nickel	400	**18**	**13**	**20**	**24**	**360**
silver	89	ND<1.1	ND<1.0	ND<0.9	**0.6**	**11**
zinc	1,000	**280**	**270**	**97**	**3,500**	**21,000**

NOTES:
mg/kg - milligrams per kilogram
*Only analytes with detections are shown, all other sample results analyses were below the laboratory reporting limit.

1 - New Hampshire Department of Environmental Services (NHDES) Code of Administrative Rules Chap. Env-Or 600, Soil Remediation Standards, Table 600-2, June 1, 2015

2, ^ - United States Environmental Protection Agency Regions 3, 6, and 9. (accessed May 2014). Regional Screening Levels for Chemical Contaminants at Superfund Sites (Residential Soil).

NE - not established
NS - not sampled
ND<0.2 - Results were below the laboratory reporting limits, laboratory reporting limit shown
Bold Exceeds laboratory reporting limit
Exceeds applicable regulatory guideline

APPENDIX A

SITE-SPECIFIC QUALITY ASSURANCE PROJECT PLAN

Waste Management Division
PO Box 95, 29 Hazen Drive
Concord, NH 03302

Type of Submittal (Check One-Most Applicable)

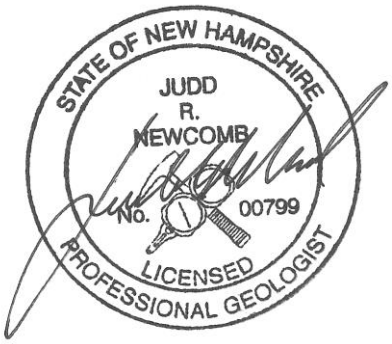
☐ Work Scope ☐ Reimbursement Request	☐ Remedial Action • Remedial Action Plan • Bid Plans and Specifications • Remedial Action Implementation Report ☐ Treatment System and POE O&M ☐ Activity and Use Restriction
☐ UST Facility Report ☐ AST Facility Report	
☐ Emergency/Initial Response Action ☐ Groundwater Quality Assessment	☐ Temporary Surface Water Discharge Permit
☐ Initial Site Characterization ☐ Site Investigation • Site Investigation Report • Supplemental Site Investigation Report • GMZ Delineation • Source Area Investigation • Data Submittal • Annual Summary Report ☒ Unsolicited Brownfields Work Plan ☐ Closure Documentation	☐ Groundwater Management Permit • Permit Application • Renewal Application • Deed Recordation Documentation • Abutter Notification Documentation • Release of Recordation ☐ Data Submittal ☐ Annual Summary Report

SITE SPECIFIC QUALITY ASSURANCE PROJECT PLAN

Macosko Foundry
187 Chance Pond Road
Franklin, New Hampshire 03235
NHDES Site #201410017

City of Franklin
124 Memorial Street
Franklin, New Hampshire 03235
Phone: (603) 934-2341
Contact: Mr. Dick Lewis

Prepared For:
Lakes Region Planning Commission, Brownfields Assessment Grant
103 Main Street #3
Meredith, New Hampshire 03253
Phone: (603) 279-8171
Contact: Mr. Jeff Hayes



Prepared By:
CREDERE ASSOCIATES, LLC
776 Main Street
Westbrook, ME 04902
Phone: (207) 828-1272 ext. 16
Contact: Judd Newcomb, CG, PG

December 31, 2014

Recommended Risk Category (check one)

☐ 1. Immediate Human Health Risk (Impacted water supply well, etc.)	☐ 4. Surface Water Impact	☐ 7. Alternate Water Available/Low Level Groundwater Contamination (<1,000 X AGQS)
☐ 2. Potential Human Health Risk (Water supply well within 1,000' or Site within SWPA)	☐ 5. No Alternate Water Available/No Existing Wells in Area	☐ 8. No AGQS Violation/No Source Remaining
☐ 3. Free Product or Source Hazard	☐ 6. Alternate Water Available/High Level Groundwater Contamination (>1,000 X AGQS)	☐ Closure Recommended

1. TITLE AND APPROVAL PAGE

SITE-SPECIFIC QUALITY ASSURANCE PROJECT PLAN (SSQAPP)
ADDENDUM TO NEW HAMPSHIRE GENERIC QAPP RFA #14123

PROPERTY:
Macosko Foundry
NHDES #201410017
187 Chance Pond Road, Franklin, New Hampshire
EPA Brownfields Assessment Grant # BF-96176301

PREPARED BY:
Credere Associates, LLC
776 Main Street, Westbrook, Maine 04092
(207) 828-1272

December 31, 2014

Below is a listing of the names, titles, signatures, and signature dates of officials approving this Site Specific Quality Assurance Project Plan (SSQAPP) Addendum:

12/31/14
Alan Peterson — Date
EPA Brownfields Project Officer

12/31/14
Jeff Hayes — Date
Lakes Region Planning Commission, Brownfields Assessment Grantee

12/31/2014
Rebecca Williams — Date
NHDES Project Manager

12-31-2014
Judd Newcomb, PG, CG — Date
Credere Associates, LLC QA/QC Manager

12-31-2014
Rip Patten, PE, LSP, LEED-AP — Date
Credere Associates, LLC Program Manager

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APPENDICES

2. INTRODUCTION

Credere Associates, LLC (Credere) was retained by Lakes Region Planning Commission (LRPC) to prepare this Site-Specific Quality Assurance Project Plan (SSQAPP) on behalf of the City of Franklin, New Hampshire. LRPC is using funding from a U.S. Environmental Protection Agency (EPA) Brownfields Assessment Grant (Grant number: BF-96176301) to conduct assessment activities at the Macosko Foundry located at 187 Chance Pond Road in the City of Franklin, New Hampshire (the Site).

This SSQAPP presents the following information:

- Problem definition including a Site description and summary of background information for the Site
- Project description and timeline
- Preliminary conceptual site model (CSM)
- Assessment objectives and proposed sampling design and rationale
- Site-specific field sampling and analytical methodology
- Regulatory standards applicable to the Site for each proposed sampling media

This SSQAPP was prepared to be used in concert with Credere's Generic Quality Assurance Project Plan (QAPP) EPA Quality Assurance Tracking: Request for Assistance (RFA) #14123 revision dated September 4, 2014, which was prepared for all of Credere's EPA Brownfields work in New Hampshire. The quality assurance and quality control (QA/QC) procedures outlined in Credere's Generic QAPP will be followed for this investigation program including sample collection, handling, and analysis of samples; chain-of-custody; and data management, documentation, validation and usability assessment. Sampling as outlined in this SSQAPP will not occur until receipt of approval from EPA and the New Hampshire Department of Environmental Services (NHDES).

Figure 1 shows the general location of the Site in Franklin, New Hampshire; **Figure 2** presents pertinent Site features and proposed sampling locations; and **Figure 3** is a Project Organization Flow Chart for the Macosko Foundry project team.

3. PROBLEM DEFINITION

3.1 SITE DESCRIPTION

The Site comprises two parcels of land (the south and north parcel, 0.691 and 1.698 acres, respectively) that are bisected by Chance Pond Brook. The Site is located in a rural area of Franklin characterized primarily by sparse residential development. The south parcel contains a building that was observed to be in fair to poor condition with a single story office and apartment area (a portion of which was raised on columns due to the sloping grade at the Site), a single story garage and machine shop, a two story foundry area with a basement, and an exterior covered storage area. At the time of the Phase I Environmental Site Assessment (ESA), operations at the Site were inactive. It appeared that most foundry operations had ceased and very little foundry equipment was present. The majority of equipment remaining in the Site building was related to machine shop operations or auto repair. The northern parcel was wooded or overgrown and contained a former foundry building foundation.

The Site is currently owned by the City of Franklin and is identified as Map 97, Lots 37 and 38. The general location of the Site is provided on **Figure 1**, and pertinent Site details are depicted on **Figure 2**.

3.2 SITE HISTORY

The Site

The Site building was constructed as a foundry in 1905. The current Site building was used as a foundry from construction through 1910, as a mica shop from 1910 through the 1950s, as a body shop from the 1950s through 1967, and again as a foundry from 1967 through the present. In 1920, a former foundry building reportedly burned and was never reconstructed. Prior to 1927, a bridge was located across Chance Pond Brook in the location of the Site but was removed during the mid-1960s. Most recently, foundry operations ceased after the Norell Foundry closed in 2002, and the Site has been used as a machine shop and auto shop since.

Surrounding Area

The surrounding area has been used primarily for residential purposes through time.

3.3 PRIOR INVESTIGATIONS

The following prior environmental reports were identified for the Site.

Level I Environmental Site Assessment, Provan & Lorber, Inc. (P&L), April 6, 1992

In April 1992, P&L conducted a Level I ESA on behalf of Concord Savings Bank of the Norell Foundry, which was operated by the Macosko family. The report was very brief but indicated that the Site building was originally constructed in 1905 as a foundry and had been occupied by various industrial entities since its development. During P&L's reconnaissance, they observed five (5) 55-gallon drums of unknown contents and approximately 90 drums of waste foundry sands. The report indicated that the sands had been tested in 1988 and were not characteristic of

a hazardous waste; however, the test results were not included in the report. Despite the long industrial use of the Site, P&L concluded there was no evidence of "environmental problems" at the Site; however, recommended that the waste foundry sands and drums of unknown contents be removed from the Site.

Phase I Environmental Site Assessment (ESA), October 16, 2014, Credere

Credere prepared a Phase I ESA for the Site dated October 16, 2014. Based on reviews of historical sources, environmental databases, interviews, information provided by the City of Franklin, a Site reconnaissance, and judgment by the Environmental Professional, the following recognized environmental conditions (RECs) were identified in connection with the Site:

- REC #1 – Threat of release from improper storage of petroleum, hazardous substances, and universal wastes
- REC #2 – Floor staining throughout the Site building
- REC #3 – Observed filling of the Site with foundry waste
- REC #4 – Reported filling of the Site with foundry waste
- REC #5 – Historical presence of a foundry on the northeast side of Chance Pond Brook
- REC #6 – Potential soil, groundwater, and sediment impacts in the developed and formerly developed portions of the Site from historical uses of the Site

Additionally, the following environmental finding, which did not meet ASTM E 1527-13's definition of a REC, historical REC (HREC), controlled REC (CREC), or *de minimis* condition (DMC), but warranted the opinion of an Environmental Professional, was identified:

- Environmental Finding #1 – Observed possible hazardous building materials throughout the Site

Based on the RECs and environmental finding identified during this Phase I ESA, Credere recommended the following:

- Removal of all containers of petroleum and hazardous materials, and all universal wastes from the Site building, and inspect the overgrown area to the northwest for additional containers in the fall when vegetation subsides
- The estimated 1,000-gallon fuel oil AST area be accessed and observed for potential evidence of spills or releases
- A Phase II investigation to confirm or dismiss the RECs and environmental finding identified in this Phase I ESA
- A hazardous building material survey (HBMS) be completed to assess the presence of hazardous building materials and universal wastes throughout the Site

4. PROJECT DESCRIPTION & TIMELINE

4.1 REDEVELOPMENT SCENARIO

The City of Franklin intends to assess and cleanup the Site to protect area residents and the environment and restore the property to taxable status. Redevelopment plans are unclear at this time; however, the Site will likely either be sold to a commercial business or as a residential lot.

4.2 PROPOSED PROJECT TIMELINE

The following schedule is proposed for the assessment work. This is a dynamic schedule and tasks may be performed later based on document regulatory review time and contractor availability.

TENTATIVE DATE	ACTION
November 2014	Submit Draft SSQAPP
December 2014	EPA and NHDES SSQAPP Review Period
December 2014	Finalize SSQAPP and Begin Phase II ESA
February 2014	Submit Draft Phase II ESA Report
February-March 2014	NHDES Review Period
March 2014	Finalize Phase II ESA Report

5. CONCEPTUAL SITE MODEL

A CSM was developed using the findings from prior environmental investigations and the Phase I ESA and will be updated in subsequent reports as new information becomes available. This CSM includes a description of the physical setting of the Site, contaminants of concern (COCs), extent of contamination, exposure pathways, and potential human and environmental receptors.

5.1 PHYSICAL SETTING

Topography

Based on Credere's observations and the United States Geological Survey (USGS) Topographic Map of the Franklin Quadrangle, New Hampshire, topography at the Site generally slopes southwest on the northeast side of Chance Pond Book and east and northeast on the southwest side of Chance Pond Brook; however, portions of the Site have been graded so they are generally flat for vehicle parking, etc. Elevation at the Site is approximately 380 feet above mean sea level. An excerpt from the USGS map has been included as **Figure 1**.

Geology

Surficial Geology

According to the physical Setting Source Summary in the Environmental Database Report (EDR) included in Credere's Phase I ESA, which is derived from the US Department of Agriculture's Soil Conservation Service National Cooperative Survey, Site soils are mapped as Occum soils, which typically consist of well drained fine sandy loam with moderate infiltration rates.

Bedrock Geology

According to the Bedrock Geologic Map of New Hampshire, bedrock beneath the Site consists of Lower Silurian variably metamorphosed sedimentary and volcanic rocks of greenschist to granulite facies that are the upper part of the Rangley Formation. Large boulders and what are presumed to be bedrock outcrops were observed throughout the Chance Pond Brook streambed.

Hydrology

The nearest surface water body to the Site is the Chance Pond Brook, which bisects the Site. Chance Pond Brook flows southeast and joins the Pemigewasset River approximately 2,000 feet southeast of the Site. Stormwater from the Site and surrounding area most likely flows toward Chance Pond Brook or infiltrates the permeable areas of the Site. Based on the proximity to the River, depth to groundwater at the Site is presumed be between 6 and 10 feet below grade.

Groundwater in the area was inferred to flow downslope to the east and northeast on the southwest side of Chance Pond Brook and southwest on the northeast side of Chance Pond Brook, which flows southeast through the Site.

5.2 CURRENT CONTAMINANTS OF CONCERN

Based on the historical use of the Site, current COCs include volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs) associated with the use of degreasers, solvents, and petroleum products throughout the history of the Site, and metals associated with the use of the Site as a foundry. PCBs are also a COC as they may have been present in lubricating and cutting oils used at the foundry and during the Site's use as a machine shop.

Asbestos, lead contained in lead-based paint (LBP), and PCBs in building materials may also be present in/on the current Site building and are also considered COCs.

5.3 EXTENT OF CONTAMINATION

The extent of COCs at the Site is currently unknown based on lack of prior environmental assessment at the Site; however, based on Site observations and historical information reviewed during the Phase I ESA, COCs are potentially located in the following areas.

- VOCs and SVOCs are potentially located in areas where cutting or lubricating oils, degreasers, or other petroleum products were used, handled, stored, or possibly discharged to the surface or subsurface with fill material that is present at the Site.
- Metals may be found in surface soil throughout the Site due to the long history of the Site's use as a foundry. Particularly metals are expected to be encountered in the fill material observed at the Site.
- PCBs are potentially located in oil handling areas (e.g. loading docks), in surface soils due to tracking of oils across the Site by trucks or by foot traffic, in fill materials, and in areas of concrete staining within the Site buildings.
- If ACM, PCBs, and LBP are identified in/on the Site buildings they are presumed to be confined to the Site buildings or immediately surrounding the Site buildings in soil.

5.4 EXPOSURE PATHWAYS AND POTENTIAL RECEPTORS

Exposure pathways describe how a human or environmental receptor comes into contact with contaminants that may be present at the Site. Exposure pathways presented in the CSM include the following:

Active Ingestion: The active ingestion pathway represents exposure which may occur through the active ingestion of contaminant concentrations via a drinking water supply well, through agricultural products, or through direct consumption of soil (typically by children).

Inhalation: This pathway is primarily associated with groundwater contamination within 30 feet of an occupied structure when groundwater elevation is less than 15 feet below surface grade, or when depth to groundwater is unknown. This pathway is applicable when receptors may inhale impacted media in the form of contaminated vapor.

Dermal Absorption:	Exposure via dermal absorption occurs when receptors are exposed to chemical concentrations present in soil, groundwater, surface water, or hazardous building materials through direct contact with the skin.
Incidental Uptake:	This pathway is applicable when receptors may incidentally inhale or ingest impacted media in the form of contaminated dust, chips, or airborne asbestos fibers.

Potential Receptors are categorized by duration of exposure and intensity of use at the Site. The receptor categories described in the CSM include the following:

Resident:	The residential receptor is defined by high durational exposure and high intensity usage which may occur through gardening, digging, and recreational sports. This group includes the occupants of a residential property or a residential neighborhood, or a daycare.
Commercial Workers:	Commercial receptors are those which are present at the Site for long durations but with low intensity exposure such as indoor office workers.
Recreational or Park User:	Park users are characterized by low duration (i.e. less than two hours per day) and low intensity usage such as that which would occur during activities such as walking, shopping, and bird watching.
Excavation or Construction Worker:	Excavation or construction workers are present at the Site for short durations though intensity of use is high, such as during non-routine activities including construction or utility work. Examples include utility and construction contractors and landscapers.
Terrestrial and Aquatic Biota:	These receptors include flora and fauna which may be exposed to contaminants in their respective environments.

5.5 CONCEPTUAL SITE MODEL SUMMARY

COCs at the Site currently include VOCs, SVOCs, metals, PCBs, and hazardous building materials. Since the Site is currently vacant, exposure to COCs at the Site is currently limited to trespassers. However, the Site may be redeveloped for residential or commercial use in the future, which increases exposure to future occupants of the Site.

Under unrestricted use, potential receptors include demolition contractors, construction workers during redevelopment, future residents or commercial works, as well as terrestrial and aquatic biota. Exposure pathways include active ingestion by terrestrial and aquatic biota and by future residents via vegetable gardens, eating with dirty hands, etc.; inhalation of contaminants in indoor air due to the potential for vapor intrusion if soil or groundwater near the Site building are impacted by VOCs; dermal absorption through direct contact with impacted media by demolition or construction workers, future occupants, trespassers, and terrestrial and aquatic biota; and incidental uptake of contaminated dust or asbestos fibers both during construction and by future occupants.

COCs have the potential to migrate with groundwater toward the river and be discharged to surface water. Certain VOCs (i.e. chlorinated solvents) may be migrating vertically downward to a confining layer (e.g. clay or competent bedrock) or may be infiltrating bedrock via fractures. COCs in fill material may also migrate via erosion to the river that traverses the Site by cutting of the river banks.

6. SAMPLING DESIGN

6.1 STATEMENT OF OBJECTIVES

The main objective of this assessment is to assess the RECs and environmental findings and fulfill the recommendations identified during the Phase I ESA. Data collected at the Site during this assessment will be considered in the planning stages for possible cleanup activities and Site reuse. The following Site-specific objectives were established to aid in designing the scope of work:

- Assess three areas of staining and/or ash within the Site building
- Evaluate the extent of fill material in two areas of the Site and characterize the fill
- Assess potential impacts associated with the historical foundry across Chance Pond Brook
- Assess surface soil for impacts associated with historical operations at the Site
- Inventory of hazardous materials in the Site building for proper disposed offsite by others.

Due to limited available budget and lack of proposed redevelopment options, REC #6 is not fully assessed under this scope of work. A more detailed investigation of subsurface soil, groundwater, and sediment can be conducted at a later date to better focus the investigation in coordination with redevelopment.

The following tasks are proposed to address these objectives:

- Collect surface soil samples
- Excavate test pits and collect soil samples from each test pit
- Collect samples from areas of stained concrete
- Perform an asbestos survey of the Site building and collect samples of suspect ACM
- Perform a PCB-containing building material survey of the Site building and collect samples of suspect PCB-containing materials
- Perform a LBP screening of the Site building and perimeter soil, and collect surface soil samples from the building's perimeter
- Perform an inventory of universal and/or hazardous wastes present in the Site building

Specific sampling methodologies are described in **Section 7**. **Table 1** includes the number and type of samples that are proposed to be collected with accompanying rationale, selected analytical methods, and sample volume and preservation details. **Table 2** is a Standard Operating Procedure (SOP) reference table detailing the version of each SOP that will be used during the field sampling program. Approximate sample locations are provided on **Figure 2**.

6.2 SURFACE SOIL SAMPLING & HAND AUGER BORINGS

Eight (8) surface soil samples will be collected from 0 to 2 feet (CA-SS-1 through CA-SS-7) or from available surface material (CA-SS-8) using hand tools (hand auger or trowel) to assess possible sources of surficial contamination identified during the Phase I ESA including the historical presence of a foundry on the northeast side of the river (CA-SS-1 and CA-SS-2), historical use of the Site (CA-SS-3 through CA-SS-6), the presence of ash fill beneath the Site building (CA-SS-7), and the former furnace location with stained soil or ash (CA-SS-8). Surface soil sample locations will be biased towards evidence of contamination (e.g. staining, fill materials, etc.).

At least three (3) exploratory hand auger borings (HA-1 through HA-3) will be conducted in the area of the former foundry on the northeast side of the river to observed possible subsurface/surficial fill and evaluate the extent of fill (if observed). Additional exploratory hand auger locations may be advanced as necessary (HA-4, etc.). No samples will be collected from the additional exploratory hand auger locations.

6.3 TEST PIT EXCAVATION & SOIL SAMPLING

Seven (7) test pits (CA-TP-1 through CA-TP-7) are proposed to be excavated to observe the extent of the industrial fill material to the north and south of the Site building. Two (2) soil samples will be collected from each test pit from the observed fill interval and from the first encountered native soil beneath the fill.

Samples collected from the first encountered native material will be placed on hold pending exceedances of the SRSs in the overlying fill to vertically delineate the extent of fill and assess leaching of contaminants to the native soil. Preliminary results from the overlying fill material samples will be requested on a 5-day turnaround to ensure additional hold analyses are authorized within applicable hold times (i.e. within the VOC 14-day hold time).

Additional test pits may be excavated to further delineate the visual extent of fill; however, no additional laboratory samples will be collected from these additional test pits.

6.4 CONCRETE SAMPLING

Three (3) concrete samples (CA-CC-1 through CA-CC-3) will be collected from areas of observed staining within the Site building. Samples will be analyzed for PCBs to assess if the concrete floors/pads are regulated as PCB remediation waste as a result of a historical release of presumably PCB-containing materials. Approximate concrete sample locations are depicted on **Figure 2**; however, locations will be biased to the areas of staining.

6.5 ASBESTOS SAMPLING

Credere will perform a survey of the Site buildings to identify suspect ACM, and each suspect ACM will be sampled. Sample results will be used to properly manage ACM during renovation or demolition of the Site buildings. Twenty-five (25) samples of suspect ACMs will be collected in triplicate (i.e. 75 total ACM samples). This sampling will be performed in accordance with

NHDES Chapter Env-A 1800 – Asbestos Management and Control. The number of samples actually collected will be dependent on the number and volume of suspect ACMs that are encountered but will not exceed 75 individual samples without project team approval.

6.6 PCB-CONTAINING BUILDING MATERIAL SAMPLING

To assess the potential presence of PCB-containing building materials, the building will be inspected and suspect materials will be inventoried and considered for sampling. Materials that typically contain PCBs include caulk/sealants, paint, and mastics/adhesives that were manufactured between approximately 1930 and 1980 and are most commonly in areas that endure high wear, weather, high heat, or moisture. Typical materials and locations where PCBs are encountered include, but are not limited to:

- exterior caulks and sealants around doors and windows or within expansion joints
- wall paints in high heat or moisture areas such as boiler rooms, equipment rooms, or basements
- floor paints in high traffic areas such as hallways or building entrances
- mastics beneath floor tiles

Considering the size of the Site building and variety of building materials that are expected to be inventoried, 10 suspect PCB-containing building materials (CA-PCB-1 through CA-PCB-10) that are more likely to contain PCBs will be collected for analysis. One field duplicate from each distinctive type of material sampled (e.g. caulks/sealants/adhesives and paints) to a maximum of two duplicate samples will be collected for analysis. Samples will be collected to assess if any hazards are present associated with PCBs in building materials and if the building materials are regulated as PCB bulk product waste as defined by 40 CFR 761.3. If based on the initial results, additional assessment of PCB-containing building materials is needed, approval for additional samples will be proposed and approved under a separate SSQAPP amendment. Data will be used to properly manage building materials that may contain PCBs during renovations to the Site building.

6.7 LBP SCREENING

Painted surfaces throughout the Site building will be screened for lead in LBP using an X-ray fluorescence (XRF) meter. The number of screening points will be dependent on the number of different types/colors of painted surfaces encountered in/on the Site building.

If LBP is identified on the exterior of the Site building (the current exterior or sub-layers), soil surrounding the building will be screened for lead using an XRF meter to assess if chipping or flaking LBP (presently or in the past) from the Site building has impacted Site surface soil. Soil surrounding the building will be presumed to be impacted if XRF screening results exceed 240 parts per million (ppm) (40% error range for the XRF relative to the NHDES Soil Remediation Standard (SRS) for lead of 400 milligrams per kilogram (mg/kg)).

6.8 LBP PERIMETER SOIL SAMPLING

If surface soil is found to be impacted by LBP (see **Section 6.7**), surface soil samples will be collected from soil surrounding the building to quantify soil concentrations from chipping or flaking LBP from the exterior of the Site building. Six (6) sample locations will be selected surrounding the building biased to locations of the highest XRF screening values. Sample locations will be relatively evenly spaced surrounding the Site building.

Two samples will be collected from each location (a total of 12 samples) at depth intervals of 0 to 0.5-feet and 0.5 to 1-foot below grade. The 0.5 to 1-foot samples will be placed on hold pending the results of the 0 to 0.5-feet samples. If results of the related 0 to 0.5-feet sample exceed applicable NHDES SRSs, the associated 0.5 to 1-foot sample analysis will be authorized to delineate the vertical extent of lead impacted soil

No analytical soil samples will be collected if LBP is not found on the exterior of the Site building or if soil XRF field screening results do not exceed 240 ppm.

6.9 UNIVERSAL/HAZARDOUS WASTE INVENTORY

Materials that once removed will meet the definition of universal/hazardous waste include, but are not limited to, fluorescent lighting, smoke detectors, thermostats or switches (that contain mercury), and lead acid batteries. These types of materials at the Site will be inventoried. Inventory results will be used to properly manage universal and/or hazardous wastes during renovation or demolition of the Site building.

7. SAMPLING & ANALYTICAL METHODS REQUIREMENTS

The proposed sampling activities will be conducted according to **Table 1**. Field activities will be conducted in accordance with Credere's Generic QAPP RFA #14123 and the SOPs referenced on **Table 2**.

7.1 SURFACE SOIL SAMPLING & HAND AUGER BORINGS

Exploratory hand auger locations (HA-1 through HA-3, HA-4, etc.) will be advanced as deep as feasibly possible (i.e. the extent of the auger's capabilities or refusal) to allow for maximum observation of the subsurface in the area of the former foundry.

In surface sample locations CA-SS-1 through CA-SS-7, representative soil from a 0 to 2-foot interval will be sampled using decontaminated hand tools (hand auger or trowel) and placed in a decontaminated stainless steel bowl. Soil will be homogenized and placed in laboratory provided glassware. Available soil in the location of CA-SS-8 will be collected using a decontaminated trowel from available soil or ash at the surface and placed directly in laboratory provided glassware. Proposed sample analysis for each respective sample as well as the required volume and preservation is provided on **Table 1**. Soil samples will be stored on ice and submitted to Absolute Resource Associates (ARA) of Portsmouth, New Hampshire, for analysis.

Excess soil from each boring or surface sample location will be returned to its place of origin within the borehole or to the surface surrounding the borehole.

7.2 TEST PIT EXCAVATION & SOIL SAMPLING

Soil will be removed from the test pits by an excavator and stockpiled adjacent to the test pit on polyethylene sheeting to prevent surface contamination of the adjoining area. Test pits will be excavated until native soil is encountered unless the maximum extent of the excavator is encountered first. The sidewalls of the test pit will be logged in the field by a Credere geologist and the thickness of the fill will be measured.

Two soil samples will be collected from each proposed test pit. Soil will be collected from the entire observed fill interval (i.e. a variable thickness) and from the two foot interval of first encountered native soil below the fill. Soil from each interval to be sampled will be placed into a decontaminated stainless steel bowl and homogenized. Volatile samples will be collected directly from the excavator bucket using a dedicated soil syringe. Soil will be transferred to laboratory provided glassware and submitted to ARA for analysis in accordance with **Table 1** and **Section 6.3**.

After sampling, soil will be returned to the excavation in the approximate order it was removed. Soil will be compacted with the excavator bucket in 1-foot lifts. The surface will be finished such that no hazards are protruding from the ground (e.g. large metal scraps).

7.3 CONCRETE SAMPLING

Concrete samples will be collected from three areas of observed staining (CA-CC-1 through CA-CC-3). A hammer drill with a 1-inch diameter carbide drill bit will be used to pulverize the concrete for sampling. A half inch depth will be measured and marked on the drill bit. An aluminum foil mat with a 1-inch diameter hole will be placed over the location to be sampled to aid in collecting concrete dust. A 0.5-inch depth hole will be advanced through the aluminum foil hole using the hammer drill. Concrete dust will be collected in a glass container to be analyzed for PCBs. Multiple 0.5-inch holes in adjacent locations may be advanced to obtain adequate sample mass/volume for sample analysis. Additionally, a stainless steel scoopula or bulb syringe may be used to extract concrete dust from the 0.5-inch hole. Dedicated sampling tools will be used at each location to prevent cross contamination.

7.4 ASBESTOS SAMPLING

Any sampling of suspect ACM at the Site will be conducted by a New Hampshire Certified Asbestos Inspector and in accordance with Env-A 1800: Asbestos Management and Control rules. Three discrete bulk samples will be collected from each type of homogenous suspect ACM (25 suspected ACMs sampled in triplicate for a total of 75 samples). Minor destructive sampling may be required. Samples will be analyzed by EMSL Analytical, Inc. (EMSL) of South Portland, Maine, using Polarized Light Microscopy (PLM) according to EPA Method 600/R-93/116.

7.5 PCB-CONTAINING BUILDING MATERIAL SAMPLING

The buildings will be surveyed to locate the materials that in Credere's experience are more likely to contain concentrations of PCBs exceeding the PCB bulk waste criteria. Up to ten (10) samples (CA-PCB-1 through CA-PCB-10) will be collected using dedicated disposable tools and placed in laboratory provided glassware. Samples will be submitted to ARA for analysis of PCBs by EPA Method 8082 using soxhlet extraction method 3540C.

7.6 LBP SCREENING

Painted surfaces will be screened for the presence of lead in the form of LBP using an XRF meter. Each accessible color and type of paint throughout the Site building will be screened. Paints with screening concentrations of lead exceeding 1.0 mg/cm^2 will be considered LBP. If exterior paint is identified as LBP, soil around the perimeter of the building will be screened to assess if flaking or chipping paint has impacted Site soils. Soil will be screened in 10-foot intervals around the perimeter of the Site building with a focus on areas of the building with the most significant chipping paint.

XRF precision will be assessed by performing precision measurements at one soil screening location. A 7 time replicate will be performed and the relative standard deviation (RSD) will be calculated (RSD = (SD/mean concentrations) x 100). RSD should not exceed 20 percent. If the RSD exceeds the relative percent difference, the XRF will be recalibrated and locations selected for analytical samples will be rescreened to confirm the elevated concentration. Additionally, if

the precision test continues to fail, the soil analytical results will be relied upon for future risk assessment and/or remediation planning.

If LBP screening results are within the instrument's error range (0.6 to 1.1 mg/cm^2), the presumed LBP coated surface will be screened in triplicate at three adjoining locations on the same surface to assure similar results.

7.7 LBP PERIMETER SOIL SAMPLING

If soil is found to be impacted by LBP chips (See **Section 6.7**), 12 soil samples will be collected from 6 locations (CA-SS-LBP-1 through CA-SS-LBP-6). Soil from 0 to 0.5-feet will be collected by hand auger, placed in a decontaminated stainless steel bowl, and homogenized. Soil will then be transferred to laboratory provided glassware and submitted to ARA to be analyzed for lead by EPA Method 6010C. Soil from 0.5-1-foot will be collected by the same method and placed on hold pending the results of the 0 to 0.5-foot sample. If results of the 0 to 0.5-foot sample exceed the NHDES lead SRS of 400 mg/kg, the associated 0.5 to 1-foot sample will be authorized for analysis.

7.8 UNIVERSAL/HAZARDOUS WASTE INVENTORY

Materials as described in **Section 6.9** will be manually counted to inventory what will require disposal as universal or hazardous wastes prior to building demolition and preparation of the Site for reuse.

8. REGULATORY STANDARDS

Sample results will be compared to the applicable state and/or federal standards/guidelines described below. **Appendix A** includes Analytical Sensitivity and Project Criteria Tables for the Site, which compares regulatory standards for each contaminant to the analytical limits of the laboratory method used.

8.1 SOIL ANALYTICAL RESULTS

Soil analytical results will be compared to the New Hampshire Code of Administrative Rules Chapter Env-Or 600 – Contaminated Site Management Table 600-2 SRSs.

8.2 CONCRETE ANALYTICAL RESULTS

PCB results from the three concrete samples will be compared to the remediation waste cleanup guidelines of 1 or 25 mg/kg for high or low occupancy areas, respectively, based on the future reuse of each area sampled in accordance with 40 CFR 761.61.

8.3 ASBESTOS RESULTS

Laboratory analytical results for asbestos bulk samples will be compared to the 1% limit specified in Chapter Env-A 1800 – Asbestos Management and Control.

8.4 PCBS IN BUILDING MATERIALS RESULTS

PCB containing building materials will be compared to the 40 CFR 761.3 definition of PCB bulk product waste. Results will be compared to the 50 mg/kg threshold criteria.

8.5 LBP SCREENING RESULTS

LBP is defined as paint with a lead concentration of 1.0 milligrams per square centimeter (mg/cm^2) or greater in accordance with the United States Department of Housing, Chapter 7: Lead-Based Paint Inspections, 1997 Revision (HUD Guidelines) and with the Chapter 130 – Lead Paint Poisoning Prevention and Control of New Hampshire Statues (Chapter 130). Screening results will be compared to the 1.0 mg/cm^2 HUD Guideline and Chapter 130.

FIGURES

USGS QUADRANGLE INFORMATION: FRANKLIN, NEW HAMPSHIRE 7.5 MINUTE SERIES, 2012

DRAWN BY: AML	DATE: 08/01/2014
CHECKED BY: ASD	PROJECT14001247

FIGURE 1 - SITE LOCATION PLAN

CREDERE ASSOCIATES, LLC
776 MAIN STREET
WESTBROOK, MAINE 04092
TEL: 207.828.1272
FAX: 207.887.1051
WWW.CREDERELLC.COM

MACOSKO FOUNDRY
187 CHANCE POND ROAD
FRANKLIN, NH
NHDES# 199808031

GRAPHIC SCALE
2,000 0 1,000 2,000
1 inch = 2,000 ft.

SITE

FULL EXTENT OF PROPERTY

1 INCH = 200 FEET

ENLARGED AREA

CHANCE POND ROAD

RESIDENTIAL AREA

FORMER RAILROAD - CURRENT TRAIL

RESIDENTIAL AREA

INFERRED GROUNDWATER FLOW DIRECTION

FORMER RAILROAD - CURRENT TRAIL

OBSERVED FORMER FOUNDRY FOUNDATION

ADDITIONAL HAND AUGER POINTS MAY BE ADVANCED FOR OBSERVATION PURPOSES

HA-2

CA-SS-1

HA-1

CA-SS-2

HA-3

REPORTED FILL AREA

CHANCE POND BROOK

REPORTED 1,000-GALLON KEROSENE AST

INFERRED GROUNDWATER FLOW DIRECTION

CA-TP-4

CA-TP-3

CA-TP-2

FORMER BRIDGE

OBSERVED ASH FILL BENEATH BUILDING

CA-TP-1

RESIDENTIAL PROPERTY
191 CHANCE POND ROAD

COVERED STORAGE AREA

C
CA-CC-3

CA-SS-6

CA-CC-2

C

CA-SS-7

CA-SS-8

CA-SS-3

CA-TP-7

SAND SHAKER MOTOR PIT

C
CA-CC-1

PROPANE CYLINDERS

CA-TP-6

CA-SS-5

CA-TP-5

OBSERVED METAL FILL MATERIALS

CA-SS-4

LOCATION OF TWO (2) FORMER FURNACES AND STAINED SOIL OR ASH

CHANCE POND ROAD

RESIDENTIAL PROPERTY

161 CHANCE POND ROAD

RESIDENTIAL PROPERTY

30 0 60 Feet

1 INCH = 30 FEET

NOTES:
1. EXISTING CONDITIONS FEATURES SHOWN ON THIS PLAN ARE APPROXIMATE AND ARE BASED ON INFORMATION OBTAINED FROM THE CITY OF FRANKLIN TAX MAP 97, 2013 ORTHO IMAGES AND THE SITE RECONNAISSANCE VISITS PERFORMED ON JUNE 24, JULY 9, AND JULY 25, 2014.

DRN BY: **SWM/MTG**	DATE: **11/20/2014**
CHKD BY: **ASD**	PROJECT: **14001247**

Credere Associates, LLC
776 MAIN STREET
WESTBROOK, MAINE
Tel. 207.828.1272
Fax 207.887.1051
WWW.CREDERELLC.COM

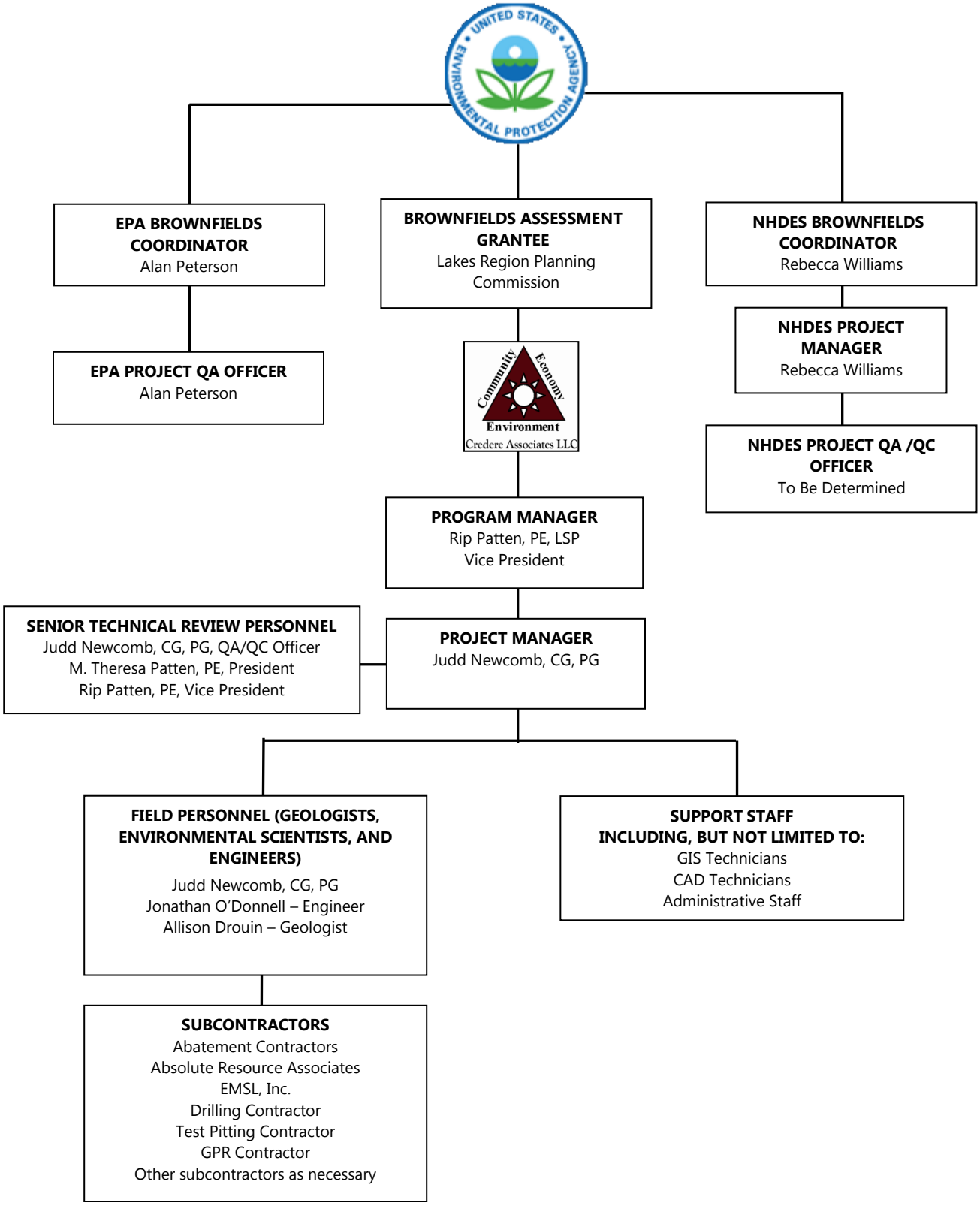
FIGURE 2
SAMPLE LOCATION PLAN

MACOSKO FOUNDRY
187 CHANCE POND ROAD
FRANKLIN, NEW HAMPSHIRE 03235

- AREA OF POTENTIAL CONCERN
- CHANCE POND BRANCH
- FORMER BRIDGE
- C PROPOSED CONCRETE SAMPLE
- PROPOSED TEST PIT
- PROPOSED SURFACE SOIL SAMPLE
- PROPOSED HAND AUGER LOCATION
- ABOVEGROUND STORAGE TANK (AST)
- (T) POLE MOUNTED TRANSFORMER
- PROPANE CYLINDERS
- BUILDING FOUNDATION
- BUILDING BOUNDARY
- SITE BOUNDARY
- PARCEL BOUNDARY

T:\Data\NH\Town\Franklin\14001247\MACOSKO FOUNDRY

Figure 3 – Project Organization Flow Chart



TABLES

Table 1: Sample Reference Table
Macosko Foundry
187 Chance Pond Road, Franklin, New Hampshire

Media to be Collected	Proposed Sample IDs	Sample Type	Sample Rational	Sample Depth (feet bgs)	Field Analysis/ Observations	No. of Samples for Analysis	QA/QC Samples	Analytical Method	Sample Container Information & Preservative (per location)*,[1]	Laboratory To be Used
Soil	CA-SS-1	Surface soil	-To assess surface soil impacts from the historical presence of a foundry (REC #5)	0-2	PID Screening Visual Olfactory	1	1 Field Duplicates 1 MS/MSD (metals only)	VOCs (EPA Method 8260C) SVOCs (EPA Method 8270D) Priority pollutant metals (EPA Method 6010C & 7471B) PCBs (EPA Method 8082)	1 - 8 oz amber glass	Absolute Resource Associates, Portsmouth, NH
	CA-SS-2	Surface soil	-To assess surface soil impacts from the historical presence of a foundry (REC #5)	0-2		1				
	CA-SS-3	Surface Soil	-To assess surface soil impacts associated with the historical use of the Site (REC #6)	0-2		1				
	CA-SS-4	Surface Soil		0-2		1				
	CA-SS-5	Surface Soil		0-2		1				
	CA-SS-6	Surface Soil		0-2		1				
	CA-SS-7	Surface soil	-To assess the ash fill beneath the Site building (REC #3)	0-2		1				
	CA-SS-8	Surface soil		Grab from available material		1		SVOCs (EPA Method 8270D) Priority pollutant metals (EPA Method 6010C & 7471B) PCBs (EPA Method 8082)	1 - 8 oz amber glass	
	CA-TP-1	Subsurface soil	-To assess the industrial fill material (REC #4)	Observed fill interval		1		VOCs (EPA Method 8260C) SVOCs (EPA Method 8270D) Priority pollutant metals (EPA Method 6010C & 7471B) PCBs (EPA Method 8082)	2 - 8 oz amber glass 1 - 40 mL VOA (methanol)	
		Subsurface soil	-To assess the leaching of contaminants to native material beneath the fill or delineate the extent of contamination associated with the industrial waste fill (REC #4)	First encountered native material beneath the industrial waste fill[2]		1		VOCs (EPA Method 8260C) SVOCs (EPA Method 8270D) Priority pollutant metals (EPA Method 6010C & 7471B) PCBs (EPA Method 8082)	2 - 8 oz amber glass 1 - 40 mL VOA (methanol)	
	CA-TP-2	Subsurface soil	-To assess the industrial fill material (REC #4)	Observed fill interval		1		VOCs (EPA Method 8260C) SVOCs (EPA Method 8270D) Priority pollutant metals (EPA Method 6010C & 7471B) PCBs (EPA Method 8082)	2 - 8 oz amber glass 1 - 40 mL VOA (methanol)	
		Subsurface soil	-To assess the leaching of contaminants to native material beneath the fill or delineate the extent of contamination associated with the industrial waste fill (REC #4)	First encountered native material beneath the industrial waste fill[2]		1		VOCs (EPA Method 8260C) SVOCs (EPA Method 8270D) Priority pollutant metals (EPA Method 6010C & 7471B) PCBs (EPA Method 8082)	2 - 8 oz amber glass 1 - 40 mL VOA (methanol)	

Table 1: Sample Reference Table
Macosko Foundry
187 Chance Pond Road, Franklin, New Hampshire

Media to be Collected	Proposed Sample IDs	Sample Type	Sample Rational	Sample Depth (feet bgs)	Field Analysis/ Observations	No. of Samples for Analysis	QA/QC Samples	Analytical Method	Sample Container Information & Preservative (per location)*,[1]	Laboratory To be Used
Soil	CA-TP-3	Subsurface soil	-To assess the industrial fill material (REC #4)	Observed fill interval	PID Screening Visual Olfactory	1	1 Field Duplicates 1 MS/MSD (metals only)	VOCs (EPA Method 8260C) SVOCs (EPA Method 8270D) Priority pollutant metals (EPA Method 6010C & 7471B) PCBs (EPA Method 8082)	2 - 8 oz amber glass 1 - 40 mL VOA (methanol)	Absolute Resource Associates, Portsmouth, NH
		Subsurface soil	-To assess the leaching of contaminants to native material beneath the fill or delineate the extent of contamination associated with the industrial waste fill (REC #4)	First encountered native material beneath the industrial waste fill[2]		1		VOCs (EPA Method 8260C) SVOCs (EPA Method 8270D) Priority pollutant metals (EPA Method 6010C & 7471B) PCBs (EPA Method 8082)	2 - 8 oz amber glass 1 - 40 mL VOA (methanol)	
	CA-TP-4	Subsurface soil	-To assess the industrial fill material (REC #4)	Observed fill interval		1		VOCs (EPA Method 8260C) SVOCs (EPA Method 8270D) Priority pollutant metals (EPA Method 6010C & 7471B) PCBs (EPA Method 8082)	2 - 8 oz amber glass 1 - 40 mL VOA (methanol)	
		Subsurface soil	-To assess the leaching of contaminants to native material beneath the fill or delineate the extent of contamination associated with the industrial waste fill (REC #4)	First encountered native material beneath the industrial waste fill[2]		1		VOCs (EPA Method 8260C) SVOCs (EPA Method 8270D) Priority pollutant metals (EPA Method 6010C & 7471B) PCBs (EPA Method 8082)	2 - 8 oz amber glass 1 - 40 mL VOA (methanol)	
	CA-TP-5	Subsurface soil	-To assess the industrial fill material (REC #3)	Observed fill interval		1		VOCs (EPA Method 8260C) SVOCs (EPA Method 8270D) Priority pollutant metals (EPA Method 6010C & 7471B) PCBs (EPA Method 8082)	2 - 8 oz amber glass 1 - 40 mL VOA (methanol)	
		Subsurface soil	-To assess the leaching of contaminants to native material beneath the fill or delineate the extent of contamination associated with the industrial waste fill (REC #3)	First encountered native material beneath the industrial waste fill[2]		1		VOCs (EPA Method 8260C) SVOCs (EPA Method 8270D) Priority pollutant metals (EPA Method 6010C & 7471B) PCBs (EPA Method 8082)	2 - 8 oz amber glass 1 - 40 mL VOA (methanol)	
	CA-TP-6	Subsurface soil	-To assess the industrial fill material (REC #3)	Observed fill interval		1		VOCs (EPA Method 8260C) SVOCs (EPA Method 8270D) Priority pollutant metals (EPA Method 6010C & 7471B) PCBs (EPA Method 8082)	2 - 8 oz amber glass 1 - 40 mL VOA (methanol)	
		Subsurface soil	-To assess the leaching of contaminants to native material beneath the fill or delineate the extent of contamination associated with the industrial waste fill (REC #3)	First encountered native material beneath the industrial waste fill[2]		1		VOCs (EPA Method 8260C) SVOCs (EPA Method 8270D) Priority pollutant metals (EPA Method 6010C & 7471B) PCBs (EPA Method 8082)	2 - 8 oz amber glass 1 - 40 mL VOA (methanol)	
	CA-TP-7	Subsurface soil	-To assess the industrial fill material (REC #3)	Observed fill interval		1		VOCs (EPA Method 8260C) SVOCs (EPA Method 8270D) Priority pollutant metals (EPA Method 6010C & 7471B) PCBs (EPA Method 8082)	2 - 8 oz amber glass 1 - 40 mL VOA (methanol)	
		Subsurface soil	-To assess the leaching of contaminants to native material beneath the fill or delineate the extent of contamination associated with the industrial waste fill (REC #3)	First encountered native material beneath the industrial waste fill[2]		1		VOCs (EPA Method 8260C) SVOCs (EPA Method 8270D) Priority pollutant metals (EPA Method 6010C & 7471B) PCBs (EPA Method 8082)	2 - 8 oz amber glass 1 - 40 mL VOA (methanol)	
	CA-SS-LBP-1 through CA-SS-LBP-6	Surface soil	Samples will be collected if the exterior of the Site building is found to contain LBP and if soil surrounding the Site building is screened to be impacted by lead. Samples will be biased towards the locations of highest XRF screening values to assess impacts to soil from possible chipping of LBP from the Site building (Environmental Finding #1)	0-0.5	XRF Screening	6	1 Field duplicate 1 MS/MSD	Lead (EPA Method 6010C)	1 - 8 oz clear glass	
				0.5-1[3]		6				

Table 1: Sample Reference Table
Macosko Foundry
187 Chance Pond Road, Franklin, New Hampshire

Media to be Collected	Proposed Sample IDs	Sample Type	Sample Rational	Sample Depth (feet bgs)	Field Analysis/ Observations	No. of Samples for Analysis	QA/QC Samples	Analytical Method	Sample Container Information & Preservative (per location)*,[1]	Laboratory To be Used
Building Materials	CA-CC-1	Concrete	-To assess an area of staining within the Site building (REC #2)	0 to 0.5-inches	Visual	1	1 Field duplicate	PCBs (EPA Method 8082 with soxhlet extraction)	1 - 4 oz glass	Absolute Resource Associates, Portsmouth, NH
	CA-CC-2	Concrete	-To assess an area of staining within the Site building (REC #2)			1				
	CA-CC-3	Concrete	-To assess an area of staining within the Site building (REC #2)			1				
	CA-PCB-1 through CA-PCB-10	Building materials	-To assess for the presence of PCB containing building materials in the Site buildings (Environmental Finding #1). Data will be used to properly manage building materials during Site renovations.	NA		10	2 Field Duplicates (1 caulk/sealant/ adhesive type material and 1 paint)			
Asbestos	CA-PACM-1(A-C) through CA-PACM-25(A-C)	Bulk Materials	-Three samples will be collected from each suspected asbestos-containing material (REC #3, Environmental Finding #1)	NA	Visual	25	Triplicate Sampling	Polarized Light Microscopy EPA 600/R-93/116	Plastic zipper bags	EMSL Analytical, Inc., South Portland, ME

Notes:

1 - All samples will be chilled to 4°C (+/- 2°C) and submitted to the laboratory on ice.

2 - Samples will be placed on hold pending the results of the above fill material samples. If results of the fill material samples exceed applicable regulatory standards, the associated native sample will be authorized for analysis in an effort to delineate the extent of impact.

3- 0.5 to 1 feet samples will be placed on hold pending the results of the 0 to 0.5 feet samples. If the 0 to 0.5 feet sample results exceed the applicable NHDES lead SRS, the respective 0.5 to 1 feet sample will be analyzed to delineate the vertical extent of lead impacts.

* - Additional details regarding analytical method, sample preservation, sample volume, and hold times can be found in Appendix D of Credere's Generic Maine QAPP.

"greatest observed contamination" shall be defined as the interval of highest PID response, visual staining, or sheens.

MS/MSD - Matrix Spike/Matrix Spike Duplicate
NA - not applicable
bgs - below ground surface
XRF- X-ray fluorescence meter
PCB - polychlorinated biphenyl
SVOCs - semi-volatile organic compounds
VOC - volatile organic compounds
Priority pollutant metals: Sb, As, Be, Cd, Cr, Cu, Pb, Hg, Ni, Se, Ag, Ti, Zn

Table 2: Standard Operating Procedure (SOP) Reference Table
Macosko Foundry
187 Chance Pond Road, Franklin, New Hampshire

Field SOPs

SOP	SOP Description	Date
Credere-003	SOP for Test Pit Sampling	October 2006
Credere-004	SOP for Log Book Entries	October 2006
Credere-007	SOP for EM and GPR Surveys (SOP by: Northeast Geophysical Services)	October 2006
Credere-009	SOPs for Typical Asbestos Bulk and Air Sampling (SOP by: Environmental Safety & Hygiene Associates, Inc.)	NA
HWRB-11	Soil Sampling, Revision 1	January 2012
HWRB-12	Jar headspace Technique for Field Screening Soil Samples, Revision 2	January 2012
HWRB-15	Decontamination, Revision 3	January 2012
HWRB-18	Chain of Custody, Sample Handling & Shipping, Revision 2	January 2012
RWM-DR-025	Protocol for Collecting Data Using an Innov-X Field Portable X-Ray Fluorescence Spectrometer for Certain metals in Solid Media (Included in Appendix B of Ferrari Realty Trust SSQAPP, dated October 3, 2014)	Febraury 29, 2009
EIASOP_POROUSSAMPLING1	Standard Operating Procedure for Sampling Porous Surfaces for PCBs	May 5, 2011
EIASOP_SOILSAMPLING2	Standard Operating Procedure for Soil, Sediment and Solid Waste Sampling	Rev #2, February 13, 2004
EPA 600/R-93/116	Method for the Determination of Asbestos in Bulk Building Materials	July 1993

Laboratory SOPs

SOP	SOP Description	Date
EMSL: PLM SOP	Polarized Light Microscopy	November 12, 2010
RL-4	Analysis of Polychlorinated Biphenyls in Soil and Water Extracts by EPA 8082	January 2013
RL-5	Trace Metals by ICP EPA 200.7/6010C	January 2013
RL-6	Mercury Analysis by Cold Vapor Methods 245.1, 7470A/7471B	January 2013
RL-9	Analysis of VOCs in Water and Solid Samples by EPA Method 8260B	June 2012
RL-12	Preparation and analysis of PAHs, Base/Neutrals, and Acids by EPA Method 8270D	August 2011
RL-28	Soxhlet Extraction by EPA method 3540C	August 2011

APPENDIX A

Analytical Sensitivity and Project Criteria Tables

As of the date of this SSQAPP Addendum, the current state and/or federal standards have been reviewed for accuracy.

VOCs in Soil by EPA Method 8260C		
Analyte	**Laboratory Practical Quantitation Limit**	**Regulatory Standard[1]**
1,1,1,2-tetrachloroethane	0.1	0.8
1,1,1-trichloroethane	0.1	78
1,1,2,2-tetrachloroethane	0.1	4
1,1,2-trichloroethane	0.1	0.1
1,1-dichloroethane	0.1	3
1,1-dichloroethe	0.1	2
1,1-dichloropropene	0.1	NE
1,2,3-trichlorobenzene	0.1	4.9
1,2,3-trichloropropane	0.1	0.2
1,2,4-trichlorobenzene	0.1	19
1,2,4-trimethylbenzene	0.1	130
1,2-dibromo-3-chloropropane (DBCP)	0.1	0.1
1,2-dibromoethane (EDB)	0.1	0.1
1,2-dichlorobenzene	0.1	88
1,2-dichloroethane	0.1	0.1
1,2-dichloropropane	0.1	0.1
1,3,5-trichlorobenzene	0.1	340
1,3,5-trimethylbenzene	0.1	96
1,3-dichlorobenzene	0.1	150
1,3-dichloropropane	0.1	160*
1,4-dichlorobenzene	0.1	7
1,4-dioxane	2	5
2,2-dichloropropane	0.1	NE
2-butanone (MEK)	0.3	51
2-chlorotoluene	0.1	15
2-hexanone	0.5	20
4-chlorotoluene	0.1	2,400
4-isopropyltoluene	0.1	3,400
4-methyl-2-pentanone (MIBK)	0.4	29
acetone	2	75
benzene	0.1	0.3
bromobenzene	0.1	6.2
bromochloromethane	0.1	8.3
bromodichloromethane	0.1	0.1
bromoform	0.1	0.1
bromomethane	0.2	0.3
carbon disulfide	0.1	460
carbon tetrachloride	0.1	12
chlorobenzene	0.1	28
chloroethane	0.1	NE
chloroform	0.1	0.73
chloromethane	0.1	3
cis-1,2-dichloroethene	0.1	NE
cis-1,3-dichloropropene	0.1	NE
dibromochloromethane	0.1	1
dibromomethane	0.1	25*
dichlorodifluoromethane	0.1	1,000
diethyl ether	0.1	3,900
diisopropyl ether (DIPE)	0.1	10
ethyl t-butyl ether (ETBE)	0.1	0.7

VOCs in Soil by EPA Method 8260C		
Analyte	**Laboratory Practical Quantitation Limit**	**Regulatory Standard[1]**
ethylbenzene	0.1	140
hexachlorobutadiene	0.1	7
isopropylbenzene	0.1	330
m&p-xylenes	0.1	500**
methyl t-butyl ether (MTBE)	0.1	0.2
methylene chloride	0.1	0.1
naphthalene	0.1	5
n-butylbenzene	0.1	110
n-propylbenzene	0.1	85
o-xylene	0.1	500**
sec-butylbenzene	0.1	130
styrene	0.1	17
t-amyl-methyl ether (TAME)	0.1	3
t-butanol (TBA)	2	2
tert-butylbenzene	0.1	100
tetrachloroethene (ethylene, PCE)	0.1	2
tetrahydrofuran (THF)	0.5	200
toluene	0.1	100
trans-1,2-dichloroethene (ethylene)	0.1	9
trans-1,3-dichloropropene	0.1	NE
trichloroethene (TCE)	0.1	0.8
trichlorofluoromethane	0.1	1,000
vinyl chloride	0.1	1

Notes:

All values are in mg/kg.

PQLs from Absolute Resource Associates of Portsmouth, New Hampshire

1 - New Hampshire Department of Environmental Services (NHDES) Chapter 600 Soil Remediation Standards and Appendix E, Method 1 Soil Standards from NHDES Risk Characterization and Management Policy, unless marked with an *.

* - United States Environmental Protection Agency Regions 3, 6, and 9. (accessed May 2014). Regional Screening Levels for Chemical Contaminants at Superfund Sites (Residential Soil). http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/index.htm

** NDHES mixed isomer standard.

NE = Regulatory guideline not established

SVOC in Soil by EPA Method 8270D		
Analyte	**Laboratory Practical Quantitation Limit**	**Regulatory Standard[1]**
1,2,4-trichlorobenzene	0.5	19
1,2-dichlorobenzene	0.2	88
1,3-dichlorobenzene	0.2	150
1,4-dichlorobenzene	0.2	7
2,4,5-trichlorophenol	0.2	24
2,4,6-trichlorophenol	0.2	0.7
2,4-dichlorophenol	0.5	0.7
2,4-dimethylphenol	0.2	4
2,4-dinitrophenol	5	0.7
2,4-dinitrotoluene	0.2	0.7
2,6-dinitrotoluene	0.2	0.36
2-chloronaphthalene	0.5	NE
2-chlorophenol	0.5	2
2-methylnaphthalene	0.05	96
2-methylphenol	0.2	0.9
2-nitroaniline	0.2	61
2-nitrophenol	0.2	NE
3,3'-dichlorobenzidine	3	0.7
3-nitroaniline	0.2	NE
4,6-dinitro-2-methylphenol	2	4.9*
4-bromophenyl phenyl ether	0.2	NE
4-chloro-3-methylphenol	0.2	6,100*
4-chloroaniline	0.2	1.3
4-chlorophenyl phenyl ether	0.5	NE
4-methylphenol	0.2	0.7
4-nitroaniline	0.5	25
4-nitrophenol	2	NE
acenaphthene	0.05	340
acenaphthylene	0.05	490
aniline	0.2	43
anthracene	0.05	1000
azobenzene	0.2	5,6
benzidine	3	0.004
benzo(a)anthracene	0.05	1
benzo(a)pyrene	0.05	0.7
benzo(b)fluoranthene	0.05	1
benzo(g,h,i)perylene	0.05	960
benzo(k)fluoranthene	0.05	12
benzoic acid	5	350
benzyl alcohol	0.2	620
bis(2-chloroethoxy)methane	0.2	18
bis(2-chloroethyl)ether	0.2	0.7
bis(2-chloroisopropyl) ether	0.2	5
bis(2-ethylhexyl)phthalate	0.5	72
butyl benzyl phthalate	0.5	280
carbazole	0.2	NE
chrysene	0.05	120
dibenzo(a,h)anthracene	0.05	0.7
dibenzofuran	0.05	0.72

SVOC in Soil by EPA Method 8270D

Analyte	Laboratory Practical Quantitation Limit	Regulatory Standard[1]
diethyl phthalate	0.5	1000
dimethylphthalate	0.5	700
di-n-butylphthalate	0.5	2,600
di-n-octyl phthalate	0.5	NE
fluoranthene	0.05	960
fluorene	0.05	77
hexachlorobenzene	0.2	0.8
hexachlorobutadiene	0.2	7
hexachlorocyclopentadiene	1	200
hexachloroethane	0.2	0.7
indeno(1,2,3-cd)pyrene	0.05	1
isophorone	0.5	1
naphthalene	0.05	5
nitrobenzene	0.2	5.1
N-nitrosodimethylamine	0.2	0.024
N-nitroso-di-N-propylamine	0.2	0.076
N-nitrosodiphenylamine	0.2	0.19
pentachlorophenol	1	3
phenanthrene	0.05	960
phenol	0.2	56
pyrene	0.05	720

Notes:

All values are in mg/kg.

PQLs from Absolute Resource Associates of Portsmouth, New Hampshire

1 - New Hampshire Department of Environmental Services (NHDES) Chapter 600 Soil Remediation Standards and Appendix E, Method 1 Soil Standards from NHDES Risk Characterization and Management Policy, unless marked with an *.

NE = Regulatory guideline not established

* - United States Environmental Protection Agency Regions 3, 6, and 9. (accessed May 2014). Regional Screening Levels for Chemical Contaminants at Superfund Sites. http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/index.htm

PCBs in Soil by EPA Method 8082A

Analyte	Laboratory Practical Quantitation Limit	Regulatory Standard[1]
PCB-1016	0.2	1 (Total)
PCB-1221	0.2	
PCB-1232	0.2	
PCB-1242	0.2	
PCB-1248	0.2	
PCB-1260	0.2	

Notes:
PQLs from Absolute Resource Associates of Portsmouth, New Hampshire
1 - New Hampshire Department of Environmental Services (NHDES) Chapter 600 Soil Remediation Standards and Appendix E, Method 1 Soil Standards from NHDES Risk Characterization and Management Policy.

All concentrations in mg/kg
NE = Regulatory guideline not established

PCBs in Building Materials by EPA Method 8082				
Analyte	**Laboratory Practical Quantitation Limit**	**Remediation Waste Cleanup Goals 40 CFR 761.61**		**Regulatory Standard (40 CFR 761.3)**
		High Occupancy	**Low Occupancy**	
PCB-1016	0.2	1 (Total)	25 (Total)	50 (Total)
PCB-1221	0.2			
PCB-1232	0.2			
PCB-1242	0.2			
PCB-1248	0.2			
PCB-1254	0.2			
PCB-1260	0.2			
Notes: All values are in mg/kg.				

Metals in Soil by EPA Method 6010C		
Analyte	**Laboratory Practical Quantitation Limit**	**Regulatory Standard[1]**
Antimony	0.3	9
Arsenic	0.5	11
Beryllium	0.2	1
Cadmium	0.2	33
Chromium (III)	2	1,000
Chromium (VI)	2	130
Copper	2	310
Lead	0.5	400
Nickel	2	400
Selenium	2	180
Silver	0.4	89
Tin	2.5	4,700
Zinc	2	1,000

Notes:

All values are in mg/kg.

PQLs from Absolute Resource Associates of Portsmouth, New Hampshire

1 - New Hampshire Department of Environmental Services (NHDES) Chapter 600 Soil Remediation Standards and Appendix E, Method 1 Soil Standards from NHDES Risk Characterization and Management Policy, unless marked with an *.

* - United States Environmental Protection Agency Regions 3, 6, and 9. (accessed May 2014). Regional Screening Levels for Chemical Contaminants at Superfund Sites (Residential Soil). http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/index.htm

Asbestos in Solids by PLM by EPA Method 600/R		
Analyte	**Laboratory Practical Quantitation Limit**	**Regulatory Standard[1]**
Asbestos	0.20%	1%

Notes:

1 - New Hampshire Department of Environmental Services Chapter 1800: Asbestos Management Control, October 21, 2008.
PQL from EMSL of Cinnamonsin, New Jersey

APPENDIX B

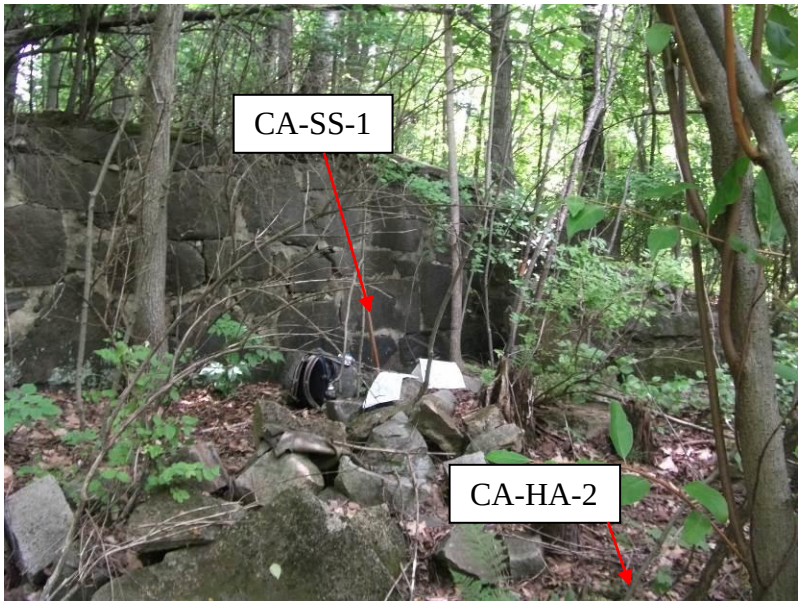
PHASE II PHOTO LOG

Phase II Photo Log
Macosko Foundry
187 Chance Pond Road, Franklin, New Hampshire

1. View of the Site facing northeast

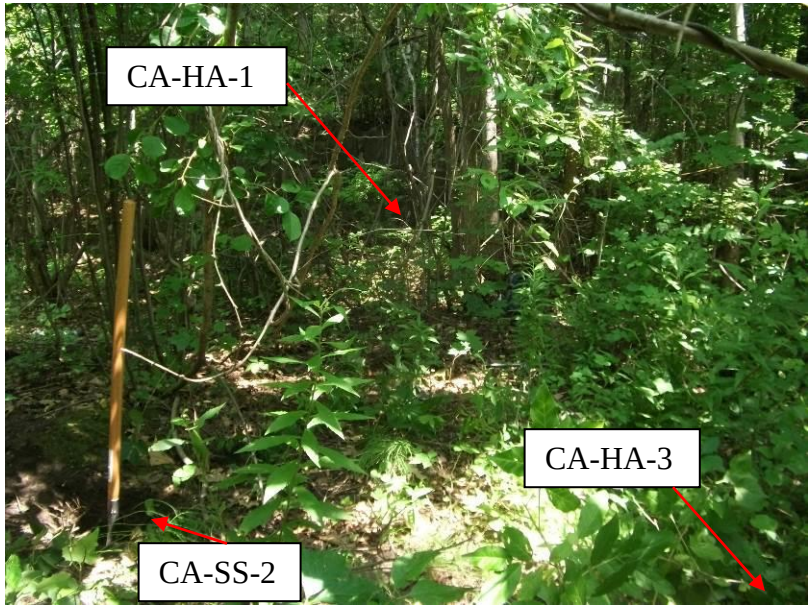
2. Former foundry location to east of Chance Pond Brook.

3. Image of Chance Pond Brook and Site building facing northwest.



4. Locations of soil samples in former foundry foundation area looking east.

Phase II Photo Log
Macosko Foundry
187 Chance Pond Road, Franklin, New Hampshire



5. Locations of soil samples in former foundry area looking north.

6. Image showing location of concrete sample CA-CC-1 collected from the garage bay.

7. Image showing the location of concrete sample CA-CC-2 collected from storage area between garage bay and office.

8. Image showing location of concrete sample CA-CC-3 collected from the basement.

Phase II Photo Log
Macosko Foundry
187 Chance Pond Road, Franklin, New Hampshire

9. Image showing the location of sample CA-SS-8 from beneath the Site building.

10. Image showing location of CA-SS-7 in area of former furnaces.

APPENDIX C

LABORATORY ANALYTICAL REPORTS

Laboratory Report

Absolute Resource associates
124 Heritage Avenue Portsmouth NH 03801

Judd Newcomb
CREDERE Associates
776 Main Street
Westbrook, ME 04092

PO Number: 14001247
Job ID: 32097
Date Received: 1/16/15

Project: Macosko 14001247

Attached please find results for the analysis of the samples received on the date referenced above.

Unless otherwise noted in the attached report, the analyses performed met the requirements of Absolute Resource Associates' Quality Assurance Plan. The Standard Operating Procedures are based upon USEPA SW-846, USEPA Methods for Chemical Analysis of Water and Wastewater, Standard Methods for the Examination of Water and Wastewater and other recognized methodologies. The results contained in this report pertain only to the samples as indicated on the chain of custody.

Absolute Resource Associates maintains certification with the agencies listed below.

We appreciate the opportunity to provide laboratory services. If you have any questions regarding the enclosed report, please contact the laboratory and we will be glad to assist you.

Sincerely,
Absolute Resource Associates

(for)

Sue Sylvester
Principal, General Manager

Date of Approval: 2/3/2015
Total number of pages: 25

Absolute Resource Associates Certifications

New Hampshire	1732	Massachusetts	M-NH902
Maine	NH903		

Project ID: Macosko 14001247
Lab ID: 32097

Sample Association Table

Field ID	Matrix	Date-Time Sampled	Lab#	Analysis
CA-SS-7	Solid	1/14/2015 13:00	32097-001	
				PCBs in soil by 8082
				Acid & Base/Neutral Extractables in solid by 8270
				Soil Digestion for ICP Analysis
				Silver in solids by 6010
				Arsenic in solids by 6010
				Beryllium in solids by 6010
				Cadmium in solids by 6010
				Chromium in solids by 6010
				Copper in solids by 6010
				Mercury in solids by 7471
				Nickel in solids by 6010
				Lead in solids by 6010
				Antimony in solids by 6010
				Selenium in solids by 6010
				Thallium in solids by 6010
				Zinc in solids by 6010
				Percent Dry Matter for Sample Calc by SM2540B,G
				VOCs in solid by 8260 Petro & Haz Waste
CA-SS-8	Solid	1/14/2015 13:15	32097-002	
				PCBs in soil by 8082
				Acid & Base/Neutral Extractables in solid by 8270
				Soil Digestion for ICP Analysis
				Silver in solids by 6010
				Arsenic in solids by 6010
				Beryllium in solids by 6010
				Cadmium in solids by 6010
				Chromium in solids by 6010
				Copper in solids by 6010
				Mercury in solids by 7471
				Nickel in solids by 6010
				Lead in solids by 6010
				Antimony in solids by 6010
				Selenium in solids by 6010
				Thallium in solids by 6010
				Zinc in solids by 6010
				Percent Dry Matter for Sample Calc by SM2540B,G

Absolute Resource associates

Project ID: Macosko 14001247
Job ID: 32097
Sample#: 32097-001
Sample ID: CA-SS-7
Matrix: Solid Percent Dry: 96.3% Results expressed on a dry weight basis.
Sampled: 1/14/15 13:00

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
dichlorodifluoromethane	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
chloromethane	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
vinyl chloride	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
bromomethane	< 0.2	0.2	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
chloroethane	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
trichlorofluoromethane	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
diethyl ether	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
acetone	< 2	2	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
1,1-dichloroethene	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
methylene chloride	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
carbon disulfide	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
methyl t-butyl ether (MTBE)	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
trans-1,2-dichloroethene	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
isopropyl ether (DIPE)	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
ethyl t-butyl ether (ETBE)	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
1,1-dichloroethane	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
t-butanol (TBA)	< 2	2	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
2-butanone (MEK)	< 0.2	0.2	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
2,2-dichloropropane	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
cis-1,2-dichloroethene	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
chloroform	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
bromochloromethane	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
tetrahydrofuran (THF)	< 0.4	0.4	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
1,1,1-trichloroethane	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
1,1-dichloropropene	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
t-amyl-methyl ether (TAME)	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
carbon tetrachloride	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
1,2-dichloroethane	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
benzene	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
trichloroethene	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
1,2-dichloropropane	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
bromodichloromethane	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
1,4-dioxane	< 2	2	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
dibromomethane	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
4-methyl-2-pentanone (MIBK)	< 0.4	0.4	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
cis-1,3-dichloropropene	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
toluene	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
trans-1,3-dichloropropene	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
2-hexanone	< 0.4	0.4	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
1,1,2-trichloroethane	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
1,3-dichloropropane	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
tetrachloroethene	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
dibromochloromethane	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C

Absolute Resource associates

Project ID: Macosko 14001247
Job ID: 32097
Sample#: 32097-001
Sample ID: CA-SS-7
Matrix: Solid Percent Dry: 96.3% Results expressed on a dry weight basis.
Sampled: 1/14/15 13:00

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
1,2-dibromoethane (EDB)	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
chlorobenzene	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
1,1,1,2-tetrachloroethane	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
ethylbenzene	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
m&p-xylenes	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
o-xylene	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
styrene	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
bromoform	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
isopropylbenzene	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
1,1,2,2-tetrachloroethane	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
1,2,3-trichloropropane	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
n-propylbenzene	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
bromobenzene	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
1,3,5-trimethylbenzene	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
2-chlorotoluene	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
4-chlorotoluene	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
tert-butylbenzene	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
1,2,4-trimethylbenzene	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
sec-butylbenzene	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
1,3-dichlorobenzene	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
4-isopropyltoluene	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
1,4-dichlorobenzene	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
1,2-dichlorobenzene	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
n-butylbenzene	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
1,2-dibromo-3-chloropropane (DBCP)	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
1,2,4-trichlorobenzene	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
1,3,5-trichlorobenzene	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
hexachlorobutadiene	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
naphthalene	**0.1**	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
1,2,3-trichlorobenzene	< 0.1	0.1	ug/g	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
Surrogate Recovery		**Limits**								
dibromofluoromethane SUR	**96**	78-114	%	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
toluene-D8 SUR	**101**	88-110	%	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
4-bromofluorobenzene SUR	**100**	86-115	%	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C
a,a,a-trifluorotoluene SUR	**121**	70-130	%	1	LMM	1/19/15	7525	1/22/15	1:03	SW5035A8260C

Project ID: Macosko 14001247
Job ID: 32097
Sample#: 32097-001
Sample ID: CA-SS-7
Matrix: Solid Percent Dry: 96.3% Results expressed on a dry weight basis.
Sampled: 1/14/15 13:00

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
N-nitrosodimethylamine	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
aniline	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
phenol	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
2-chlorophenol	< 0.5	0.5	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
bis(2-chloroethyl)ether	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
1,3-dichlorobenzene	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
1,4-dichlorobenzene	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
1,2-dichlorobenzene	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
benzyl alcohol	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
2-methylphenol	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
bis(2-chloroisopropyl) ether	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
hexachloroethane	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
N-nitroso-di-N-propylamine	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
4-methylphenol	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
nitrobenzene	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
isophorone	< 0.5	0.5	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
2-nitrophenol	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
2,4-dimethylphenol	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
bis(2-chloroethoxy)methane	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
2,4-dichlorophenol	< 0.5	0.5	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
1,2,4-trichlorobenzene	< 0.5	0.5	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
naphthalene	**0.07**	0.05	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
benzoic acid	< 5	5	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
4-chloroaniline	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
hexachlorobutadiene	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
4-chloro-3-methylphenol	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
2-methylnaphthalene	**0.08**	0.05	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
hexachlorocyclopentadiene	< 1	1	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
2,4,6-trichlorophenol	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
2,4,5-trichlorophenol	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
2-chloronaphthalene	< 0.5	0.5	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
2-nitroaniline	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
acenaphthylene	< 0.05	0.05	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
dimethylphthalate	< 0.5	0.5	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
2,6-dinitrotoluene	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
2,4-dinitrotoluene	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
acenaphthene	< 0.05	0.05	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
3-nitroaniline	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
2,4-dinitrophenol	< 5	5	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
dibenzofuran	< 0.05	0.05	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
4-nitrophenol	< 2	2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
fluorene	< 0.05	0.05	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
diethyl phthalate	< 0.5	0.5	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D

Absolute Resource associates

Project ID: Macosko 14001247
Job ID: 32097
Sample#: 32097-001
Sample ID: CA-SS-7
Matrix: Solid Percent Dry: 96.3% Results expressed on a dry weight basis.
Sampled: 1/14/15 13:00

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
4-chlorophenyl phenyl ether	< 0.5	0.5	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
4-nitroaniline	< 0.5	0.5	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
4,6-dinitro-2-methylphenol	< 2	2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
azobenzene	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
N-nitrosodiphenylamine	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
4-bromophenyl phenyl ether	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
hexachlorobenzene	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
pentachlorophenol	< 1	1	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
phenanthrene	< 0.05	0.05	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
anthracene	< 0.05	0.05	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
carbazole	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
di-n-butylphthalate	< 0.5	0.5	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
fluoranthene	< 0.05	0.05	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
benzidine	< 3	3	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
pyrene	< 0.05	0.05	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
butyl benzyl phthalate	< 0.5	0.5	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
benzo(a)anthracene	< 0.05	0.05	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
chrysene	< 0.05	0.05	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
3,3'-dichlorobenzidine	< 3	3	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
bis(2-ethylhexyl)phthalate	< 0.5	0.5	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
di-n-octyl phthalate	< 0.5	0.5	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
benzo(b)fluoranthene	< 0.05	0.05	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
benzo(k)fluoranthene	< 0.05	0.05	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
benzo(a)pyrene	< 0.05	0.05	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
indeno(1,2,3-cd)pyrene	< 0.05	0.05	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
dibenzo(a,h)anthracene	< 0.05	0.05	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
benzo(g,h,i)perylene	< 0.05	0.05	ug/g	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
Surrogate Recovery		**Limits**								
2-fluorophenol SUR	**82**	21-100	%	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
phenol-D5 SUR	**89**	10-102	%	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
2,4,6-tribromophenol SUR	**74**	10-123	%	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
nitrobenzene-D5 SUR	**76**	35-114	%	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
2-fluorobiphenyl SUR	**72**	43-116	%	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D
p-terphenyl-D14 SUR	**100**	33-141	%	1	AJD	1/20/15	7544	1/23/15	19:14	SW3546/8270D

Absolute Resource associates

Project ID: Macosko 14001247
Job ID: 32097
Sample#: 32097-002
Sample ID: CA-SS-8
Matrix: Solid Percent Dry: 97.8% Results expressed on a dry weight basis.
Sampled: 1/14/15 13:15

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
N-nitrosodimethylamine	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
aniline	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
phenol	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
2-chlorophenol	< 0.5	0.5	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
bis(2-chloroethyl)ether	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
1,3-dichlorobenzene	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
1,4-dichlorobenzene	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
1,2-dichlorobenzene	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
benzyl alcohol	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
2-methylphenol	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
bis(2-chloroisopropyl) ether	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
hexachloroethane	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
N-nitroso-di-N-propylamine	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
4-methylphenol	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
nitrobenzene	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
isophorone	< 0.5	0.5	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
2-nitrophenol	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
2,4-dimethylphenol	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
bis(2-chloroethoxy)methane	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
2,4-dichlorophenol	< 0.5	0.5	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
1,2,4-trichlorobenzene	< 0.5	0.5	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
naphthalene	**0.30**	0.05	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
benzoic acid	< 5	5	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
4-chloroaniline	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
hexachlorobutadiene	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
4-chloro-3-methylphenol	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
2-methylnaphthalene	**1.8**	0.05	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
hexachlorocyclopentadiene	< 1	1	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
2,4,6-trichlorophenol	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
2,4,5-trichlorophenol	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
2-chloronaphthalene	< 0.5	0.5	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
2-nitroaniline	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
acenaphthylene	< 0.05	0.05	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
dimethylphthalate	< 0.5	0.5	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
2,6-dinitrotoluene	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
2,4-dinitrotoluene	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
acenaphthene	< 0.05	0.05	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
3-nitroaniline	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
2,4-dinitrophenol	< 5	5	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
dibenzofuran	< 0.05	0.05	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
4-nitrophenol	< 2	2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
fluorene	**0.40**	0.05	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
diethyl phthalate	< 0.5	0.5	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D

Absolute Resource associates

Project ID: Macosko 14001247
Job ID: 32097
Sample#: 32097-002
Sample ID: CA-SS-8
Matrix: Solid Percent Dry: 97.8% Results expressed on a dry weight basis.
Sampled: 1/14/15 13:15

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
4-chlorophenyl phenyl ether	< 0.5	0.5	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
4-nitroaniline	< 0.5	0.5	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
4,6-dinitro-2-methylphenol	< 2	2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
azobenzene	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
N-nitrosodiphenylamine	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
4-bromophenyl phenyl ether	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
hexachlorobenzene	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
pentachlorophenol	< 1	1	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
phenanthrene	**2.8**	0.05	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
anthracene	< 0.05	0.05	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
carbazole	< 0.2	0.2	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
di-n-butylphthalate	< 0.5	0.5	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
fluoranthene	**0.23**	0.05	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
benzidine	< 3	3	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
pyrene	**1.0**	0.05	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
butyl benzyl phthalate	< 0.5	0.5	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
benzo(a)anthracene	< 0.05	0.05	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
chrysene	< 0.05	0.05	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
3,3'-dichlorobenzidine	< 3	3	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
bis(2-ethylhexyl)phthalate	**1.9**	0.5	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
di-n-octyl phthalate	< 0.5	0.5	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
benzo(b)fluoranthene	< 0.05	0.05	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
benzo(k)fluoranthene	< 0.05	0.05	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
benzo(a)pyrene	< 0.05	0.05	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
indeno(1,2,3-cd)pyrene	< 0.05	0.05	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
dibenzo(a,h)anthracene	< 0.05	0.05	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
benzo(g,h,i)perylene	< 0.05	0.05	ug/g	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
Surrogate Recovery		**Limits**								
2-fluorophenol SUR	**54**	21-100	%	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
phenol-D5 SUR	**76**	10-102	%	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
2,4,6-tribromophenol SUR	**15**	10-123	%	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
nitrobenzene-D5 SUR	**68**	35-114	%	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
2-fluorobiphenyl SUR	**66**	43-116	%	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D
p-terphenyl-D14 SUR	**64**	33-141	%	1	AJD	1/20/15	7544	1/23/15	19:51	SW3546/8270D

Project ID: Macosko 14001247
Job ID: 32097

Sample#: 32097-001
Sample ID: CA-SS-7
Matrix: Solid Percent Dry: 96.3% Results expressed on a dry weight basis.
Sampled: 1/14/15 13:00

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
PCB-1016	< 0.8	0.8	ug/g	5	JZ	1/22/15	7554	1/26/15	12:56	SW3540C8082A
PCB-1221	< 0.8	0.8	ug/g	5	JZ	1/22/15	7554	1/26/15	12:56	SW3540C8082A
PCB-1232	< 0.8	0.8	ug/g	5	JZ	1/22/15	7554	1/26/15	12:56	SW3540C8082A
PCB-1242	< 0.8	0.8	ug/g	5	JZ	1/22/15	7554	1/26/15	12:56	SW3540C8082A
PCB-1248	< 0.8	0.8	ug/g	5	JZ	1/22/15	7554	1/26/15	12:56	SW3540C8082A
PCB-1254	< 0.8	0.8	ug/g	5	JZ	1/22/15	7554	1/26/15	12:56	SW3540C8082A
PCB-1260	< 0.8	0.8	ug/g	5	JZ	1/22/15	7554	1/26/15	12:56	SW3540C8082A
Surrogate Recovery		**Limits**								
tetrachloro-m-xylene SUR	**81**	30-150	%	5	JZ	1/22/15	7554	1/26/15	12:56	SW3540C8082A
decachlorobiphenyl SUR	**102**	30-150	%	5	JZ	1/22/15	7554	1/26/15	12:56	SW3540C8082A

Sample#: 32097-002
Sample ID: CA-SS-8
Matrix: Solid Percent Dry: 97.8% Results expressed on a dry weight basis.
Sampled: 1/14/15 13:15

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
PCB-1016	< 0.7	0.7	ug/g	5	JZ	1/22/15	7554	1/26/15	13:26	SW3540C8082A
PCB-1221	< 0.7	0.7	ug/g	5	JZ	1/22/15	7554	1/26/15	13:26	SW3540C8082A
PCB-1232	< 0.7	0.7	ug/g	5	JZ	1/22/15	7554	1/26/15	13:26	SW3540C8082A
PCB-1242	< 0.7	0.7	ug/g	5	JZ	1/22/15	7554	1/26/15	13:26	SW3540C8082A
PCB-1248	< 0.7	0.7	ug/g	5	JZ	1/22/15	7554	1/26/15	13:26	SW3540C8082A
PCB-1254	< 0.7	0.7	ug/g	5	JZ	1/22/15	7554	1/26/15	13:26	SW3540C8082A
PCB-1260	< 0.7	0.7	ug/g	5	JZ	1/22/15	7554	1/26/15	13:26	SW3540C8082A
Surrogate Recovery		**Limits**								
tetrachloro-m-xylene SUR	**115**	30-150	%	5	JZ	1/22/15	7554	1/26/15	13:26	SW3540C8082A
decachlorobiphenyl SUR	**119**	30-150	%	5	JZ	1/22/15	7554	1/26/15	13:26	SW3540C8082A

Project ID: Macosko 14001247
Job ID: 32097

Sample#: 32097-001
Sample ID: CA-SS-7
Matrix: Solid Percent Dry: 96.3% Results expressed on a dry weight basis.
Sampled: 1/14/15 13:00

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
Antimony	**0.7**	0.3	ug/g	1	AC	1/21/15	7552	1/21/15	19:27	SW3051A6010C
Arsenic	**3.8**	0.5	ug/g	1	AC	1/21/15	7552	1/21/15	19:27	SW3051A6010C
Beryllium	**0.4**	0.2	ug/g	1	AC	1/21/15	7552	1/21/15	19:27	SW3051A6010C
Cadmium	**7.0**	0.2	ug/g	1	AC	1/21/15	7552	1/21/15	19:27	SW3051A6010C
Chromium	**9**	2	ug/g	1	AC	1/21/15	7552	1/21/15	19:27	SW3051A6010C
Copper	**4000**	25	ug/g	10	AC	1/21/15	7552	1/23/15	15:22	SW3051A6010C
Lead	**600**	0.5	ug/g	1	AC	1/21/15	7552	1/21/15	19:27	SW3051A6010C
Mercury	< 0.18	0.18	ug/g	1	AC	1/23/15	7557	1/23/15	14:40	SW7471B
Nickel	**24**	2	ug/g	1	AC	1/21/15	7552	1/21/15	19:27	SW3051A6010C
Selenium	< 2	2	ug/g	1	AC	1/21/15	7552	1/21/15	19:27	SW3051A6010C
Silver	**0.6**	0.4	ug/g	1	AC	1/21/15	7552	1/21/15	19:27	SW3051A6010C
Thallium	< 0.2	0.2	ug/g	1	AC	1/21/15	7552	1/21/15	19:27	SW3051A6010C
Zinc	**3500**	25	ug/g	10	AC	1/21/15	7552	1/23/15	15:22	SW3051A6010C

Sample#: 32097-002
Sample ID: CA-SS-8
Matrix: Solid Percent Dry: 97.8% Results expressed on a dry weight basis.
Sampled: 1/14/15 13:15

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
Antimony	**9.5**	0.3	ug/g	1	AC	1/21/15	7552	1/21/15	19:35	SW3051A6010C
Arsenic	**13**	0.5	ug/g	1	AC	1/21/15	7552	1/21/15	19:35	SW3051A6010C
Beryllium	**0.4**	0.2	ug/g	1	AC	1/21/15	7552	1/21/15	19:35	SW3051A6010C
Cadmium	**24**	0.2	ug/g	1	AC	1/21/15	7552	1/21/15	19:35	SW3051A6010C
Chromium	**54**	3	ug/g	1	AC	1/21/15	7552	1/21/15	19:35	SW3051A6010C
Copper	**34000**	260	ug/g	100	AC	1/21/15	7552	1/23/15	15:30	SW3051A6010C
Lead	**3100**	0.5	ug/g	1	AC	1/21/15	7552	1/21/15	19:35	SW3051A6010C
Mercury	**0.28**	0.17	ug/g	1	AC	1/23/15	7557	1/23/15	14:41	SW7471B
Nickel	**360**	3	ug/g	1	AC	1/21/15	7552	1/21/15	19:35	SW3051A6010C
Selenium	< 3	3	ug/g	1	AC	1/21/15	7552	1/21/15	19:35	SW3051A6010C
Silver	**11**	0.4	ug/g	1	AC	1/21/15	7552	1/21/15	19:35	SW3051A6010C
Thallium	< 0.2	0.2	ug/g	1	AC	1/21/15	7552	1/21/15	19:35	SW3051A6010C
Zinc	**21000**	260	ug/g	100	AC	1/21/15	7552	1/23/15	15:30	SW3051A6010C

Quality Control Report

124 Heritage Avenue Unit 16
Portsmouth, NH 03801
www.absoluteresourceassociates.com

Case Narrative
Lab # 32097

Sample Receiving and Chain of Custody Discrepancies

Samples were received in acceptable condition, at 3 degrees C, on ice, and in accordance with sample handling, preservation and integrity guidelines.

Calibration

No exceptions noted.

Method Blank

No exceptions noted.

Surrogate Recoveries

No exceptions noted.

Laboratory Control Sample Results

VOC: The MLCS/D7525 did not meet the acceptance criteria for 1,2,3-trichlorobenzene. This compound showed high recovery. There is no impact to the data as this analyte was not detected in the associated samples. The MLCSD7525 did not meet the acceptance criteria for dichlorodifluoromethane. Since <10% of the compounds were outside of the acceptance criteria, reanalysis is not required.
SVOC: The LCS7544 did not meet the acceptance criteria for hexachlorocyclopentadiene. Since <10% of the compounds were outside of the acceptance criteria, reanalysis is not required.

Matrix Spike/Matrix Spike Duplicate/Duplicate Results

Not requested for this project.

Other

Reporting Limits: Dilutions performed during the analysis are noted on the result pages.
PCB: Project required reporting limits for the PCB analysis were achieved from the reported dilution.
No other exceptions noted.

- QC Report -

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R	Limits	RPD	RPD Limit
SW5035A8260C	MB7525	dichlorodifluoromethane		<	0.1	ug/g					
		chloromethane		<	0.1	ug/g					
		vinyl chloride		<	0.1	ug/g					
		bromomethane		<	0.2	ug/g					
		chloroethane		<	0.1	ug/g					
		trichlorofluoromethane		<	0.1	ug/g					
		diethyl ether		<	0.5	ug/g					
		acetone		<	2.5	ug/g					
		1,1-dichloroethene		<	0.1	ug/g					
		methylene chloride		<	0.2	ug/g					
		carbon disulfide		<	0.1	ug/g					
		methyl t-butyl ether (MTBE)		<	0.1	ug/g					
		trans-1,2-dichloroethene		<	0.1	ug/g					
		1,1-dichloroethane		<	0.1	ug/g					
		2-butanone (MEK)		<	0.5	ug/g					
		2,2-dichloropropane		<	0.1	ug/g					
		cis-1,2-dichloroethene		<	0.1	ug/g					
		chloroform		<	0.1	ug/g					
		bromochloromethane		<	0.1	ug/g					
		tetrahydrofuran (THF)		<	0.5	ug/g					
		1,1,1-trichloroethane		<	0.1	ug/g					
		1,1-dichloropropene		<	0.1	ug/g					
		carbon tetrachloride		<	0.1	ug/g					
		1,2-dichloroethane		<	0.1	ug/g					
		benzene		<	0.1	ug/g					
		trichloroethene		<	0.1	ug/g					
		1,2-dichloropropane		<	0.1	ug/g					
		bromodichloromethane		<	0.1	ug/g					
		dibromomethane		<	0.1	ug/g					
		4-methyl-2-pentanone (MIBK)		<	0.5	ug/g					
		cis-1,3-dichloropropene		<	0.1	ug/g					
		toluene		<	0.1	ug/g					
		trans-1,3-dichloropropene		<	0.1	ug/g					
		2-hexanone		<	0.5	ug/g					
		1,1,2-trichloroethane		<	0.1	ug/g					
		1,3-dichloropropane		<	0.1	ug/g					
		tetrachloroethene		<	0.1	ug/g					
		dibromochloromethane		<	0.1	ug/g					
		1,2-dibromoethane (EDB)		<	0.1	ug/g					
		chlorobenzene		<	0.1	ug/g					
		1,1,1,2-tetrachloroethane		<	0.1	ug/g					
		ethylbenzene		<	0.1	ug/g					
		m&p-xylenes		<	0.1	ug/g					
		o-xylene		<	0.1	ug/g					
		styrene		<	0.1	ug/g					
		bromoform		<	0.1	ug/g					
		isopropylbenzene		<	0.1	ug/g					
		1,1,2,2-tetrachloroethane		<	0.1	ug/g					
		1,2,3-trichloropropane		<	0.1	ug/g					
		n-propylbenzene		<	0.1	ug/g					

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R	Limits		RPD	RPD Limit
SW5035A8260C	MB7525	bromobenzene		<	0.1	ug/g						
		1,3,5-trimethylbenzene		<	0.1	ug/g						
		2-chlorotoluene		<	0.1	ug/g						
		4-chlorotoluene		<	0.1	ug/g						
		tert-butylbenzene		<	0.1	ug/g						
		1,2,4-trimethylbenzene		<	0.1	ug/g						
		sec-butylbenzene		<	0.1	ug/g						
		1,3-dichlorobenzene		<	0.1	ug/g						
		4-isopropyltoluene		<	0.1	ug/g						
		1,4-dichlorobenzene		<	0.1	ug/g						
		1,2-dichlorobenzene		<	0.1	ug/g						
		n-butylbenzene		<	0.1	ug/g						
		1,2-dibromo-3-chloropropane (DBCP)		<	0.1	ug/g						
		1,2,4-trichlorobenzene		<	0.1	ug/g						
		hexachlorobutadiene		<	0.1	ug/g						
		naphthalene		<	0.2	ug/g						
		1,2,3-trichlorobenzene		<	0.1	ug/g						
		dibromofluoromethane SUR			95	%			78	114		
		toluene-D8 SUR			101	%			88	110		
		4-bromofluorobenzene SUR			99	%			86	115		
		a,a,a-trifluorotoluene SUR			109	%			70	130		

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R	Limits		RPD	RPD Limit
SW5035A8260C	MLCS7525	dichlorodifluoromethane			0.7	ug/g	1	71	70	130		
		chloromethane			0.7	ug/g	1	70	70	130		
		vinyl chloride			0.8	ug/g	1	84	70	130		
		bromomethane			1.0	ug/g	1	101	70	130		
		chloroethane			0.9	ug/g	1	93	70	130		
		trichlorofluoromethane			0.9	ug/g	1	87	70	130		
		diethyl ether			1.0	ug/g	1	95	70	130		
		acetone		<	2.5	ug/g	1	120				
		1,1-dichloroethene			0.9	ug/g	1	87	70	130		
		methylene chloride			1.0	ug/g	1	97	70	130		
		carbon disulfide			0.8	ug/g	1	80	70	130		
		methyl t-butyl ether (MTBE)			1.0	ug/g	1	100	70	130		
		trans-1,2-dichloroethene			0.9	ug/g	1	93	70	130		
		1,1-dichloroethane			0.9	ug/g	1	91	70	130		
		2-butanone (MEK)			1.1	ug/g	1	113	70	130		
		2,2-dichloropropane			0.8	ug/g	1	82	70	130		
		cis-1,2-dichloroethene			0.9	ug/g	1	93	70	130		
		chloroform			0.9	ug/g	1	90	70	130		
		bromochloromethane			0.9	ug/g	1	89	70	130		
		tetrahydrofuran (THF)			1.1	ug/g	1	112	70	130		
		1,1,1-trichloroethane			0.8	ug/g	1	84	70	130		
		1,1-dichloropropene			0.9	ug/g	1	91	70	130		
		carbon tetrachloride			0.8	ug/g	1	82	70	130		
		1,2-dichloroethane			0.9	ug/g	1	93	70	130		
		benzene			0.9	ug/g	1	88	70	130		
		trichloroethene			0.9	ug/g	1	88	70	130		
		1,2-dichloropropane			0.9	ug/g	1	90	70	130		
		bromodichloromethane			0.9	ug/g	1	89	70	130		
		dibromomethane			0.9	ug/g	1	90	70	130		
		4-methyl-2-pentanone (MIBK)			1.0	ug/g	1	96	70	130		
		cis-1,3-dichloropropene			0.8	ug/g	1	83	70	130		
		toluene			0.9	ug/g	1	88	70	130		
		trans-1,3-dichloropropene			1.0	ug/g	1	97	70	130		
		2-hexanone			0.9	ug/g	1	95	70	130		
		1,1,2-trichloroethane			0.9	ug/g	1	90	70	130		
		1,3-dichloropropane			1.0	ug/g	1	96	70	130		
		tetrachloroethene			0.9	ug/g	1	89	70	130		
		dibromochloromethane			0.9	ug/g	1	89	70	130		
		1,2-dibromoethane (EDB)			1.1	ug/g	1	106	70	130		
		chlorobenzene			0.9	ug/g	1	92	70	130		
		1,1,1,2-tetrachloroethane			0.9	ug/g	1	92	70	130		
		ethylbenzene			0.9	ug/g	1	92	70	130		
		m&p-xylenes			1.8	ug/g	2	91	70	130		
		o-xylene			0.9	ug/g	1	89	70	130		
		styrene			0.8	ug/g	1	84	70	130		
		bromoform			1.0	ug/g	1	97	70	130		
		isopropylbenzene			0.9	ug/g	1	86	70	130		
		1,1,2,2-tetrachloroethane			1.0	ug/g	1	100	70	130		
		1,2,3-trichloropropane			1.0	ug/g	1	103	70	130		
		n-propylbenzene			0.9	ug/g	1	95	70	130		
		bromobenzene			1.0	ug/g	1	96	70	130		

Method	QC ID	Parameter	Associated Sample	Result	Units	Amt Added	%R		Limits		RPD	RPD Limit
SW5035A8260C	MLCS7525	1,3,5-trimethylbenzene		1.0	ug/g	1	96		70	130		
		2-chlorotoluene		0.9	ug/g	1	92		70	130		
		4-chlorotoluene		0.9	ug/g	1	93		70	130		
		tert-butylbenzene		0.9	ug/g	1	94		70	130		
		1,2,4-trimethylbenzene		1.0	ug/g	1	95		70	130		
		sec-butylbenzene		1.0	ug/g	1	96		70	130		
		1,3-dichlorobenzene		0.9	ug/g	1	95		70	130		
		4-isopropyltoluene		1.0	ug/g	1	96		70	130		
		1,4-dichlorobenzene		0.9	ug/g	1	94		70	130		
		1,2-dichlorobenzene		1.0	ug/g	1	98		70	130		
		n-butylbenzene		1.0	ug/g	1	99		70	130		
		1,2-dibromo-3-chloropropane (DBCP)		1.1	ug/g	1	106		70	130		
		1,2,4-trichlorobenzene		1.2	ug/g	1	117		70	130		
		hexachlorobutadiene		1.0	ug/g	1	99		70	130		
		naphthalene		1.3	ug/g	1	126		70	130		
		1,2,3-trichlorobenzene		1.4	ug/g	1	137	*	70	130		
		dibromofluoromethane SUR		98	%				78	114		
		toluene-D8 SUR		100	%				88	110		
		4-bromofluorobenzene SUR		103	%				86	115		
		a,a,a-trifluorotoluene SUR		100	%				70	130		

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R		Limits		RPD	RPD Limit
SW5035A8260C	MLCSD7525	dichlorodifluoromethane			0.7	ug/g	1	66	*	70	130	7	30
		chloromethane			0.7	ug/g	1	70		70	130	0	30
		vinyl chloride			0.8	ug/g	1	81		70	130	4	30
		bromomethane			1.0	ug/g	1	105		70	130	4	30
		chloroethane			0.9	ug/g	1	88		70	130	6	30
		trichlorofluoromethane			0.8	ug/g	1	84		70	130	4	30
		diethyl ether			1.0	ug/g	1	96		70	130	1	30
		acetone		<	2.5	ug/g	1	113				5	30
		1,1-dichloroethene			0.8	ug/g	1	84		70	130	4	30
		methylene chloride			1.0	ug/g	1	97		70	130	0	30
		carbon disulfide			0.8	ug/g	1	80		70	130	1	30
		methyl t-butyl ether (MTBE)			1.0	ug/g	1	100		70	130	0	30
		trans-1,2-dichloroethene			0.9	ug/g	1	92		70	130	0	30
		1,1-dichloroethane			0.9	ug/g	1	90		70	130	1	30
		2-butanone (MEK)			1.1	ug/g	1	108		70	130	5	30
		2,2-dichloropropane			0.8	ug/g	1	81		70	130	1	30
		cis-1,2-dichloroethene			0.9	ug/g	1	94		70	130	1	30
		chloroform			0.9	ug/g	1	92		70	130	2	30
		bromochloromethane			0.9	ug/g	1	91		70	130	2	30
		tetrahydrofuran (THF)			1.0	ug/g	1	101		70	130	10	30
		1,1,1-trichloroethane			0.8	ug/g	1	83		70	130	1	30
		1,1-dichloropropene			0.9	ug/g	1	90		70	130	2	30
		carbon tetrachloride			0.8	ug/g	1	80		70	130	3	30
		1,2-dichloroethane			0.9	ug/g	1	93		70	130	1	30
		benzene			0.9	ug/g	1	88		70	130	0	30
		trichloroethene			0.9	ug/g	1	92		70	130	4	30
		1,2-dichloropropane			0.9	ug/g	1	90		70	130	0	30
		bromodichloromethane			0.9	ug/g	1	89		70	130	0	30
		dibromomethane			0.9	ug/g	1	91		70	130	1	30
		4-methyl-2-pentanone (MIBK)			0.9	ug/g	1	92		70	130	3	30
		cis-1,3-dichloropropene			0.8	ug/g	1	83		70	130	1	30
		toluene			0.9	ug/g	1	88		70	130	0	30
		trans-1,3-dichloropropene			1.0	ug/g	1	97		70	130	0	30
		2-hexanone			0.9	ug/g	1	92		70	130	3	30
		1,1,2-trichloroethane			0.9	ug/g	1	88		70	130	2	30
		1,3-dichloropropane			1.0	ug/g	1	96		70	130	0	30
		tetrachloroethene			0.9	ug/g	1	89		70	130	0	30
		dibromochloromethane			0.9	ug/g	1	87		70	130	3	30
		1,2-dibromoethane (EDB)			1.0	ug/g	1	103		70	130	3	30
		chlorobenzene			0.9	ug/g	1	94		70	130	2	30
		1,1,1,2-tetrachloroethane			0.9	ug/g	1	94		70	130	2	30
		ethylbenzene			0.9	ug/g	1	91		70	130	1	30
		m&p-xylenes			1.8	ug/g	2	92		70	130	1	30
		o-xylene			0.9	ug/g	1	89		70	130	1	30
		styrene			0.9	ug/g	1	86		70	130	2	30
		bromoform			1.0	ug/g	1	95		70	130	2	30
		isopropylbenzene			0.9	ug/g	1	85		70	130	1	30
		1,1,2,2-tetrachloroethane			0.9	ug/g	1	95		70	130	5	30
		1,2,3-trichloropropane			1.0	ug/g	1	99		70	130	4	30
		n-propylbenzene			0.9	ug/g	1	94		70	130	1	30
		bromobenzene			1.0	ug/g	1	98		70	130	2	30

Method	QC ID	Parameter	Associated Sample	Result	Units	Amt Added	%R		Limits		RPD	RPD Limit
SW5035A8260C	MLCSD7525	1,3,5-trimethylbenzene		1.0	ug/g	1	95		70	130	1	30
		2-chlorotoluene		0.9	ug/g	1	92		70	130	0	30
		4-chlorotoluene		0.9	ug/g	1	93		70	130	0	30
		tert-butylbenzene		1.0	ug/g	1	95		70	130	1	30
		1,2,4-trimethylbenzene		1.0	ug/g	1	95		70	130	0	30
		sec-butylbenzene		1.0	ug/g	1	96		70	130	1	30
		1,3-dichlorobenzene		1.0	ug/g	1	95		70	130	0	30
		4-isopropyltoluene		0.9	ug/g	1	95		70	130	1	30
		1,4-dichlorobenzene		1.0	ug/g	1	96		70	130	2	30
		1,2-dichlorobenzene		1.0	ug/g	1	97		70	130	1	30
		n-butylbenzene		1.0	ug/g	1	97		70	130	2	30
		1,2-dibromo-3-chloropropane (DBCP)		1.0	ug/g	1	97		70	130	9	30
		1,2,4-trichlorobenzene		1.1	ug/g	1	110		70	130	6	30
		hexachlorobutadiene		1.0	ug/g	1	99		70	130	0	30
		naphthalene		1.2	ug/g	1	120		70	130	5	30
		1,2,3-trichlorobenzene		1.3	ug/g	1	133	*	70	130	4	30
		dibromofluoromethane SUR		99	%				78	114		
		toluene-D8 SUR		99	%				88	110		
		4-bromofluorobenzene SUR		104	%				86	115		
		a,a,a-trifluorotoluene SUR		98	%				70	130		

- QC Report -

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R	Limits		RPD	RPD Limit
SW3540C8082A	BLK7554	PCB-1016		<	0.1	ug/g						
		PCB-1221		<	0.1	ug/g						
		PCB-1232		<	0.1	ug/g						
		PCB-1242		<	0.1	ug/g						
		PCB-1248		<	0.1	ug/g						
		PCB-1254		<	0.1	ug/g						
		PCB-1260		<	0.1	ug/g						
		tetrachloro-m-xylene SUR			80	%			30	150		
		decachlorobiphenyl SUR			90	%			30	150		
SW3540C8082A	LCS7554	PCB-1016			1.8	ug/g	2	91	40	140		
		PCB-1221		<	0.1	ug/g						
		PCB-1232		<	0.1	ug/g						
		PCB-1242		<	0.1	ug/g						
		PCB-1248		<	0.1	ug/g						
		PCB-1254		<	0.1	ug/g						
		PCB-1260			1.8	ug/g	2	89	40	140		
		tetrachloro-m-xylene SUR			79	%			30	150		
		decachlorobiphenyl SUR			91	%			30	150		
SW3540C8082A	LCSD7554	PCB-1016			2.1	ug/g	2	103	40	140	13	30
		PCB-1221		<	0.1	ug/g						
		PCB-1232		<	0.1	ug/g						
		PCB-1242		<	0.1	ug/g						
		PCB-1248		<	0.1	ug/g						
		PCB-1254		<	0.1	ug/g						
		PCB-1260			2.0	ug/g	2	102	40	140	14	30
		tetrachloro-m-xylene SUR			80	%			30	150		
		decachlorobiphenyl SUR			96	%			30	150		

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R	Limits	RPD	RPD Limit
SW3546/8270D	BLK7544	N-nitrosodimethylamine		<	0.2	ug/g					
		aniline		<	0.2	ug/g					
		phenol		<	0.2	ug/g					
		2-chlorophenol		<	0.5	ug/g					
		bis(2-chloroethyl)ether		<	0.2	ug/g					
		1,3-dichlorobenzene		<	0.2	ug/g					
		1,4-dichlorobenzene		<	0.2	ug/g					
		1,2-dichlorobenzene		<	0.2	ug/g					
		benzyl alcohol		<	0.2	ug/g					
		2-methylphenol		<	0.2	ug/g					
		bis(2-chloroisopropyl) ether		<	0.2	ug/g					
		hexachloroethane		<	0.2	ug/g					
		N-nitroso-di-N-propylamine		<	0.2	ug/g					
		4-methylphenol		<	0.2	ug/g					
		nitrobenzene		<	0.2	ug/g					
		isophorone		<	0.5	ug/g					
		2-nitrophenol		<	0.2	ug/g					
		2,4-dimethylphenol		<	0.2	ug/g					
		bis(2-chloroethoxy)methane		<	0.5	ug/g					
		2,4-dichlorophenol		<	0.5	ug/g					
		1,2,4-trichlorobenzene		<	0.5	ug/g					
		naphthalene		<	0.05	ug/g					
		benzoic acid		<	5.0	ug/g					
		4-chloroaniline		<	0.2	ug/g					
		hexachlorobutadiene		<	0.2	ug/g					
		4-chloro-3-methylphenol		<	0.2	ug/g					
		2-methylnaphthalene		<	0.05	ug/g					
		hexachlorocyclopentadiene		<	1.0	ug/g					
		2,4,6-trichlorophenol		<	0.2	ug/g					
		2,4,5-trichlorophenol		<	0.2	ug/g					
		2-chloronaphthalene		<	0.5	ug/g					
		2-nitroaniline		<	0.2	ug/g					
		acenaphthylene		<	0.05	ug/g					
		dimethylphthalate		<	0.5	ug/g					
		2,6-dinitrotoluene		<	0.2	ug/g					
		2,4-dinitrotoluene		<	0.2	ug/g					
		acenaphthene		<	0.05	ug/g					
		3-nitroaniline		<	0.2	ug/g					
		2,4-dinitrophenol		<	5.0	ug/g					
		dibenzofuran		<	0.05	ug/g					
		4-nitrophenol		<	1.0	ug/g					
		fluorene		<	0.05	ug/g					
		diethyl phthalate		<	0.5	ug/g					
		4-chlorophenyl phenyl ether		<	0.5	ug/g					
		4-nitroaniline		<	0.5	ug/g					
		4,6-dinitro-2-methylphenol		<	2.0	ug/g					
		azobenzene		<	0.2	ug/g					
		N-nitrosodiphenylamine		<	0.2	ug/g					
		4-bromophenyl phenyl ether		<	0.2	ug/g					
		hexachlorobenzene		<	0.2	ug/g					
		pentachlorophenol		<	1.0	ug/g					

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R	Limits		RPD	RPD Limit
SW3546/8270D	BLK7544	phenanthrene		<	0.05	ug/g						
		anthracene		<	0.05	ug/g						
		carbazole		<	0.2	ug/g						
		di-n-butylphthalate		<	0.5	ug/g						
		fluoranthene		<	0.05	ug/g						
		benzidine		<	3.0	ug/g						
		pyrene		<	0.05	ug/g						
		butyl benzyl phthalate		<	0.5	ug/g						
		benzo(a)anthracene		<	0.05	ug/g						
		chrysene		<	0.05	ug/g						
		3,3'-dichlorobenzidine		<	3.0	ug/g						
		bis(2-ethylhexyl)phthalate		<	0.5	ug/g						
		di-n-octyl phthalate		<	0.2	ug/g						
		benzo(b)fluoranthene		<	0.05	ug/g						
		benzo(k)fluoranthene		<	0.05	ug/g						
		benzo(a)pyrene		<	0.02	ug/g						
		indeno(1,2,3-cd)pyrene		<	0.05	ug/g						
		dibenzo(a,h)anthracene		<	0.05	ug/g						
		benzo(g,h,i)perylene		<	0.05	ug/g						
		2-fluorophenol SUR			80	%			21	100		
		phenol-D5 SUR			84	%			10	102		
		2,4,6-tribromophenol SUR			59	%			10	123		
		nitrobenzene-D5 SUR			75	%			35	114		
		2-fluorobiphenyl SUR			64	%			43	116		
		p-terphenyl-D14 SUR			101	%			33	141		

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R		Limits		RPD	RPD Limit
SW3546/8270D	LCS7544	N-nitrosodimethylamine			2.5	ug/g	4	64		40	140		
		aniline			2.3	ug/g	4	57		40	140		
		phenol			3.3	ug/g	4	82		30	130		
		2-chlorophenol			2.7	ug/g	4	69		30	130		
		bis(2-chloroethyl)ether			3.0	ug/g	4	76		40	140		
		1,3-dichlorobenzene			2.5	ug/g	4	63		40	140		
		1,4-dichlorobenzene			2.6	ug/g	4	64		40	140		
		1,2-dichlorobenzene			2.6	ug/g	4	64		40	140		
		benzyl alcohol			3.1	ug/g	4	77		30	130		
		2-methylphenol			3.1	ug/g	4	78		30	130		
		bis(2-chloroisopropyl) ether			2.9	ug/g	4	73		40	140		
		hexachloroethane			2.8	ug/g	4	71		40	140		
		N-nitroso-di-N-propylamine			3.1	ug/g	4	78		40	140		
		4-methylphenol			3.1	ug/g	4	77		30	130		
		nitrobenzene			3.1	ug/g	4	77		40	140		
		isophorone			3.4	ug/g	4	86		40	140		
		2-nitrophenol			2.4	ug/g	4	59		30	130		
		2,4-dimethylphenol			2.6	ug/g	4	65		30	130		
		bis(2-chloroethoxy)methane			3.0	ug/g	4	75		40	140		
		2,4-dichlorophenol			2.7	ug/g	4	67		30	130		
		1,2,4-trichlorobenzene			2.6	ug/g	4	64		40	140		
		naphthalene			2.5	ug/g	4	63		40	140		
		benzoic acid		<	5.0	ug/g							
		4-chloroaniline			2.2	ug/g	4	55		40	140		
		hexachlorobutadiene			2.5	ug/g	4	63		40	140		
		4-chloro-3-methylphenol			3.2	ug/g	4	80		30	130		
		2-methylnaphthalene			2.51	ug/g	4	63		40	140		
		hexachlorocyclopentadiene			1.4	ug/g	4	34	*	40	140		
		2,4,6-trichlorophenol			2.9	ug/g	4	74		30	130		
		2,4,5-trichlorophenol			2.8	ug/g	4	71		30	130		
		2-chloronaphthalene			2.5	ug/g	4	64		40	140		
		2-nitroaniline			2.8	ug/g	4	70		40	140		
		acenaphthylene			2.7	ug/g	4	67		40	140		
		dimethylphthalate			3.0	ug/g	4	76		40	140		
		2,6-dinitrotoluene			3.1	ug/g	4	77		40	140		
		2,4-dinitrotoluene			3.0	ug/g	4	76		40	140		
		acenaphthene			2.7	ug/g	4	67		40	140		
		3-nitroaniline			2.7	ug/g	4	67		40	140		
		2,4-dinitrophenol		<	5.0	ug/g							
		dibenzofuran			2.9	ug/g	4	73		40	140		
		4-nitrophenol			2.2	ug/g	4	55		30	130		
		fluorene			2.9	ug/g	4	71		40	140		
		diethyl phthalate			3.2	ug/g	4	79		40	140		
		4-chlorophenyl phenyl ether			3.0	ug/g	4	75		40	140		
		4-nitroaniline			2.5	ug/g	4	64		40	140		
		4,6-dinitro-2-methylphenol			2.5	ug/g							
		azobenzene			3.4	ug/g	4	85		40	140		
		N-nitrosodiphenylamine			3.3	ug/g	4	82		40	140		
		4-bromophenyl phenyl ether			2.6	ug/g	4	66		40	140		
		hexachlorobenzene			2.6	ug/g	4	66		40	140		
		pentachlorophenol			1.8	ug/g	4	45		30	130		

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R	Limits		RPD	RPD Limit
SW3546/8270D	LCS7544	phenanthrene			3.0	ug/g	4	75	40	140		
		anthracene			3.0	ug/g	4	75	40	140		
		carbazole			2.9	ug/g	4	72	40	140		
		di-n-butylphthalate			3.1	ug/g	4	78	40	140		
		fluoranthene			3.1	ug/g	4	77	40	140		
		benzidine		<	3.0	ug/g						
		pyrene			3.7	ug/g	4	93	40	140		
		butyl benzyl phthalate			4.1	ug/g	4	103	40	140		
		benzo(a)anthracene			3.3	ug/g	4	82	40	140		
		chrysene			3.3	ug/g	4	83	40	140		
		3,3'-dichlorobenzidine		<	3.0	ug/g						
		bis(2-ethylhexyl)phthalate			3.6	ug/g	4	89	40	140		
		di-n-octyl phthalate			3.6	ug/g	4	89	40	140		
		benzo(b)fluoranthene			3.4	ug/g	4	84	40	140		
		benzo(k)fluoranthene			3.2	ug/g	4	81	40	140		
		benzo(a)pyrene			3.3	ug/g	4	82	40	140		
		indeno(1,2,3-cd)pyrene			3.2	ug/g	4	79	40	140		
		dibenzo(a,h)anthracene			3.1	ug/g	4	78	40	140		
		benzo(g,h,i)perylene			3.3	ug/g	4	83	40	140		
		2-fluorophenol SUR			87	%			21	100		
		phenol-D5 SUR			95	%			10	102		
		2,4,6-tribromophenol SUR			69	%			10	123		
		nitrobenzene-D5 SUR			82	%			35	114		
		2-fluorobiphenyl SUR			74	%			43	116		
		p-terphenyl-D14 SUR			98	%			33	141		

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R	Limits		RPD	RPD Limit
SW3051A6010C	BLK7552	Silver		<	0.25	ug/g						
		Arsenic		<	0.50	ug/g						
		Beryllium		<	0.20	ug/g						
		Cadmium		<	0.20	ug/g						
		Chromium		<	2.5	ug/g						
		Copper		<	2.5	ug/g						
		Nickel		<	2.5	ug/g						
		Lead		<	0.50	ug/g						
		Antimony		<	0.30	ug/g						
		Selenium		<	2.5	ug/g						
		Thallium		<	0.10	ug/g						
		Zinc		<	2.5	ug/g						
SW3051A6010C	CRM7552	Silver			46	ug/g	38		25.1	51.9		
		Arsenic			440	ug/g	400		292	508		
		Cadmium			17	ug/g	15		8.71	22		
		Chromium			18	ug/g	14		2.45	24.7		
		Copper			840	ug/g	730		592	866		
		Nickel			20	ug/g	17		6.2	27.5		
		Lead			5200	ug/g	5100		3750	6470		
		Antimony			6.5	ug/g	8.4		0	21.4		
		Selenium			9.3	ug/g	6.6		0	18.4		
		Thallium			7.4	ug/g	5.9		0	13.6		
		Zinc			2800	ug/g	3000		2450	3580		
SW3051A6010C	CRMD7552	Silver			51	ug/g	38		25.1	51.9	10	35
		Arsenic			440	ug/g	400		292	508	2	35
		Cadmium			18	ug/g	15		8.71	22	4	35
		Chromium			17	ug/g	14		2.45	24.7	9	35
		Copper			790	ug/g	730		592	866	7	35
		Nickel			21	ug/g	17		6.2	27.5	2	35
		Lead			5400	ug/g	5100		3750	6470	4	35
		Antimony			9.2	ug/g	8.4		0	21.4	34	35
		Selenium			9.2	ug/g	6.6		0	18.4	1	35
		Thallium			7.6	ug/g	5.9		0	13.6	3	35
		Zinc			2900	ug/g	3000		2450	3580	3	35
SW7471B	BLK7557	Mercury		<	0.02	ug/g						
SW7471B	CRM7557	Mercury			1.4	ug/g	1.1		0.49	1.76		
SW7471B	CRMD7557	Mercury			1.3	ug/g	1.1		0.49	1.76	4	35

Absolute Resource associates
124 Heritage Avenue #16
Portsmouth, NH 03801
603-436-2001
absoluteresourceassociates.com

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

32097

Company Name: CREDERE
Company Address: 776 MAIN ST WESTBROOK ME 04092
Report To: JUDD NEWCOMB
Phone #: 207-828-1272 x16
Invoice to Email: JNEWCOMB@CREDERELLC.com
☐ Hard Copy Invoice Required

Project Name: MALOSKO
Project #: 14001247
Project Location: (NH) MA ME VT NY Other
Protocol: RCRA MCP SDWA NPDES (NHDES) OTHER
Reporting Limits: (QAPP) EPA DW GW-1 S-1 Other
Quote # CREDERE ☐ NH Reimbursement Pricing
PO # 14001247

ANALYSIS REQUEST

☒ VOC 8260 ☐ VOC 8260 NHDES ☐ VOC 8260 MADEP
☐ VOC 624 ☐ VOC BTEX ☐ MtBE, only ☐ VOC 8021VT
☐ VPH MADEP ☐ MEGRO ☐ GRO 8015 ☐ 1,4-Dioxane
☐ VOC 524.2 ☐ VOC 524.2 NH List ☐ Gases-List:
☐ TPH ☐ DRO 8015 ☐ MEDRO ☐ EPH MADEP ☐ TPH Fingerprint
☐ 8270PAH ☒ 8270ABN ☐ 625 ☐ EDB
☒ 8082 PCB ☐ 8081 Pesticides ☐ 608 Pest/PCB Soxh Ext
☐ O&G 1664 ☐ Mineral O&G SM5520F
☐ pH ☐ BOD ☐ Conductivity ☐ Turbidity
☐ TSS ☐ TDS ☐ TS ☐ TVS ☐ Alkalinity
☐ RCRA Metals ☒ Priority Pollutant Metals ☐ TAL Metals ☐ Hardness
☐ Total Metals-list:
☐ Dissolved Metals-list:
☐ Ammonia ☐ COD ☐ TKN ☐ TN ☐ TON ☐ TOC
☐ T-Phosphorus ☐ Phenols ☐ Bacteria P/A ☐ Bacteria MPN
☐ Cyanide ☐ Sulfide ☐ Nitrate + Nitrite ☐ Ortho P
☐ Nitrate ☐ Nitrite ☐ Chloride ☐ Sulfate ☐ Bromide ☐ Fluoride
☐ Corrosivity ☐ Reactive CN ☐ Reactive S- ☐ Ignitibility/FP
☐ TCLP Metals ☐ TCLP VOC ☐ TCLP SVOC ☐ TCLP Pesticide
Subcontract: ☐ Grain Size ☐ Herbicides ☐ Formaldehyde

Lab Sample ID (Lab Use Only)	Field ID	# CONTAINERS	Matrix: WATER	SOLID	OTHER	Preservation Method: HCl	HNO_3	H_2SO_4	NaOH	MeOH	Sampling: DATE	TIME	SAMPLER	Grab (G) or Composite (C)
32097-01	CA-SS-7	2		X						X	1/14/15	1300	JN	G
-02	CA-SS-8	1		X							↓	1315	JN	G

TAT REQUESTED
Priority (24 hr)* ☐
Expedited (48 hr)* ☐
Standard (10 Business Days) ☐
*Date Needed 1/27/15

See absoluteresourceassociates.com for sample acceptance policy and current accreditation lists.

SPECIAL INSTRUCTIONS

REPORTING INSTRUCTIONS ☒ PDF (e-mail address) Same
☐ HARD COPY REQUIRED ☐ FAX (FAX#)

RECEIVED ON ICE ☑ YES ☐ NO
TEMPERATURE 3 °C

CUSTODY RECORD
QSD-01 Revision 08/05/14

	Relinquished by Sampler:	Date	Time	Received by:	Date	Time
		1/15/15	1100	CREDERE		
	Relinquished by:	Date	Time	Received by:	Date	Time
		1/16/15	1015		1/16/15	1015
	Relinquished by:	Date	Time	Received by Laboratory:	Date	Time
		1/16/15	1135		1/16/15	11:35

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Laboratory Report

Absolute Resource associates
124 Heritage Avenue Portsmouth NH 03801

Judd Newcomb
CREDERE Associates
776 Main Street
Westbrook, ME 04092

PO Number: 14001297
Job ID: 33821
Date Received: 7/30/15

Project: MACOSKO 14001297

Attached please find results for the analysis of the samples received on the date referenced above.

Unless otherwise noted in the attached report, the analyses performed met the requirements of Absolute Resource Associates' Quality Assurance Plan. The Standard Operating Procedures are based upon USEPA SW-846, USEPA Methods for Chemical Analysis of Water and Wastewater, Standard Methods for the Examination of Water and Wastewater and other recognized methodologies. The results contained in this report pertain only to the samples as indicated on the chain of custody.

Absolute Resource Associates maintains certification with the agencies listed below.

We appreciate the opportunity to provide laboratory services. If you have any questions regarding the enclosed report, please contact the laboratory and we will be glad to assist you.

Sincerely,
Absolute Resource Associates

(for)

Sue Sylvester
Principal, General Manager

Date of Approval: 8/25/2015
Total number of pages: 40

Absolute Resource Associates Certifications

New Hampshire	1732	Massachusetts	M-NH902
Maine	NH903		

Project ID: MACOSKO 14001297

Lab ID: 33821

Sample Association Table

Field ID	Matrix	Date-Time Sampled	Lab#	Analysis
CA-CC-1	Solid	7/29/2015 12:20	33821-001	
				PCBs in soil by 8082
				Percent Dry Matter for Sample Calc by SM2540B,G
CA-CC-2	Solid	7/29/2015 12:10	33821-002	
				PCBs in soil by 8082
				Percent Dry Matter for Sample Calc by SM2540B,G
CA-CC-3	Solid	7/29/2015 12:50	33821-003	
				PCBs in soil by 8082
				Percent Dry Matter for Sample Calc by SM2540B,G
CA-SS-1	Solid	7/29/2015 11:30	33821-004	
				PCBs in soil by 8082
				Acid & Base/Neutral Extractables in solid by 8270
				Soil Digestion for ICP Analysis
				Silver in solids by 6010
				Arsenic in solids by 6010
				Beryllium in solids by 6010
				Cadmium in solids by 6010
				Chromium in solids by 6010
				Copper in solids by 6010
				Mercury in solids by 7471
				Nickel in solids by 6010
				Lead in solids by 6010
				Antimony in solids by 6010
				Selenium in solids by 6010
				Thallium in solids by 6010
				Zinc in solids by 6010
				Percent Dry Matter for Sample Calc by SM2540B,G
				VOCs in solid by 8260 Petro & Haz Waste
CA-SS-2	Solid	7/29/2015 12:10	33821-005	
				PCBs in soil by 8082
				Acid & Base/Neutral Extractables in solid by 8270
				Soil Digestion for ICP Analysis
				Silver in solids by 6010
				Arsenic in solids by 6010
				Beryllium in solids by 6010
				Cadmium in solids by 6010
				Chromium in solids by 6010
				Copper in solids by 6010
				Mercury in solids by 7471
				Nickel in solids by 6010
				Lead in solids by 6010
				Antimony in solids by 6010
				Selenium in solids by 6010
				Thallium in solids by 6010
				Zinc in solids by 6010
				Percent Dry Matter for Sample Calc by SM2540B,G
				VOCs in solid by 8260 Petro & Haz Waste
Trip Blank	Solid	7/29/2015 0:00	33821-006	
				Percent Dry Matter for Sample Calc by SM2540B,G
				VOCs in solid by 8260 Petro & Haz Waste
CA-DUP	Solid	7/29/2015 0:00	33821-007	
				PCBs in soil by 8082

Absolute Resource associates

Project ID: MACOSKO 14001297

Lab ID: 33821

Sample Association Table

Field ID	Matrix	Date-Time Sampled	Lab#	Analysis
CA-DUP	Solid	7/29/2015 0:00	33821-007	
				Acid & Base/Neutral Extractables in solid by 8270
				Soil Digestion for ICP Analysis
				Silver in solids by 6010
				Arsenic in solids by 6010
				Beryllium in solids by 6010
				Cadmium in solids by 6010
				Chromium in solids by 6010
				Copper in solids by 6010
				Mercury in solids by 7471
				Nickel in solids by 6010
				Lead in solids by 6010
				Antimony in solids by 6010
				Selenium in solids by 6010
				Thallium in solids by 6010
				Zinc in solids by 6010
				Percent Dry Matter for Sample Calc by SM2540B,G
				VOCs in solid by 8260 Petro & Haz Waste

Project ID: MACOSKO 14001297
Job ID: 33821
Sample#: 33821-004
Sample ID: CA-SS-1
Matrix: Solid Percent Dry: 61.3% Results expressed on a dry weight basis.
Sampled: 7/29/15 11:30

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
dichlorodifluoromethane	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
chloromethane	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
vinyl chloride	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
bromomethane	< 0.5	0.5	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
chloroethane	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
trichlorofluoromethane	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
diethyl ether	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
acetone	< 5	5	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
1,1-dichloroethene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
methylene chloride	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
carbon disulfide	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
methyl t-butyl ether (MTBE)	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
trans-1,2-dichloroethene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
isopropyl ether (DIPE)	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
ethyl t-butyl ether (ETBE)	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
1,1-dichloroethane	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
t-butanol (TBA)	< 5	5	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
2-butanone (MEK)	< 0.6	0.6	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
2,2-dichloropropane	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
cis-1,2-dichloroethene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
chloroform	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
bromochloromethane	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
tetrahydrofuran (THF)	< 0.9	0.9	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
1,1,1-trichloroethane	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
1,1-dichloropropene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
t-amyl-methyl ether (TAME)	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
carbon tetrachloride	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
1,2-dichloroethane	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
benzene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
trichloroethene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
1,2-dichloropropane	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
bromodichloromethane	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
1,4-dioxane	< 5	5	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
dibromomethane	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
4-methyl-2-pentanone (MIBK)	< 0.8	0.8	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
cis-1,3-dichloropropene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
toluene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
trans-1,3-dichloropropene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
2-hexanone	< 0.9	0.9	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
1,1,2-trichloroethane	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
1,3-dichloropropane	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
tetrachloroethene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
dibromochloromethane	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C

Absolute Resource associates

Project ID: MACOSKO 14001297
Job ID: 33821
Sample#: 33821-004
Sample ID: CA-SS-1
Matrix: Solid Percent Dry: 61.3% Results expressed on a dry weight basis.
Sampled: 7/29/15 11:30

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
1,2-dibromoethane (EDB)	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
chlorobenzene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
1,1,1,2-tetrachloroethane	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
ethylbenzene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
m&p-xylenes	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
o-xylene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
styrene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
bromoform	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
isopropylbenzene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
1,1,2,2-tetrachloroethane	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
1,2,3-trichloropropane	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
n-propylbenzene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
bromobenzene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
1,3,5-trimethylbenzene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
2-chlorotoluene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
4-chlorotoluene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
tert-butylbenzene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
1,2,4-trimethylbenzene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
sec-butylbenzene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
1,3-dichlorobenzene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
4-isopropyltoluene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
1,4-dichlorobenzene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
1,2-dichlorobenzene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
n-butylbenzene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
1,2-dibromo-3-chloropropane (DBCP)	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
1,2,4-trichlorobenzene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
1,3,5-trichlorobenzene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
hexachlorobutadiene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
naphthalene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
1,2,3-trichlorobenzene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
Surrogate Recovery		**Limits**								
dibromofluoromethane SUR	**93**	78-114	%	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
toluene-D8 SUR	**101**	88-110	%	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
4-bromofluorobenzene SUR	**102**	86-115	%	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C
a,a,a-trifluorotoluene SUR	**111**	70-130	%	1	LMM	8/5/15	8077	8/8/15	3:03	SW5035A8260C

Project ID: MACOSKO 14001297
Job ID: 33821
Sample#: 33821-005
Sample ID: CA-SS-2
Matrix: Solid Percent Dry: 75.4% Results expressed on a dry weight basis.
Sampled: 7/29/15 12:10

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
dichlorodifluoromethane	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
chloromethane	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
vinyl chloride	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
bromomethane	< 0.3	0.3	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
chloroethane	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
trichlorofluoromethane	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
diethyl ether	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
acetone	< 3	3	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
1,1-dichloroethene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
methylene chloride	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
carbon disulfide	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
methyl t-butyl ether (MTBE)	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
trans-1,2-dichloroethene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
isopropyl ether (DIPE)	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
ethyl t-butyl ether (ETBE)	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
1,1-dichloroethane	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
t-butanol (TBA)	< 3	3	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
2-butanone (MEK)	< 0.4	0.4	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
2,2-dichloropropane	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
cis-1,2-dichloroethene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
chloroform	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
bromochloromethane	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
tetrahydrofuran (THF)	< 0.6	0.6	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
1,1,1-trichloroethane	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
1,1-dichloropropene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
t-amyl-methyl ether (TAME)	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
carbon tetrachloride	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
1,2-dichloroethane	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
benzene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
trichloroethene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
1,2-dichloropropane	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
bromodichloromethane	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
1,4-dioxane	< 3	3	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
dibromomethane	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
4-methyl-2-pentanone (MIBK)	< 0.6	0.6	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
cis-1,3-dichloropropene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
toluene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
trans-1,3-dichloropropene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
2-hexanone	< 0.6	0.6	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
1,1,2-trichloroethane	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
1,3-dichloropropane	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
tetrachloroethene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
dibromochloromethane	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C

Absolute Resource associates

Project ID: MACOSKO 14001297
Job ID: 33821
Sample#: 33821-005
Sample ID: CA-SS-2
Matrix: Solid Percent Dry: 75.4% Results expressed on a dry weight basis.
Sampled: 7/29/15 12:10

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
1,2-dibromoethane (EDB)	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
chlorobenzene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
1,1,1,2-tetrachloroethane	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
ethylbenzene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
m&p-xylenes	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
o-xylene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
styrene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
bromoform	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
isopropylbenzene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
1,1,2,2-tetrachloroethane	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
1,2,3-trichloropropane	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
n-propylbenzene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
bromobenzene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
1,3,5-trimethylbenzene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
2-chlorotoluene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
4-chlorotoluene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
tert-butylbenzene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
1,2,4-trimethylbenzene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
sec-butylbenzene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
1,3-dichlorobenzene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
4-isopropyltoluene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
1,4-dichlorobenzene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
1,2-dichlorobenzene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
n-butylbenzene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
1,2-dibromo-3-chloropropane (DBCP)	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
1,2,4-trichlorobenzene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
1,3,5-trichlorobenzene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
hexachlorobutadiene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
naphthalene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
1,2,3-trichlorobenzene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
Surrogate Recovery		**Limits**								
dibromofluoromethane SUR	**87**	78-114	%	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
toluene-D8 SUR	**103**	88-110	%	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
4-bromofluorobenzene SUR	**99**	86-115	%	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C
a,a,a-trifluorotoluene SUR	**107**	70-130	%	1	LMM	8/5/15	8077	8/8/15	3:35	SW5035A8260C

Project ID: MACOSKO 14001297
Job ID: 33821
Sample#: 33821-006
Sample ID: Trip Blank
Matrix: Solid
Sampled: 7/29/15 0:00

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
dichlorodifluoromethane	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
chloromethane	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
vinyl chloride	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
bromomethane	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
chloroethane	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
trichlorofluoromethane	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
diethyl ether	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
acetone	< 2	2	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
1,1-dichloroethene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
methylene chloride	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
carbon disulfide	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
methyl t-butyl ether (MTBE)	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
trans-1,2-dichloroethene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
isopropyl ether (DIPE)	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
ethyl t-butyl ether (ETBE)	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
1,1-dichloroethane	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
t-butanol (TBA)	< 2	2	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
2-butanone (MEK)	< 0.3	0.3	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
2,2-dichloropropane	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
cis-1,2-dichloroethene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
chloroform	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
bromochloromethane	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
tetrahydrofuran (THF)	< 0.5	0.5	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
1,1,1-trichloroethane	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
1,1-dichloropropene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
t-amyl-methyl ether (TAME)	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
carbon tetrachloride	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
1,2-dichloroethane	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
benzene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
trichloroethene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
1,2-dichloropropane	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
bromodichloromethane	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
1,4-dioxane	< 2	2	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
dibromomethane	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
4-methyl-2-pentanone (MIBK)	< 0.4	0.4	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
cis-1,3-dichloropropene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
toluene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
trans-1,3-dichloropropene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
2-hexanone	< 0.5	0.5	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
1,1,2-trichloroethane	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
1,3-dichloropropane	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
tetrachloroethene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
dibromochloromethane	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C

Project ID: MACOSKO 14001297
Job ID: 33821
Sample#: 33821-006
Sample ID: Trip Blank
Matrix: Solid
Sampled: 7/29/15 0:00

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Analysis Time	Reference
1,2-dibromoethane (EDB)	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
chlorobenzene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
1,1,1,2-tetrachloroethane	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
ethylbenzene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
m&p-xylenes	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
o-xylene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
styrene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
bromoform	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
isopropylbenzene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
1,1,2,2-tetrachloroethane	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
1,2,3-trichloropropane	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
n-propylbenzene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
bromobenzene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
1,3,5-trimethylbenzene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
2-chlorotoluene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
4-chlorotoluene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
tert-butylbenzene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
1,2,4-trimethylbenzene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
sec-butylbenzene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
1,3-dichlorobenzene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
4-isopropyltoluene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
1,4-dichlorobenzene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
1,2-dichlorobenzene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
n-butylbenzene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
1,2-dibromo-3-chloropropane (DBCP)	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
1,2,4-trichlorobenzene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
1,3,5-trichlorobenzene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
hexachlorobutadiene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
naphthalene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
1,2,3-trichlorobenzene	< 0.1	0.1	ug/g	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
Surrogate Recovery		**Limits**								
dibromofluoromethane SUR	**89**	78-114	%	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
toluene-D8 SUR	**103**	88-110	%	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
4-bromofluorobenzene SUR	**98**	86-115	%	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C
a,a,a-trifluorotoluene SUR	**92**	70-130	%	1	LMM	8/5/15	8077	8/7/15	20:07	SW5035A8260C

Project ID: MACOSKO 14001297
Job ID: 33821
Sample#: 33821-007
Sample ID: CA-DUP
Matrix: Solid Percent Dry: 64.2% Results expressed on a dry weight basis.
Sampled: 7/29/15 0:00

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
dichlorodifluoromethane	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
chloromethane	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
vinyl chloride	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
bromomethane	< 0.4	0.4	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
chloroethane	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
trichlorofluoromethane	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
diethyl ether	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
acetone	< 4	4	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
1,1-dichloroethene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
methylene chloride	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
carbon disulfide	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
methyl t-butyl ether (MTBE)	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
trans-1,2-dichloroethene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
isopropyl ether (DIPE)	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
ethyl t-butyl ether (ETBE)	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
1,1-dichloroethane	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
t-butanol (TBA)	< 4	4	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
2-butanone (MEK)	< 0.5	0.5	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
2,2-dichloropropane	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
cis-1,2-dichloroethene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
chloroform	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
bromochloromethane	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
tetrahydrofuran (THF)	< 0.8	0.8	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
1,1,1-trichloroethane	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
1,1-dichloropropene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
t-amyl-methyl ether (TAME)	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
carbon tetrachloride	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
1,2-dichloroethane	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
benzene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
trichloroethene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
1,2-dichloropropane	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
bromodichloromethane	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
1,4-dioxane	< 4	4	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
dibromomethane	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
4-methyl-2-pentanone (MIBK)	< 0.7	0.7	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
cis-1,3-dichloropropene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
toluene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
trans-1,3-dichloropropene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
2-hexanone	< 0.8	0.8	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
1,1,2-trichloroethane	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
1,3-dichloropropane	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
tetrachloroethene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
dibromochloromethane	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C

Absolute Resource associates

Project ID: MACOSKO 14001297
Job ID: 33821
Sample#: 33821-007
Sample ID: CA-DUP
Matrix: Solid Percent Dry: 64.2% Results expressed on a dry weight basis.
Sampled: 7/29/15 0:00

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
1,2-dibromoethane (EDB)	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
chlorobenzene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
1,1,1,2-tetrachloroethane	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
ethylbenzene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
m&p-xylenes	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
o-xylene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
styrene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
bromoform	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
isopropylbenzene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
1,1,2,2-tetrachloroethane	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
1,2,3-trichloropropane	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
n-propylbenzene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
bromobenzene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
1,3,5-trimethylbenzene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
2-chlorotoluene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
4-chlorotoluene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
tert-butylbenzene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
1,2,4-trimethylbenzene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
sec-butylbenzene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
1,3-dichlorobenzene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
4-isopropyltoluene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
1,4-dichlorobenzene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
1,2-dichlorobenzene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
n-butylbenzene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
1,2-dibromo-3-chloropropane (DBCP)	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
1,2,4-trichlorobenzene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
1,3,5-trichlorobenzene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
hexachlorobutadiene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
naphthalene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
1,2,3-trichlorobenzene	< 0.2	0.2	ug/g	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
Surrogate Recovery		**Limits**								
dibromofluoromethane SUR	**88**	78-114	%	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
toluene-D8 SUR	**103**	88-110	%	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
4-bromofluorobenzene SUR	**102**	86-115	%	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C
a,a,a-trifluorotoluene SUR	**124**	70-130	%	1	LMM	8/5/15	8077	8/8/15	4:07	SW5035A8260C

Project ID: MACOSKO 14001297
Job ID: 33821
Sample#: 33821-004
Sample ID: CA-SS-1
Matrix: Solid Percent Dry: 61.3% Results expressed on a dry weight basis.
Sampled: 7/29/15 11:30

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
N-nitrosodimethylamine	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
aniline	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
phenol	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
2-chlorophenol	< 0.8	0.8	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
bis(2-chloroethyl)ether	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
1,3-dichlorobenzene	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
1,4-dichlorobenzene	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
1,2-dichlorobenzene	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
benzyl alcohol	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
2-methylphenol	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
bis(2-chloroisopropyl) ether	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
hexachloroethane	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
N-nitroso-di-N-propylamine	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
4-methylphenol	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
nitrobenzene	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
isophorone	< 0.8	0.8	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
2-nitrophenol	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
2,4-dimethylphenol	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
bis(2-chloroethoxy)methane	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
2,4-dichlorophenol	< 0.8	0.8	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
1,2,4-trichlorobenzene	< 0.8	0.8	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
naphthalene	< 0.08	0.08	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
benzoic acid	< 8	8	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
4-chloroaniline	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
hexachlorobutadiene	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
4-chloro-3-methylphenol	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
2-methylnaphthalene	< 0.08	0.08	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
hexachlorocyclopentadiene	< 2	2	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
2,4,6-trichlorophenol	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
2,4,5-trichlorophenol	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
2-chloronaphthalene	< 0.8	0.8	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
2-nitroaniline	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
acenaphthylene	< 0.08	0.08	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
dimethylphthalate	< 0.8	0.8	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
2,6-dinitrotoluene	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
2,4-dinitrotoluene	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
acenaphthene	< 0.08	0.08	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
3-nitroaniline	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
2,4-dinitrophenol	< 8	8	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
dibenzofuran	< 0.08	0.08	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
4-nitrophenol	< 3	3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
fluorene	< 0.08	0.08	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
diethyl phthalate	< 0.8	0.8	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D

Absolute Resource associates

Project ID: MACOSKO 14001297
Job ID: 33821
Sample#: 33821-004
Sample ID: CA-SS-1
Matrix: Solid Percent Dry: 61.3% Results expressed on a dry weight basis.
Sampled: 7/29/15 11:30

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
4-chlorophenyl phenyl ether	< 0.8	0.8	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
4-nitroaniline	< 0.8	0.8	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
4,6-dinitro-2-methylphenol	< 3	3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
azobenzene	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
N-nitrosodiphenylamine	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
4-bromophenyl phenyl ether	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
hexachlorobenzene	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
pentachlorophenol	< 2	2	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
phenanthrene	**0.26**	0.08	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
anthracene	< 0.08	0.08	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
carbazole	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
di-n-butylphthalate	< 0.8	0.8	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
fluoranthene	**0.35**	0.08	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
benzidine	< 5	5	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
pyrene	**0.25**	0.08	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
butyl benzyl phthalate	< 0.8	0.8	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
benzo(a)anthracene	**0.12**	0.08	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
chrysene	**0.19**	0.08	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
3,3'-dichlorobenzidine	< 5	5	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
bis(2-ethylhexyl)phthalate	< 0.8	0.8	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
di-n-octyl phthalate	< 0.8	0.8	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
benzo(b)fluoranthene	**0.14**	0.08	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
benzo(k)fluoranthene	**0.16**	0.08	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
benzo(a)pyrene	**0.14**	0.08	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
indeno(1,2,3-cd)pyrene	< 0.08	0.08	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
dibenzo(a,h)anthracene	< 0.08	0.08	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
benzo(g,h,i)perylene	< 0.08	0.08	ug/g	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
Surrogate Recovery		**Limits**								
2-fluorophenol SUR	**57**	21-100	%	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
phenol-D5 SUR	**61**	10-102	%	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
2,4,6-tribromophenol SUR	**58**	10-123	%	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
nitrobenzene-D5 SUR	**56**	35-114	%	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
2-fluorobiphenyl SUR	**64**	43-116	%	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D
p-terphenyl-D14 SUR	**63**	33-141	%	1	AJD	8/3/15	8067	8/5/15	14:17	SW3546/8270D

Project ID: MACOSKO 14001297
Job ID: 33821
Sample#: 33821-005
Sample ID: CA-SS-2
Matrix: Solid Percent Dry: 75.4% Results expressed on a dry weight basis.
Sampled: 7/29/15 12:10

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
N-nitrosodimethylamine	< 0.2	0.2	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
aniline	< 0.2	0.2	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
phenol	< 0.2	0.2	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
2-chlorophenol	< 0.6	0.6	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
bis(2-chloroethyl)ether	< 0.2	0.2	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
1,3-dichlorobenzene	< 0.2	0.2	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
1,4-dichlorobenzene	< 0.2	0.2	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
1,2-dichlorobenzene	< 0.2	0.2	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
benzyl alcohol	< 0.2	0.2	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
2-methylphenol	< 0.2	0.2	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
bis(2-chloroisopropyl) ether	< 0.2	0.2	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
hexachloroethane	< 0.2	0.2	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
N-nitroso-di-N-propylamine	< 0.2	0.2	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
4-methylphenol	< 0.2	0.2	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
nitrobenzene	< 0.2	0.2	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
isophorone	< 0.6	0.6	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
2-nitrophenol	< 0.2	0.2	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
2,4-dimethylphenol	< 0.2	0.2	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
bis(2-chloroethoxy)methane	< 0.2	0.2	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
2,4-dichlorophenol	< 0.6	0.6	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
1,2,4-trichlorobenzene	< 0.6	0.6	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
naphthalene	< 0.06	0.06	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
benzoic acid	< 6	6	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
4-chloroaniline	< 0.2	0.2	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
hexachlorobutadiene	< 0.2	0.2	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
4-chloro-3-methylphenol	< 0.2	0.2	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
2-methylnaphthalene	< 0.06	0.06	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
hexachlorocyclopentadiene	< 1	1	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
2,4,6-trichlorophenol	< 0.2	0.2	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
2,4,5-trichlorophenol	< 0.2	0.2	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
2-chloronaphthalene	< 0.6	0.6	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
2-nitroaniline	< 0.2	0.2	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
acenaphthylene	< 0.06	0.06	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
dimethylphthalate	< 0.6	0.6	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
2,6-dinitrotoluene	< 0.2	0.2	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
2,4-dinitrotoluene	< 0.2	0.2	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
acenaphthene	< 0.06	0.06	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
3-nitroaniline	< 0.2	0.2	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
2,4-dinitrophenol	< 6	6	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
dibenzofuran	< 0.06	0.06	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
4-nitrophenol	< 2	2	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
fluorene	< 0.06	0.06	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
diethyl phthalate	< 0.6	0.6	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D

Project ID: MACOSKO 14001297
Job ID: 33821
Sample#: 33821-005
Sample ID: CA-SS-2
Matrix: Solid Percent Dry: 75.4% Results expressed on a dry weight basis.
Sampled: 7/29/15 12:10

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
4-chlorophenyl phenyl ether	< 0.6	0.6	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
4-nitroaniline	< 0.6	0.6	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
4,6-dinitro-2-methylphenol	< 2	2	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
azobenzene	< 0.2	0.2	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
N-nitrosodiphenylamine	< 0.2	0.2	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
4-bromophenyl phenyl ether	< 0.2	0.2	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
hexachlorobenzene	< 0.2	0.2	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
pentachlorophenol	< 1	1	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
phenanthrene	< 0.06	0.06	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
anthracene	< 0.06	0.06	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
carbazole	< 0.2	0.2	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
di-n-butylphthalate	< 0.6	0.6	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
fluoranthene	< 0.06	0.06	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
benzidine	< 4	4	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
pyrene	< 0.06	0.06	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
butyl benzyl phthalate	< 0.6	0.6	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
benzo(a)anthracene	< 0.06	0.06	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
chrysene	< 0.06	0.06	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
3,3'-dichlorobenzidine	< 4	4	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
bis(2-ethylhexyl)phthalate	< 0.6	0.6	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
di-n-octyl phthalate	< 0.6	0.6	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
benzo(b)fluoranthene	< 0.06	0.06	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
benzo(k)fluoranthene	< 0.06	0.06	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
benzo(a)pyrene	< 0.06	0.06	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
indeno(1,2,3-cd)pyrene	< 0.06	0.06	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
dibenzo(a,h)anthracene	< 0.06	0.06	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
benzo(g,h,i)perylene	< 0.06	0.06	ug/g	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
Surrogate Recovery		**Limits**								
2-fluorophenol SUR	**48**	21-100	%	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
phenol-D5 SUR	**52**	10-102	%	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
2,4,6-tribromophenol SUR	**51**	10-123	%	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
nitrobenzene-D5 SUR	**45**	35-114	%	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
2-fluorobiphenyl SUR	**54**	43-116	%	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D
p-terphenyl-D14 SUR	**53**	33-141	%	1	AJD	8/3/15	8067	8/5/15	11:47	SW3546/8270D

Project ID: MACOSKO 14001297
Job ID: 33821
Sample#: 33821-007
Sample ID: CA-DUP
Matrix: Solid Percent Dry: 64.2% Results expressed on a dry weight basis.
Sampled: 7/29/15 0:00

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
N-nitrosodimethylamine	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
aniline	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
phenol	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
2-chlorophenol	< 0.7	0.7	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
bis(2-chloroethyl)ether	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
1,3-dichlorobenzene	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
1,4-dichlorobenzene	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
1,2-dichlorobenzene	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
benzyl alcohol	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
2-methylphenol	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
bis(2-chloroisopropyl) ether	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
hexachloroethane	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
N-nitroso-di-N-propylamine	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
4-methylphenol	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
nitrobenzene	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
isophorone	< 0.7	0.7	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
2-nitrophenol	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
2,4-dimethylphenol	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
bis(2-chloroethoxy)methane	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
2,4-dichlorophenol	< 0.7	0.7	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
1,2,4-trichlorobenzene	< 0.7	0.7	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
naphthalene	< 0.07	0.07	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
benzoic acid	< 7	7	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
4-chloroaniline	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
hexachlorobutadiene	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
4-chloro-3-methylphenol	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
2-methylnaphthalene	**0.08**	0.07	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
hexachlorocyclopentadiene	< 1	1	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
2,4,6-trichlorophenol	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
2,4,5-trichlorophenol	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
2-chloronaphthalene	< 0.7	0.7	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
2-nitroaniline	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
acenaphthylene	< 0.07	0.07	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
dimethylphthalate	< 0.7	0.7	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
2,6-dinitrotoluene	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
2,4-dinitrotoluene	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
acenaphthene	< 0.07	0.07	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
3-nitroaniline	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
2,4-dinitrophenol	< 7	7	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
dibenzofuran	< 0.07	0.07	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
4-nitrophenol	< 3	3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
fluorene	< 0.07	0.07	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
diethyl phthalate	< 0.7	0.7	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D

Project ID: MACOSKO 14001297
Job ID: 33821
Sample#: 33821-007
Sample ID: CA-DUP
Matrix: Solid Percent Dry: 64.2% Results expressed on a dry weight basis.
Sampled: 7/29/15 0:00

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
4-chlorophenyl phenyl ether	< 0.7	0.7	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
4-nitroaniline	< 0.7	0.7	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
4,6-dinitro-2-methylphenol	< 3	3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
azobenzene	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
N-nitrosodiphenylamine	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
4-bromophenyl phenyl ether	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
hexachlorobenzene	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
pentachlorophenol	< 1	1	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
phenanthrene	**0.15**	0.07	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
anthracene	< 0.07	0.07	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
carbazole	< 0.3	0.3	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
di-n-butylphthalate	< 0.7	0.7	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
fluoranthene	**0.18**	0.07	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
benzidine	< 4	4	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
pyrene	**0.14**	0.07	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
butyl benzyl phthalate	< 0.7	0.7	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
benzo(a)anthracene	< 0.07	0.07	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
chrysene	**0.12**	0.07	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
3,3'-dichlorobenzidine	< 4	4	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
bis(2-ethylhexyl)phthalate	< 0.7	0.7	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
di-n-octyl phthalate	< 0.7	0.7	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
benzo(b)fluoranthene	**0.11**	0.07	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
benzo(k)fluoranthene	**0.09**	0.07	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
benzo(a)pyrene	**0.08**	0.07	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
indeno(1,2,3-cd)pyrene	< 0.07	0.07	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
dibenzo(a,h)anthracene	< 0.07	0.07	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
benzo(g,h,i)perylene	< 0.07	0.07	ug/g	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
Surrogate Recovery		**Limits**								
2-fluorophenol SUR	**60**	21-100	%	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
phenol-D5 SUR	**66**	10-102	%	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
2,4,6-tribromophenol SUR	**62**	10-123	%	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
nitrobenzene-D5 SUR	**57**	35-114	%	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
2-fluorobiphenyl SUR	**65**	43-116	%	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D
p-terphenyl-D14 SUR	**68**	33-141	%	1	AJD	8/3/15	8067	8/5/15	14:54	SW3546/8270D

Project ID: MACOSKO 14001297

Job ID: 33821

Sample#: 33821-001

Sample ID: CA-CC-1

Matrix: Solid Percent Dry: 96.9% Results expressed on a dry weight basis.

Sampled: 7/29/15 12:20

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
PCB-1016	< 0.2	0.2	ug/g	1	AM	8/3/15	8070	8/4/15	20:55	SW3540C8082A
PCB-1221	< 0.2	0.2	ug/g	1	AM	8/3/15	8070	8/4/15	20:55	SW3540C8082A
PCB-1232	< 0.2	0.2	ug/g	1	AM	8/3/15	8070	8/4/15	20:55	SW3540C8082A
PCB-1242	< 0.2	0.2	ug/g	1	AM	8/3/15	8070	8/4/15	20:55	SW3540C8082A
PCB-1248	< 0.2	0.2	ug/g	1	AM	8/3/15	8070	8/4/15	20:55	SW3540C8082A
PCB-1254	< 0.2	0.2	ug/g	1	AM	8/3/15	8070	8/4/15	20:55	SW3540C8082A
PCB-1260	**0.5**	0.2	ug/g	1	AM	8/3/15	8070	8/4/15	20:55	SW3540C8082A
Surrogate Recovery		**Limits**								
tetrachloro-m-xylene SUR	**108**	30-150	%	1	AM	8/3/15	8070	8/4/15	20:55	SW3540C8082A
decachlorobiphenyl SUR	**79**	30-150	%	1	AM	8/3/15	8070	8/4/15	20:55	SW3540C8082A

Sample#: 33821-002

Sample ID: CA-CC-2

Matrix: Solid Percent Dry: 95.7% Results expressed on a dry weight basis.

Sampled: 7/29/15 12:10

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
PCB-1016	< 0.1	0.1	ug/g	1	AM	8/3/15	8070	8/5/15	16:43	SW3540C8082A
PCB-1221	< 0.1	0.1	ug/g	1	AM	8/3/15	8070	8/5/15	16:43	SW3540C8082A
PCB-1232	< 0.1	0.1	ug/g	1	AM	8/3/15	8070	8/5/15	16:43	SW3540C8082A
PCB-1242	< 0.1	0.1	ug/g	1	AM	8/3/15	8070	8/5/15	16:43	SW3540C8082A
PCB-1248	< 0.1	0.1	ug/g	1	AM	8/3/15	8070	8/5/15	16:43	SW3540C8082A
PCB-1254	< 0.1	0.1	ug/g	1	AM	8/3/15	8070	8/5/15	16:43	SW3540C8082A
PCB-1260	< 0.1	0.1	ug/g	1	AM	8/3/15	8070	8/5/15	16:43	SW3540C8082A
Surrogate Recovery		**Limits**								
tetrachloro-m-xylene SUR	**144**	30-150	%	1	AM	8/3/15	8070	8/5/15	16:43	SW3540C8082A
decachlorobiphenyl SUR	**116**	30-150	%	1	AM	8/3/15	8070	8/5/15	16:43	SW3540C8082A

Project ID: MACOSKO 14001297
Job ID: 33821

Sample#: 33821-003
Sample ID: CA-CC-3
Matrix: Solid Percent Dry: 96% Results expressed on a dry weight basis.
Sampled: 7/29/15 12:50

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
PCB-1016	< 0.2	0.2	ug/g	1	AM	8/3/15	8070	8/5/15	17:14	SW3540C8082A
PCB-1221	< 0.2	0.2	ug/g	1	AM	8/3/15	8070	8/5/15	17:14	SW3540C8082A
PCB-1232	< 0.2	0.2	ug/g	1	AM	8/3/15	8070	8/5/15	17:14	SW3540C8082A
PCB-1242	< 0.2	0.2	ug/g	1	AM	8/3/15	8070	8/5/15	17:14	SW3540C8082A
PCB-1248	< 0.2	0.2	ug/g	1	AM	8/3/15	8070	8/5/15	17:14	SW3540C8082A
PCB-1254	< 0.2	0.2	ug/g	1	AM	8/3/15	8070	8/5/15	17:14	SW3540C8082A
PCB-1260	< 0.2	0.2	ug/g	1	AM	8/3/15	8070	8/5/15	17:14	SW3540C8082A
Surrogate Recovery		**Limits**								
tetrachloro-m-xylene SUR	**130**	30-150	%	1	AM	8/3/15	8070	8/5/15	17:14	SW3540C8082A
decachlorobiphenyl SUR	**120**	30-150	%	1	AM	8/3/15	8070	8/5/15	17:14	SW3540C8082A

Sample#: 33821-004
Sample ID: CA-SS-1
Matrix: Solid Percent Dry: 61.3% Results expressed on a dry weight basis.
Sampled: 7/29/15 11:30

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
PCB-1016	< 0.2	0.2	ug/g	1	AM	8/3/15	8070	8/5/15	17:44	SW3540C8082A
PCB-1221	< 0.2	0.2	ug/g	1	AM	8/3/15	8070	8/5/15	17:44	SW3540C8082A
PCB-1232	< 0.2	0.2	ug/g	1	AM	8/3/15	8070	8/5/15	17:44	SW3540C8082A
PCB-1242	< 0.2	0.2	ug/g	1	AM	8/3/15	8070	8/5/15	17:44	SW3540C8082A
PCB-1248	< 0.2	0.2	ug/g	1	AM	8/3/15	8070	8/5/15	17:44	SW3540C8082A
PCB-1254	< 0.2	0.2	ug/g	1	AM	8/3/15	8070	8/5/15	17:44	SW3540C8082A
PCB-1260	< 0.2	0.2	ug/g	1	AM	8/3/15	8070	8/5/15	17:44	SW3540C8082A
Surrogate Recovery		**Limits**								
tetrachloro-m-xylene SUR	**114**	30-150	%	1	AM	8/3/15	8070	8/5/15	17:44	SW3540C8082A
decachlorobiphenyl SUR	**99**	30-150	%	1	AM	8/3/15	8070	8/5/15	17:44	SW3540C8082A

Project ID: MACOSKO 14001297

Job ID: 33821

Sample#: 33821-005

Sample ID: CA-SS-2

Matrix: Solid Percent Dry: 75.4% Results expressed on a dry weight basis.

Sampled: 7/29/15 12:10

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
PCB-1016	< 0.2	0.2	ug/g	1	AM	8/3/15	8070	8/5/15	18:15	SW3540C8082A
PCB-1221	< 0.2	0.2	ug/g	1	AM	8/3/15	8070	8/5/15	18:15	SW3540C8082A
PCB-1232	< 0.2	0.2	ug/g	1	AM	8/3/15	8070	8/5/15	18:15	SW3540C8082A
PCB-1242	< 0.2	0.2	ug/g	1	AM	8/3/15	8070	8/5/15	18:15	SW3540C8082A
PCB-1248	< 0.2	0.2	ug/g	1	AM	8/3/15	8070	8/5/15	18:15	SW3540C8082A
PCB-1254	< 0.2	0.2	ug/g	1	AM	8/3/15	8070	8/5/15	18:15	SW3540C8082A
PCB-1260	< 0.2	0.2	ug/g	1	AM	8/3/15	8070	8/5/15	18:15	SW3540C8082A
Surrogate Recovery		**Limits**								
tetrachloro-m-xylene SUR	**105**	30-150	%	1	AM	8/3/15	8070	8/5/15	18:15	SW3540C8082A
decachlorobiphenyl SUR	**78**	30-150	%	1	AM	8/3/15	8070	8/5/15	18:15	SW3540C8082A

Sample#: 33821-007

Sample ID: CA-DUP

Matrix: Solid Percent Dry: 64.2% Results expressed on a dry weight basis.

Sampled: 7/29/15 0:00

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
PCB-1016	< 0.2	0.2	ug/g	1	AM	8/4/15	8070	8/5/15	18:46	SW3540C8082A
PCB-1221	< 0.2	0.2	ug/g	1	AM	8/4/15	8070	8/5/15	18:46	SW3540C8082A
PCB-1232	< 0.2	0.2	ug/g	1	AM	8/4/15	8070	8/5/15	18:46	SW3540C8082A
PCB-1242	< 0.2	0.2	ug/g	1	AM	8/4/15	8070	8/5/15	18:46	SW3540C8082A
PCB-1248	< 0.2	0.2	ug/g	1	AM	8/4/15	8070	8/5/15	18:46	SW3540C8082A
PCB-1254	< 0.2	0.2	ug/g	1	AM	8/4/15	8070	8/5/15	18:46	SW3540C8082A
PCB-1260	< 0.2	0.2	ug/g	1	AM	8/4/15	8070	8/5/15	18:46	SW3540C8082A
Surrogate Recovery		**Limits**								
tetrachloro-m-xylene SUR	**104**	30-150	%	1	AM	8/4/15	8070	8/5/15	18:46	SW3540C8082A
decachlorobiphenyl SUR	**83**	30-150	%	1	AM	8/4/15	8070	8/5/15	18:46	SW3540C8082A

Project ID: MACOSKO 14001297
Job ID: 33821

Sample#: 33821-004
Sample ID: CA-SS-1
Matrix: Solid Percent Dry: 61.3% Results expressed on a dry weight basis.
Sampled: 7/29/15 11:30

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
Antimony	< 1.0	1.0	ug/g	1	AC	8/7/15	8080	8/10/15	16:16	SW3051A6010C
Arsenic	**17**	1.6	ug/g	1	AC	8/7/15	8080	8/10/15	16:16	SW3051A6010C
Beryllium	**0.7**	0.6	ug/g	1	AC	8/7/15	8080	8/10/15	16:16	SW3051A6010C
Cadmium	**1.2**	0.6	ug/g	1	AC	8/7/15	8080	8/10/15	16:16	SW3051A6010C
Chromium	**17**	8	ug/g	1	AC	8/7/15	8080	8/10/15	16:16	SW3051A6010C
Copper	**76**	8	ug/g	1	AC	8/7/15	8080	8/10/15	16:16	SW3051A6010C
Lead	**180**	1.6	ug/g	1	AC	8/7/15	8080	8/10/15	16:16	SW3051A6010C
Mercury	**1.3**	0.27	ug/g	1	AC	8/7/15	8081	8/7/15	16:20	SW7471B
Nickel	**18**	8	ug/g	1	AC	8/7/15	8080	8/10/15	16:16	SW3051A6010C
Selenium	< 8	8	ug/g	1	AC	8/7/15	8080	8/10/15	16:16	SW3051A6010C
Silver	< 1.1	1.1	ug/g	1	AC	8/7/15	8080	8/10/15	16:16	SW3051A6010C
Thallium	< 0.6	0.6	ug/g	1	AC	8/7/15	8080	8/10/15	16:16	SW3051A6010C
Zinc	**280**	8	ug/g	1	AC	8/7/15	8080	8/10/15	16:16	SW3051A6010C

Sample#: 33821-005
Sample ID: CA-SS-2
Matrix: Solid Percent Dry: 75.4% Results expressed on a dry weight basis.
Sampled: 7/29/15 12:10

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
Antimony	< 0.8	0.8	ug/g	1	AC	8/7/15	8080	8/10/15	16:23	SW3051A6010C
Arsenic	**7.4**	1.3	ug/g	1	AC	8/7/15	8080	8/10/15	16:23	SW3051A6010C
Beryllium	< 0.5	0.5	ug/g	1	AC	8/7/15	8080	8/10/15	16:23	SW3051A6010C
Cadmium	< 0.5	0.5	ug/g	1	AC	8/7/15	8080	8/10/15	16:23	SW3051A6010C
Chromium	**18**	7	ug/g	1	AC	8/7/15	8080	8/10/15	16:23	SW3051A6010C
Copper	**58**	7	ug/g	1	AC	8/7/15	8080	8/10/15	16:23	SW3051A6010C
Lead	**47**	1.3	ug/g	1	AC	8/7/15	8080	8/10/15	16:23	SW3051A6010C
Mercury	< 0.22	0.22	ug/g	1	AC	8/7/15	8081	8/7/15	16:22	SW7471B
Nickel	**20**	7	ug/g	1	AC	8/7/15	8080	8/10/15	16:23	SW3051A6010C
Selenium	< 7	7	ug/g	1	AC	8/7/15	8080	8/10/15	16:23	SW3051A6010C
Silver	< 0.9	0.9	ug/g	1	AC	8/7/15	8080	8/10/15	16:23	SW3051A6010C
Thallium	< 0.5	0.5	ug/g	1	AC	8/7/15	8080	8/10/15	16:23	SW3051A6010C
Zinc	**97**	7	ug/g	1	AC	8/7/15	8080	8/10/15	16:23	SW3051A6010C

Project ID: MACOSKO 14001297
Job ID: 33821
Sample#: 33821-007
Sample ID: CA-DUP
Matrix: Solid Percent Dry: 64.2% Results expressed on a dry weight basis.
Sampled: 7/29/15 0:00

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
Antimony	< 0.9	0.9	ug/g	1	AC	8/7/15	8080	8/10/15	16:30	SW3051A6010C
Arsenic	**19**	1.5	ug/g	1	AC	8/7/15	8080	8/10/15	16:30	SW3051A6010C
Beryllium	**0.7**	0.6	ug/g	1	AC	8/7/15	8080	8/10/15	16:30	SW3051A6010C
Cadmium	**1.2**	0.6	ug/g	1	AC	8/7/15	8080	8/10/15	16:30	SW3051A6010C
Chromium	**12**	7	ug/g	1	AC	8/7/15	8080	8/10/15	16:30	SW3051A6010C
Copper	**69**	7	ug/g	1	AC	8/7/15	8080	8/10/15	16:30	SW3051A6010C
Lead	**130**	1.5	ug/g	1	AC	8/7/15	8080	8/10/15	16:30	SW3051A6010C
Mercury	**1.2**	0.28	ug/g	1	AC	8/7/15	8081	8/7/15	16:24	SW7471B
Nickel	**13**	7	ug/g	1	AC	8/7/15	8080	8/10/15	16:30	SW3051A6010C
Selenium	< 7	7	ug/g	1	AC	8/7/15	8080	8/10/15	16:30	SW3051A6010C
Silver	< 1.0	1.0	ug/g	1	AC	8/7/15	8080	8/10/15	16:30	SW3051A6010C
Thallium	< 0.6	0.6	ug/g	1	AC	8/7/15	8080	8/10/15	16:30	SW3051A6010C
Zinc	**270**	7	ug/g	1	AC	8/7/15	8080	8/10/15	16:30	SW3051A6010C

Quality Control Report

124 Heritage Avenue Unit 16
Portsmouth, NH 03801
www.absoluteresourceassociates.com

Case Narrative
Lab # 33821

Sample Receiving and Chain of Custody Discrepancies

Samples were received in acceptable condition, at 6 degrees C, on ice, and in accordance with sample handling, preservation and integrity guidelines.

Calibration

No exceptions noted.

Method Blank

No exceptions noted.

Surrogate Recoveries

No exceptions noted.

Laboratory Control Sample Results

VOC: The MLCS/D8077 did not meet the acceptance criteria for chloromethane, chloroethane, naphthalene, and 1,2,3-trichlorobenzene. Since <10% of the compounds were outside of the acceptance criteria, reanalysis is not required.
SVOC: The LCS8067 did not meet the acceptance criteria for hexachlorocyclopentadiene. Since <10% of the compounds were outside of the acceptance criteria, reanalysis is not required.

Matrix Spike/Matrix Spike Duplicate/Duplicate Results

No exceptions noted.

Other

Reporting Limits: Dilutions performed during the analysis are noted on the result pages.

No other exceptions noted.

- QC Report -

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R	Limits	RPD	RPD Limit
SW5035A8260C	MB8077	dichlorodifluoromethane		<	0.1	ug/g					
		chloromethane		<	0.1	ug/g					
		vinyl chloride		<	0.1	ug/g					
		bromomethane		<	0.2	ug/g					
		chloroethane		<	0.1	ug/g					
		trichlorofluoromethane		<	0.1	ug/g					
		diethyl ether		<	0.5	ug/g					
		acetone		<	2.5	ug/g					
		1,1-dichloroethene		<	0.1	ug/g					
		methylene chloride		<	0.2	ug/g					
		carbon disulfide		<	0.1	ug/g					
		methyl t-butyl ether (MTBE)		<	0.1	ug/g					
		trans-1,2-dichloroethene		<	0.1	ug/g					
		isopropyl ether (DIPE)		<	0.1	ug/g					
		ethyl t-butyl ether (ETBE)		<	0.1	ug/g					
		1,1-dichloroethane		<	0.1	ug/g					
		t-butanol (TBA)		<	2.5	ug/g					
		2-butanone (MEK)		<	0.5	ug/g					
		2,2-dichloropropane		<	0.1	ug/g					
		cis-1,2-dichloroethene		<	0.1	ug/g					
		chloroform		<	0.1	ug/g					
		bromochloromethane		<	0.1	ug/g					
		tetrahydrofuran (THF)		<	0.5	ug/g					
		1,1,1-trichloroethane		<	0.1	ug/g					
		1,1-dichloropropene		<	0.1	ug/g					
		t-amyl-methyl ether (TAME)		<	0.1	ug/g					
		carbon tetrachloride		<	0.1	ug/g					
		1,2-dichloroethane		<	0.1	ug/g					
		benzene		<	0.1	ug/g					
		trichloroethene		<	0.1	ug/g					
		1,2-dichloropropane		<	0.1	ug/g					
		bromodichloromethane		<	0.1	ug/g					
		1,4-dioxane		<	2.5	ug/g					
		dibromomethane		<	0.1	ug/g					
		4-methyl-2-pentanone (MIBK)		<	0.5	ug/g					
		cis-1,3-dichloropropene		<	0.1	ug/g					
		toluene		<	0.1	ug/g					
		trans-1,3-dichloropropene		<	0.1	ug/g					
		2-hexanone		<	0.5	ug/g					
		1,1,2-trichloroethane		<	0.1	ug/g					
		1,3-dichloropropane		<	0.1	ug/g					
		tetrachloroethene		<	0.1	ug/g					
		dibromochloromethane		<	0.1	ug/g					
		1,2-dibromoethane (EDB)		<	0.1	ug/g					
		chlorobenzene		<	0.1	ug/g					
		1,1,1,2-tetrachloroethane		<	0.1	ug/g					
		ethylbenzene		<	0.1	ug/g					
		m&p-xylenes		<	0.1	ug/g					
		o-xylene		<	0.1	ug/g					
		styrene		<	0.1	ug/g					

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R	Limits		RPD	RPD Limit
SW5035A8260C	MB8077	bromoform		<	0.1	ug/g						
		isopropylbenzene		<	0.1	ug/g						
		1,1,2,2-tetrachloroethane		<	0.1	ug/g						
		1,2,3-trichloropropane		<	0.1	ug/g						
		n-propylbenzene		<	0.1	ug/g						
		bromobenzene		<	0.1	ug/g						
		1,3,5-trimethylbenzene		<	0.1	ug/g						
		2-chlorotoluene		<	0.1	ug/g						
		4-chlorotoluene		<	0.1	ug/g						
		tert-butylbenzene		<	0.1	ug/g						
		1,2,4-trimethylbenzene		<	0.1	ug/g						
		sec-butylbenzene		<	0.1	ug/g						
		1,3-dichlorobenzene		<	0.1	ug/g						
		4-isopropyltoluene		<	0.1	ug/g						
		1,4-dichlorobenzene		<	0.1	ug/g						
		1,2-dichlorobenzene		<	0.1	ug/g						
		n-butylbenzene		<	0.1	ug/g						
		1,2-dibromo-3-chloropropane (DBCP)		<	0.1	ug/g						
		1,2,4-trichlorobenzene		<	0.1	ug/g						
		1,3,5-trichlorobenzene		<	0.1	ug/g						
		hexachlorobutadiene		<	0.1	ug/g						
		naphthalene		<	0.2	ug/g						
		1,2,3-trichlorobenzene		<	0.1	ug/g						
		dibromofluoromethane SUR			82	%			78	114		
		toluene-D8 SUR			101	%			88	110		
		4-bromofluorobenzene SUR			104	%			86	115		
		a,a,a-trifluorotoluene SUR			91	%			70	130		

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R		Limits		RPD	RPD Limit
SW5035A8260C	MLCS8077	dichlorodifluoromethane			0.8	ug/g	1	81		70	130		
		chloromethane			0.6	ug/g	1	60	*	70	130		
		vinyl chloride			0.9	ug/g	1	92		70	130		
		bromomethane			0.9	ug/g	1	93		70	130		
		chloroethane			1.9	ug/g	1	188	*	70	130		
		trichlorofluoromethane			1.0	ug/g	1	104		70	130		
		diethyl ether			1.0	ug/g	1	104		70	130		
		acetone		<	2.5	ug/g	1	137					
		1,1-dichloroethene			1.0	ug/g	1	95		70	130		
		methylene chloride			1.0	ug/g	1	103		70	130		
		carbon disulfide			0.7	ug/g	1	70		70	130		
		methyl t-butyl ether (MTBE)			1.0	ug/g	1	102		70	130		
		trans-1,2-dichloroethene			1.0	ug/g	1	98		70	130		
		isopropyl ether (DIPE)			1.0	ug/g	1	99		70	130		
		ethyl t-butyl ether (ETBE)			1.0	ug/g	1	98		70	130		
		1,1-dichloroethane			0.9	ug/g	1	87		70	130		
		t-butanol (TBA)			6.3	ug/g	5	125		70	130		
		2-butanone (MEK)			1.2	ug/g	1	117		70	130		
		2,2-dichloropropane			0.8	ug/g	1	85		70	130		
		cis-1,2-dichloroethene			0.9	ug/g	1	90		70	130		
		chloroform			0.9	ug/g	1	92		70	130		
		bromochloromethane			0.9	ug/g	1	86		70	130		
		tetrahydrofuran (THF)			1.2	ug/g	1	121		70	130		
		1,1,1-trichloroethane			0.9	ug/g	1	94		70	130		
		1,1-dichloropropene			0.8	ug/g	1	79		70	130		
		t-amyl-methyl ether (TAME)			0.9	ug/g	1	93		70	130		
		carbon tetrachloride			0.8	ug/g	1	80		70	130		
		1,2-dichloroethane			1.0	ug/g	1	102		70	130		
		benzene			1.0	ug/g	1	99		70	130		
		trichloroethene			1.1	ug/g	1	112		70	130		
		1,2-dichloropropane			0.9	ug/g	1	92		70	130		
		bromodichloromethane			0.9	ug/g	1	91		70	130		
		1,4-dioxane		<	2.5	ug/g	2	121		70	130		
		dibromomethane			1.0	ug/g	1	95		70	130		
		4-methyl-2-pentanone (MIBK)			1.1	ug/g	1	109		70	130		
		cis-1,3-dichloropropene			0.9	ug/g	1	90		70	130		
		toluene			0.9	ug/g	1	92		70	130		
		trans-1,3-dichloropropene			0.9	ug/g	1	90		70	130		
		2-hexanone			1.2	ug/g	1	118		70	130		
		1,1,2-trichloroethane			0.9	ug/g	1	94		70	130		
		1,3-dichloropropane			1.0	ug/g	1	98		70	130		
		tetrachloroethene			1.0	ug/g	1	104		70	130		
		dibromochloromethane			0.8	ug/g	1	79		70	130		
		1,2-dibromoethane (EDB)			0.9	ug/g	1	93		70	130		
		chlorobenzene			0.9	ug/g	1	94		70	130		
		1,1,1,2-tetrachloroethane			0.9	ug/g	1	90		70	130		
		ethylbenzene			0.9	ug/g	1	91		70	130		
		m&p-xylenes			2.0	ug/g	2	100		70	130		
		o-xylene			1.1	ug/g	1	106		70	130		
		styrene			1.1	ug/g	1	109		70	130		
		bromoform			0.9	ug/g	1	89		70	130		

Method	QC ID	Parameter	Associated Sample	Result	Units	Amt Added	%R		Limits		RPD	RPD Limit
SW5035A8260C	MLCS8077	isopropylbenzene		1.0	ug/g	1	105		70	130		
		1,1,2,2-tetrachloroethane		0.9	ug/g	1	90		70	130		
		1,2,3-trichloropropane		1.0	ug/g	1	100		70	130		
		n-propylbenzene		0.9	ug/g	1	89		70	130		
		bromobenzene		1.0	ug/g	1	96		70	130		
		1,3,5-trimethylbenzene		1.0	ug/g	1	98		70	130		
		2-chlorotoluene		0.9	ug/g	1	90		70	130		
		4-chlorotoluene		0.9	ug/g	1	92		70	130		
		tert-butylbenzene		0.9	ug/g	1	93		70	130		
		1,2,4-trimethylbenzene		1.0	ug/g	1	96		70	130		
		sec-butylbenzene		0.9	ug/g	1	89		70	130		
		1,3-dichlorobenzene		1.1	ug/g	1	105		70	130		
		4-isopropyltoluene		0.9	ug/g	1	89		70	130		
		1,4-dichlorobenzene		1.0	ug/g	1	97		70	130		
		1,2-dichlorobenzene		1.0	ug/g	1	100		70	130		
		n-butylbenzene		0.9	ug/g	1	92		70	130		
		1,2-dibromo-3-chloropropane (DBCP)		0.9	ug/g	1	92		70	130		
		1,2,4-trichlorobenzene		1.2	ug/g	1	122		70	130		
		1,3,5-trichlorobenzene		1.1	ug/g	1	112		70	130		
		hexachlorobutadiene		1.1	ug/g	1	107		70	130		
		naphthalene		1.3	ug/g	1	132	*	70	130		
		1,2,3-trichlorobenzene		1.4	ug/g	1	137	*	70	130		
		dibromofluoromethane SUR		96	%				78	114		
		toluene-D8 SUR		99	%				88	110		
		4-bromofluorobenzene SUR		113	%				86	115		
		a,a,a-trifluorotoluene SUR		99	%				70	130		

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R		Limits		RPD	RPD Limit
SW5035A8260C	MLCSD8077	dichlorodifluoromethane			0.8	ug/g	1	81		70	130	0	30
		chloromethane			0.7	ug/g	1	66	*	70	130	10	30
		vinyl chloride			0.9	ug/g	1	92		70	130	0	30
		bromomethane			1.1	ug/g	1	113		70	130	20	30
		chloroethane			1.9	ug/g	1	187	*	70	130	1	30
		trichlorofluoromethane			1.0	ug/g	1	104		70	130	0	30
		diethyl ether			1.1	ug/g	1	108		70	130	5	30
		acetone		<	2.5	ug/g	1	145				6	30
		1,1-dichloroethene			1.0	ug/g	1	96		70	130	1	30
		methylene chloride			1.0	ug/g	1	99		70	130	4	30
		carbon disulfide			0.7	ug/g	1	71		70	130	1	30
		methyl t-butyl ether (MTBE)			1.0	ug/g	1	101		70	130	0	30
		trans-1,2-dichloroethene			1.0	ug/g	1	100		70	130	2	30
		isopropyl ether (DIPE)			1.0	ug/g	1	101		70	130	2	30
		ethyl t-butyl ether (ETBE)			1.0	ug/g	1	98		70	130	0	30
		1,1-dichloroethane			0.9	ug/g	1	88		70	130	1	30
		t-butanol (TBA)			5.8	ug/g	5	116		70	130	7	30
		2-butanone (MEK)			1.2	ug/g	1	119		70	130	2	30
		2,2-dichloropropane			0.8	ug/g	1	85		70	130	0	30
		cis-1,2-dichloroethene			0.9	ug/g	1	91		70	130	1	30
		chloroform			0.9	ug/g	1	91		70	130	2	30
		bromochloromethane			0.9	ug/g	1	87		70	130	2	30
		tetrahydrofuran (THF)			1.2	ug/g	1	117		70	130	3	30
		1,1,1-trichloroethane			1.0	ug/g	1	95		70	130	2	30
		1,1-dichloropropene			0.8	ug/g	1	81		70	130	3	30
		t-amyl-methyl ether (TAME)			0.9	ug/g	1	95		70	130	2	30
		carbon tetrachloride			0.8	ug/g	1	83		70	130	3	30
		1,2-dichloroethane			1.0	ug/g	1	102		70	130	0	30
		benzene			1.0	ug/g	1	100		70	130	1	30
		trichloroethene			1.1	ug/g	1	110		70	130	1	30
		1,2-dichloropropane			1.0	ug/g	1	96		70	130	4	30
		bromodichloromethane			0.9	ug/g	1	90		70	130	1	30
		1,4-dioxane		<	2.5	ug/g	2	113		70	130	7	30
		dibromomethane			1.0	ug/g	1	97		70	130	2	30
		4-methyl-2-pentanone (MIBK)			1.2	ug/g	1	117		70	130	7	30
		cis-1,3-dichloropropene			0.9	ug/g	1	89		70	130	0	30
		toluene			0.9	ug/g	1	92		70	130	0	30
		trans-1,3-dichloropropene			0.9	ug/g	1	91		70	130	1	30
		2-hexanone			1.2	ug/g	1	121		70	130	2	30
		1,1,2-trichloroethane			0.9	ug/g	1	94		70	130	0	30
		1,3-dichloropropane			0.9	ug/g	1	94		70	130	4	30
		tetrachloroethene			1.0	ug/g	1	103		70	130	1	30
		dibromochloromethane			0.8	ug/g	1	76		70	130	4	30
		1,2-dibromoethane (EDB)			0.9	ug/g	1	90		70	130	3	30
		chlorobenzene			0.9	ug/g	1	92		70	130	3	30
		1,1,1,2-tetrachloroethane			0.9	ug/g	1	88		70	130	1	30
		ethylbenzene			0.9	ug/g	1	89		70	130	1	30
		m&p-xylenes			1.9	ug/g	2	97		70	130	3	30
		o-xylene			1.0	ug/g	1	101		70	130	4	30
		styrene			1.1	ug/g	1	106		70	130	3	30
		bromoform			0.8	ug/g	1	82		70	130	9	30

Method	QC ID	Parameter	Associated Sample	Result	Units	Amt Added	%R	Limits		RPD	RPD Limit
SW5035A8260C	MLCSD8077	isopropylbenzene		1.0	ug/g	1	102	70	130	3	30
		1,1,2,2-tetrachloroethane		0.9	ug/g	1	90	70	130	1	30
		1,2,3-trichloropropane		1.0	ug/g	1	100	70	130	0	30
		n-propylbenzene		0.9	ug/g	1	89	70	130	1	30
		bromobenzene		1.0	ug/g	1	96	70	130	1	30
		1,3,5-trimethylbenzene		1.0	ug/g	1	96	70	130	3	30
		2-chlorotoluene		0.9	ug/g	1	90	70	130	0	30
		4-chlorotoluene		0.9	ug/g	1	91	70	130	1	30
		tert-butylbenzene		0.9	ug/g	1	93	70	130	0	30
		1,2,4-trimethylbenzene		1.0	ug/g	1	96	70	130	1	30
		sec-butylbenzene		0.9	ug/g	1	90	70	130	1	30
		1,3-dichlorobenzene		1.0	ug/g	1	105	70	130	1	30
		4-isopropyltoluene		0.9	ug/g	1	89	70	130	0	30
		1,4-dichlorobenzene		1.0	ug/g	1	96	70	130	2	30
		1,2-dichlorobenzene		1.0	ug/g	1	97	70	130	2	30
		n-butylbenzene		0.9	ug/g	1	90	70	130	2	30
		1,2-dibromo-3-chloropropane (DBCP)		0.9	ug/g	1	88	70	130	4	30
		1,2,4-trichlorobenzene		1.2	ug/g	1	116	70	130	5	30
		1,3,5-trichlorobenzene		1.1	ug/g	1	110	70	130	2	30
		hexachlorobutadiene		1.1	ug/g	1	108	70	130	1	30
		naphthalene		1.3	ug/g	1	127	70	130	4	30
		1,2,3-trichlorobenzene		1.3	ug/g	1	128	70	130	7	30
		dibromofluoromethane SUR		98	%			78	114		
		toluene-D8 SUR		103	%			88	110		
		4-bromofluorobenzene SUR		106	%			86	115		
		a,a,a-trifluorotoluene SUR		101	%			70	130		

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R	Limits		RPD	RPD Limit
SW3540C8082A	BLK8070	PCB-1016		<	0.1	ug/g						
		PCB-1221		<	0.1	ug/g						
		PCB-1232		<	0.1	ug/g						
		PCB-1242		<	0.1	ug/g						
		PCB-1248		<	0.1	ug/g						
		PCB-1254		<	0.1	ug/g						
		PCB-1260		<	0.1	ug/g						
		tetrachloro-m-xylene SUR			98	%			30	150		
		decachlorobiphenyl SUR			76	%			30	150		
SW3540C8082A	LCS8070	PCB-1016			2.1	ug/g	2	105	40	140		
		PCB-1221		<	0.1	ug/g						
		PCB-1232		<	0.1	ug/g						
		PCB-1242		<	0.1	ug/g						
		PCB-1248		<	0.1	ug/g						
		PCB-1254		<	0.1	ug/g						
		PCB-1260			2.5	ug/g	2	126	40	140		
		tetrachloro-m-xylene SUR			99	%			30	150		
		decachlorobiphenyl SUR			91	%			30	150		
SW3540C8082A	LCSD8070	PCB-1016			2.3	ug/g	2	117	40	140	11	30
		PCB-1221		<	0.1	ug/g						
		PCB-1232		<	0.1	ug/g						
		PCB-1242		<	0.1	ug/g						
		PCB-1248		<	0.1	ug/g						
		PCB-1254		<	0.1	ug/g						
		PCB-1260			2.4	ug/g	2	122	40	140	3	30
		tetrachloro-m-xylene SUR			103	%			30	150		
		decachlorobiphenyl SUR			104	%			30	150		

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R	Limits	RPD	RPD Limit
SW3546/8270D	BLK8067	N-nitrosodimethylamine		<	0.2	ug/g					
		aniline		<	0.2	ug/g					
		phenol		<	0.2	ug/g					
		2-chlorophenol		<	0.5	ug/g					
		bis(2-chloroethyl)ether		<	0.2	ug/g					
		1,3-dichlorobenzene		<	0.2	ug/g					
		1,4-dichlorobenzene		<	0.2	ug/g					
		1,2-dichlorobenzene		<	0.2	ug/g					
		benzyl alcohol		<	0.2	ug/g					
		2-methylphenol		<	0.2	ug/g					
		bis(2-chloroisopropyl) ether		<	0.2	ug/g					
		hexachloroethane		<	0.2	ug/g					
		N-nitroso-di-N-propylamine		<	0.2	ug/g					
		4-methylphenol		<	0.2	ug/g					
		nitrobenzene		<	0.2	ug/g					
		isophorone		<	0.5	ug/g					
		2-nitrophenol		<	0.2	ug/g					
		2,4-dimethylphenol		<	0.2	ug/g					
		bis(2-chloroethoxy)methane		<	0.5	ug/g					
		2,4-dichlorophenol		<	0.5	ug/g					
		1,2,4-trichlorobenzene		<	0.5	ug/g					
		naphthalene		<	0.05	ug/g					
		benzoic acid		<	5.0	ug/g					
		4-chloroaniline		<	0.2	ug/g					
		hexachlorobutadiene		<	0.2	ug/g					
		4-chloro-3-methylphenol		<	0.2	ug/g					
		2-methylnaphthalene		<	0.05	ug/g					
		hexachlorocyclopentadiene		<	1.0	ug/g					
		2,4,6-trichlorophenol		<	0.2	ug/g					
		2,4,5-trichlorophenol		<	0.2	ug/g					
		2-chloronaphthalene		<	0.5	ug/g					
		2-nitroaniline		<	0.2	ug/g					
		acenaphthylene		<	0.05	ug/g					
		dimethylphthalate		<	0.5	ug/g					
		2,6-dinitrotoluene		<	0.2	ug/g					
		2,4-dinitrotoluene		<	0.2	ug/g					
		acenaphthene		<	0.05	ug/g					
		3-nitroaniline		<	0.2	ug/g					
		2,4-dinitrophenol		<	5.0	ug/g					
		dibenzofuran		<	0.05	ug/g					
		4-nitrophenol		<	1.0	ug/g					
		fluorene		<	0.05	ug/g					
		diethyl phthalate		<	0.5	ug/g					
		4-chlorophenyl phenyl ether		<	0.5	ug/g					
		4-nitroaniline		<	0.5	ug/g					
		4,6-dinitro-2-methylphenol		<	2.0	ug/g					
		azobenzene		<	0.2	ug/g					
		N-nitrosodiphenylamine		<	0.2	ug/g					
		4-bromophenyl phenyl ether		<	0.2	ug/g					
		hexachlorobenzene		<	0.2	ug/g					
		pentachlorophenol		<	1.0	ug/g					

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R	Limits		RPD	RPD Limit
SW3546/8270D	BLK8067	phenanthrene		<	0.05	ug/g						
		anthracene		<	0.05	ug/g						
		carbazole		<	0.2	ug/g						
		di-n-butylphthalate		<	0.5	ug/g						
		fluoranthene		<	0.05	ug/g						
		benzidine		<	3.0	ug/g						
		pyrene		<	0.05	ug/g						
		butyl benzyl phthalate		<	0.5	ug/g						
		benzo(a)anthracene		<	0.05	ug/g						
		chrysene		<	0.05	ug/g						
		3,3'-dichlorobenzidine		<	3.0	ug/g						
		bis(2-ethylhexyl)phthalate		<	0.5	ug/g						
		di-n-octyl phthalate		<	0.2	ug/g						
		benzo(b)fluoranthene		<	0.05	ug/g						
		benzo(k)fluoranthene		<	0.05	ug/g						
		benzo(a)pyrene		<	0.02	ug/g						
		indeno(1,2,3-cd)pyrene		<	0.05	ug/g						
		dibenzo(a,h)anthracene		<	0.05	ug/g						
		benzo(g,h,i)perylene		<	0.05	ug/g						
		2-fluorophenol SUR			60	%			21	100		
		phenol-D5 SUR			62	%			10	102		
		2,4,6-tribromophenol SUR			53	%			10	123		
		nitrobenzene-D5 SUR			57	%			35	114		
		2-fluorobiphenyl SUR			63	%			43	116		
		p-terphenyl-D14 SUR			76	%			33	141		

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R		Limits		RPD	RPD Limit
SW3546/8270D	LCS8067	N-nitrosodimethylamine			2.1	ug/g	4	52		40	140		
		aniline			2.4	ug/g	4	61		40	140		
		phenol			2.8	ug/g	4	71		30	130		
		2-chlorophenol			2.4	ug/g	4	60		30	130		
		bis(2-chloroethyl)ether			2.5	ug/g	4	62		40	140		
		1,3-dichlorobenzene			2.2	ug/g	4	55		40	140		
		1,4-dichlorobenzene			2.2	ug/g	4	54		40	140		
		1,2-dichlorobenzene			2.2	ug/g	4	55		40	140		
		benzyl alcohol			2.7	ug/g	4	68		30	130		
		2-methylphenol			2.7	ug/g	4	68		30	130		
		bis(2-chloroisopropyl) ether			2.3	ug/g	4	58		40	140		
		hexachloroethane			2.4	ug/g	4	59		40	140		
		N-nitroso-di-N-propylamine			2.5	ug/g	4	62		40	140		
		4-methylphenol			2.7	ug/g	4	67		30	130		
		nitrobenzene			2.4	ug/g	4	61		40	140		
		isophorone			2.6	ug/g	4	66		40	140		
		2-nitrophenol			2.5	ug/g	4	62		30	130		
		2,4-dimethylphenol			2.2	ug/g	4	56		30	130		
		bis(2-chloroethoxy)methane			2.7	ug/g	4	68		40	140		
		2,4-dichlorophenol			2.5	ug/g	4	63		30	130		
		1,2,4-trichlorobenzene			2.3	ug/g	4	57		40	140		
		naphthalene			2.2	ug/g	4	56		40	140		
		benzoic acid		<	5.0	ug/g							
		4-chloroaniline			2.6	ug/g	4	64		40	140		
		hexachlorobutadiene			2.2	ug/g	4	54		40	140		
		4-chloro-3-methylphenol			2.9	ug/g	4	71		30	130		
		2-methylnaphthalene			2.46	ug/g	4	62		40	140		
		hexachlorocyclopentadiene			1.4	ug/g	4	36	*	40	140		
		2,4,6-trichlorophenol			2.2	ug/g	4	54		30	130		
		2,4,5-trichlorophenol			2.3	ug/g	4	58		30	130		
		2-chloronaphthalene			2.3	ug/g	4	57		40	140		
		2-nitroaniline			2.6	ug/g	4	66		40	140		
		acenaphthylene			2.5	ug/g	4	63		40	140		
		dimethylphthalate			2.7	ug/g	4	68		40	140		
		2,6-dinitrotoluene			2.8	ug/g	4	70		40	140		
		2,4-dinitrotoluene			3.3	ug/g	4	83		40	140		
		acenaphthene			2.3	ug/g	4	57		40	140		
		3-nitroaniline			3.1	ug/g	4	77		40	140		
		2,4-dinitrophenol		<	5.0	ug/g							
		dibenzofuran			2.6	ug/g	4	66		40	140		
		4-nitrophenol			2.1	ug/g	4	53		30	130		
		fluorene			2.8	ug/g	4	69		40	140		
		diethyl phthalate			2.8	ug/g	4	71		40	140		
		4-chlorophenyl phenyl ether			2.6	ug/g	4	65		40	140		
		4-nitroaniline			3.2	ug/g	4	79		40	140		
		4,6-dinitro-2-methylphenol		<	2.0	ug/g							
		azobenzene			2.9	ug/g	4	72		40	140		
		N-nitrosodiphenylamine			3.2	ug/g	4	80		40	140		
		4-bromophenyl phenyl ether			2.5	ug/g	4	62		40	140		
		hexachlorobenzene			2.6	ug/g	4	65		40	140		
		pentachlorophenol			1.1	ug/g	4	26	*	30	130		

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R	Limits		RPD	RPD Limit
SW3546/8270D	LCS8067	phenanthrene			2.9	ug/g	4	73	40	140		
		anthracene			2.7	ug/g	4	67	40	140		
		carbazole			3.0	ug/g	4	74	40	140		
		di-n-butylphthalate			2.8	ug/g	4	69	40	140		
		fluoranthene			3.0	ug/g	4	74	40	140		
		benzidine		<	3.0	ug/g						
		pyrene			3.0	ug/g	4	75	40	140		
		butyl benzyl phthalate			3.4	ug/g	4	85	40	140		
		benzo(a)anthracene			3.0	ug/g	4	74	40	140		
		chrysene			3.1	ug/g	4	79	40	140		
		3,3'-dichlorobenzidine		<	3.0	ug/g						
		bis(2-ethylhexyl)phthalate			3.2	ug/g	4	80	40	140		
		di-n-octyl phthalate			3.4	ug/g	4	85	40	140		
		benzo(b)fluoranthene			2.6	ug/g	4	66	40	140		
		benzo(k)fluoranthene			3.2	ug/g	4	80	40	140		
		benzo(a)pyrene			3.0	ug/g	4	74	40	140		
		indeno(1,2,3-cd)pyrene			2.9	ug/g	4	72	40	140		
		dibenzo(a,h)anthracene			3.0	ug/g	4	75	40	140		
		benzo(g,h,i)perylene			2.9	ug/g	4	73	40	140		
		2-fluorophenol SUR			61	%			21	100		
		phenol-D5 SUR			65	%			10	102		
		2,4,6-tribromophenol SUR			59	%			10	123		
		nitrobenzene-D5 SUR			59	%			35	114		
		2-fluorobiphenyl SUR			67	%			43	116		
		p-terphenyl-D14 SUR			74	%			33	141		

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R		Limits		RPD	RPD Limit
SW3546/8270D	MS8067	N-nitrosodimethylamine	33747-007		1.9	ug/g	3.81	51		40	140		
		aniline	33747-007	<	1.9	ug/g	3.81	20	*	40	140		
		phenol	33747-007		2.5	ug/g	3.81	65		30	130		
		2-chlorophenol	33747-007	<	4.8	ug/g	3.81	68		30	130		
		bis(2-chloroethyl)ether	33747-007		2.7	ug/g	3.81	70		40	140		
		1,3-dichlorobenzene	33747-007		2.3	ug/g	3.81	60		40	140		
		1,4-dichlorobenzene	33747-007		2.3	ug/g	3.81	61		40	140		
		1,2-dichlorobenzene	33747-007		2.4	ug/g	3.81	62		40	140		
		benzyl alcohol	33747-007		2.6	ug/g	3.81	69		30	130		
		2-methylphenol	33747-007		2.6	ug/g	3.81	68		30	130		
		bis(2-chloroisopropyl) ether	33747-007		2.6	ug/g	3.81	68		40	140		
		hexachloroethane	33747-007		2.2	ug/g	3.81	58		40	140		
		N-nitroso-di-N-propylamine	33747-007		2.3	ug/g	3.81	59		40	140		
		4-methylphenol	33747-007		2.6	ug/g	3.81	67		30	130		
		nitrobenzene	33747-007		2.5	ug/g	3.81	65		40	140		
		isophorone	33747-007	<	4.8	ug/g	3.81	64		40	140		
		2-nitrophenol	33747-007		2.9	ug/g	3.81	76		30	130		
		2,4-dimethylphenol	33747-007		2.4	ug/g	3.81	63		30	130		
		bis(2-chloroethoxy)methane	33747-007	<	4.8	ug/g	3.81	63		40	140		
		2,4-dichlorophenol	33747-007	<	4.8	ug/g	3.81	62		30	130		
		1,2,4-trichlorobenzene	33747-007	<	4.8	ug/g	3.81	59		40	140		
		naphthalene	33747-007		2.4	ug/g	3.81	63		40	140		
		benzoic acid	33747-007	<	47.7	ug/g							
		4-chloroaniline	33747-007	<	1.9	ug/g	3.81	34	*	40	140		
		hexachlorobutadiene	33747-007		2.3	ug/g	3.81	59		40	140		
		4-chloro-3-methylphenol	33747-007		2.3	ug/g	3.81	60		30	130		
		2-methylnaphthalene	33747-007		2.42	ug/g	3.819	63		40	140		
		hexachlorocyclopentadiene	33747-007	<	9.5	ug/g	3.81	5					
		2,4,6-trichlorophenol	33747-007		2.3	ug/g	3.81	61		30	130		
		2,4,5-trichlorophenol	33747-007		2.4	ug/g	3.81	62		30	130		
		2-chloronaphthalene	33747-007	<	4.8	ug/g	3.81	64		40	140		
		2-nitroaniline	33747-007		2.9	ug/g	3.81	75		40	140		
		acenaphthylene	33747-007		2.4	ug/g	3.81	63		40	140		
		dimethylphthalate	33747-007	<	4.8	ug/g	3.81	63		40	140		
		2,6-dinitrotoluene	33747-007		2.8	ug/g	3.81	72		40	140		
		2,4-dinitrotoluene	33747-007		2.5	ug/g	3.81	65		40	140		
		acenaphthene	33747-007		2.3	ug/g	3.81	56		40	140		
		3-nitroaniline	33747-007	<	1.9	ug/g	3.81	49		40	140		
		2,4-dinitrophenol	33747-007	<	47.7	ug/g							
		dibenzofuran	33747-007		2.4	ug/g	3.81	62		40	140		
		4-nitrophenol	33747-007	<	9.5	ug/g	3.81	34					
		fluorene	33747-007		2.5	ug/g	3.81	65		40	140		
		diethyl phthalate	33747-007	<	4.8	ug/g	3.81	65		40	140		
		4-chlorophenyl phenyl ether	33747-007	<	4.8	ug/g	3.81	64		40	140		
		4-nitroaniline	33747-007	<	4.8	ug/g	3.81	44		40	140		
		4,6-dinitro-2-methylphenol	33747-007	<	19.1	ug/g	3.819	75					
		azobenzene	33747-007		2.5	ug/g	3.81	66		40	140		
		N-nitrosodiphenylamine	33747-007		3.0	ug/g	3.81	76		40	140		
		4-bromophenyl phenyl ether	33747-007		2.4	ug/g	3.81	64		40	140		
		hexachlorobenzene	33747-007		2.4	ug/g	3.81	62		40	140		
		pentachlorophenol	33747-007	<	9.5	ug/g	3.81	39					

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R	Limits		RPD	RPD Limit
SW3546/8270D	MS8067	phenanthrene	33747-007		2.6	ug/g	3.81	69	40	140		
		anthracene	33747-007		2.4	ug/g	3.81	62	40	140		
		carbazole	33747-007		2.7	ug/g	3.81	71	40	140		
		di-n-butylphthalate	33747-007	<	4.8	ug/g	3.81	68	40	140		
		fluoranthene	33747-007		2.8	ug/g	3.81	74	40	140		
		benzidine	33747-007	<	28.6	ug/g						
		pyrene	33747-007		4.8	ug/g	3.81	118	40	140		
		butyl benzyl phthalate	33747-007	<	4.8	ug/g	3.81	106	40	140		
		benzo(a)anthracene	33747-007		2.8	ug/g	3.81	73	40	140		
		chrysene	33747-007		3.1	ug/g	3.81	81	40	140		
		3,3'-dichlorobenzidine	33747-007	<	28.6	ug/g						
		bis(2-ethylhexyl)phthalate	33747-007		9.6	ug/g	3.81	90	40	140		
		di-n-octyl phthalate	33747-007		3.0	ug/g	3.81	76	40	140		
		benzo(b)fluoranthene	33747-007		2.6	ug/g	3.81	68	40	140		
		benzo(k)fluoranthene	33747-007		2.5	ug/g	3.81	65	40	140		
		benzo(a)pyrene	33747-007		2.5	ug/g	3.81	65	40	140		
		indeno(1,2,3-cd)pyrene	33747-007		2.0	ug/g	3.81	52	40	140		
		dibenzo(a,h)anthracene	33747-007		2.0	ug/g	3.81	52	40	140		
		benzo(g,h,i)perylene	33747-007		1.8	ug/g	3.81	48	40	140		
		2-fluorophenol SUR	33747-007		63	%			21	100		
		phenol-D5 SUR	33747-007		62	%			10	102		
		2,4,6-tribromophenol SUR	33747-007		55	%			10	123		
		nitrobenzene-D5 SUR	33747-007		62	%			35	114		
		2-fluorobiphenyl SUR	33747-007		70	%			43	116		
		p-terphenyl-D14 SUR	33747-007		106	%			33	141		

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R	Limits		RPD	RPD Limit
SW3051A6010C	BLK8080	Silver		<	0.25	ug/g						
		Arsenic		<	0.50	ug/g						
		Beryllium		<	0.20	ug/g						
		Cadmium		<	0.20	ug/g						
		Chromium		<	2.5	ug/g						
		Copper		<	2.5	ug/g						
		Nickel		<	2.5	ug/g						
		Lead		<	0.50	ug/g						
		Antimony		<	0.30	ug/g						
		Selenium		<	2.5	ug/g						
		Thallium		<	0.10	ug/g						
		Zinc		<	2.5	ug/g						
SW3051A6010C	CRM8080	Silver			32	ug/g	38		25.1	51.9		
		Arsenic			460	ug/g	400		292	508		
		Cadmium			21	ug/g	15		8.71	22		
		Chromium			12	ug/g	14		2.45	24.7		
		Copper			780	ug/g	730		592	866		
		Nickel			25	ug/g	17		6.2	27.5		
		Lead			5800	ug/g	5100		3750	6470		
		Antimony			2.2	ug/g	8.4		0	21.4		
		Selenium			6.6	ug/g	6.6		0	18.4		
		Thallium			6.0	ug/g	5.9		0	13.6		
		Zinc			2900	ug/g	3000		2450	3580		
SW3051A6010C	CRMD8080	Silver			34	ug/g	38		25.1	51.9	5	35
		Arsenic			430	ug/g	400		292	508	6	35
		Cadmium			18	ug/g	15		8.71	22	12	35
		Chromium			11	ug/g	14		2.45	24.7	6	35
		Copper			780	ug/g	730		592	866	1	35
		Nickel			26	ug/g	17		6.2	27.5	5	35
		Lead			5200	ug/g	5100		3750	6470	11	35
		Antimony			1.9	ug/g	8.4		0	21.4	14	35
		Selenium			9.1	ug/g	6.6		0	18.4	31	35
		Thallium			6.8	ug/g	5.9		0	13.6	13	35
		Zinc			2900	ug/g	3000		2450	3580	1	35
SW3051A6010C	DUP8080	Silver	33850-001		4.1	ug/g					4	35
		Arsenic	33850-001		13	ug/g					18	35
		Cadmium	33850-001	<	1.9	ug/g						35
		Chromium	33850-001	<	24	ug/g						35
		Copper	33850-001		490	ug/g					0	35
		Nickel	33850-001	<	24	ug/g						35
		Lead	33850-001		26	ug/g					6	35
		Selenium	33850-001	<	24	ug/g						35
		Zinc	33850-001		450	ug/g					1	35

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R		Limits		RPD	RPD Limit
SW3051A6010C	MS8080	Silver	33821-005		32	ug/g	33	97		75	125		
		Arsenic	33821-005		66	ug/g	66	88		75	125		
		Beryllium	33821-005		67	ug/g	66	100		75	125		
		Cadmium	33821-005		60	ug/g	66	89		75	125		
		Chromium	33821-005		79	ug/g	66	92		75	125		
		Copper	33821-005		140	ug/g	66.3	116		75	125		
		Nickel	33821-005		76	ug/g	66	84		75	125		
		Lead	33821-005		110	ug/g	66.3	102		75	125		
		Antimony	33821-005		53	ug/g	66	80		75	125		
		Selenium	33821-005		58	ug/g	66	87		75	125		
		Thallium	33821-005		33	ug/g	33	101		75	125		
		Zinc	33821-005		150	ug/g	66.3	75		75	125		
SW3051A6010C	MS8080	Silver	33850-001		130	ug/g	121	102		75	125		
		Arsenic	33850-001		260	ug/g	242	103		75	125		
		Cadmium	33850-001		240	ug/g	242	100		75	125		
		Chromium	33850-001		280	ug/g	242	105		75	125		
		Copper	33850-001		740	ug/g	242	102		75	125		
		Nickel	33850-001		260	ug/g	242	102		75	125		
		Lead	33850-001		270	ug/g	242	102		75	125		
		Selenium	33850-001		250	ug/g	242	97		75	125		
		Zinc	33850-001		670	ug/g	242	89		75	125		
SW3051A6010C	MSD8080	Silver	33821-005		33	ug/g	33	99		75	125	3	35
		Arsenic	33821-005		67	ug/g	66	90		75	125	1	35
		Beryllium	33821-005		65	ug/g	66	97		75	125	2	35
		Cadmium	33821-005		58	ug/g	66	87		75	125	2	35
		Chromium	33821-005		80	ug/g	66	94		75	125	1	35
		Copper	33821-005		130	ug/g	66.3	111		75	125	3	35
		Nickel	33821-005		76	ug/g	66	84		75	125	0	35
		Lead	33821-005		110	ug/g	66.3	99		75	125	2	35
		Antimony	33821-005		52	ug/g	66	79		75	125	2	35
		Selenium	33821-005		57	ug/g	66	86		75	125	1	35
		Thallium	33821-005		34	ug/g	33	102		75	125	2	35
		Zinc	33821-005		160	ug/g	66.3	96		75	125	9	35
SW7471B	BLK8081	Mercury		<	0.14	ug/g							
SW7471B	CRM8081	Mercury			1.5	ug/g	1.1			0.49	1.76		
SW7471B	CRMD8081	Mercury			1.3	ug/g	1.1			0.49	1.76	18	35
SW7471B	DUP8081	Mercury	33850-001	<	0.16	ug/g							35
SW7471B	MS8081	Mercury	33850-001		0.39	ug/g	0.364	62	*	75	125		

Absolute Resource associates
124 Heritage Avenue #16
Portsmouth, NH 03801
603-436-2001
absoluteresourceassociates.com

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

33821

Company Name: CREDARE

Company Address: 776 MAIN ST WESTBROOK ME 04092

Report To: JUDD NEWCOMB

Phone #: 207-232-5387

Invoice to Email: JNEWCOMB@CREDARE.COM

☐ Hard Copy Invoice Required

Project Name: MALESKO

Project #: 1400297

Project Location: (NH) MA ME VT NY Other

Protocol: RCRA SDWA NPDES MCP (NHDES) OTHER

Reporting Limits: (QAPP) GW-1 (S-1) EPA DW Other

Quote # CREDARE ☐ NH Reimbursement Pricing

PO # 1400297

ANALYSIS REQUEST

Lab Sample ID (Lab Use Only)	Field ID	# CONTAINERS	Matrix: WATER	Matrix: SOLID	Matrix: OTHER	Preservation Method: HCl	Preservation Method: HNO_3	Preservation Method: H_2SO_4	Preservation Method: NaOH	Preservation Method: MeOH	Sampling: DATE	Sampling: TIME	Sampling: SAMPLER	Grab (G) or Composite (C)
338201	CA-CC-1	1		X							7/29/15	1220	MW	G
02	CA-CC-2	1		X								1210		G
03	CA-CC-3	1		X								1250		G
04	CA-SS-1	2		X						X		1130	MK	G
05	CA-SS-2	3		X						X		1210	MK	G
06	TRIP BLANK	1			X					X				G
07	CA-DUP	2		X						X	7/29/15	—	MK	G

Analyses requested (Grab (G) or Composite (C)):

- ☐ VOC 8260 ☒ VOC 8260 NHDES ☐ VOC 8260 MADEP
- ☐ VOC 624 ☐ VOC BTEX ☐ MtBE, only ☐ VOC 8021VT
- ☐ VPH MADEP ☐ MEGRO ☐ GRO 8015 ☐ 1,4-Dioxane
- ☐ VOC 524.2 ☐ VOC 524.2 NH List ☐ Gases-List:
- ☐ TPH ☐ DRO 8015 ☐ MEDRO ☐ EPH MADEP ☐ TPH Fingerprint
- ☐ 8270PAH ☒ 8270ABN ☐ 625 ☐ EDB
- ☐ 8082 PCB ☐ 8081 Pesticides ☐ 608 Pest/PCB Synlab
- ☐ O&G 1664 ☐ Mineral O&G SM5520F
- ☐ pH ☐ BOD ☐ Conductivity ☐ Turbidity
- ☐ TSS ☐ TDS ☐ TS ☐ TVS ☐ Alkalinity
- ☐ RCRA Metals ☒ Priority Pollutant Metals ☐ TAL Metals ☐ Hardness
- ☐ Total Metals-list:
- ☐ Dissolved Metals-list:
- ☐ Ammonia ☐ COD ☐ TKN ☐ TN ☐ TON ☐ TOC
- ☐ T-Phosphorus ☐ Phenols ☐ Bacteria P/A ☐ Bacteria MPN
- ☐ Cyanide ☐ Sulfide ☐ Nitrate + Nitrite ☐ Ortho P
- ☐ Nitrate ☐ Nitrite ☐ Chloride ☐ Sulfate ☐ Bromide ☐ Fluoride
- ☐ Corrosivity ☐ Reactive CN ☐ Reactive S- ☐ Ignitibility/FP
- ☐ TCLP Metals ☐ TCLP VOC ☐ TCLP SVOC ☐ TCLP Pesticide
- Subcontract: ☐ Grain Size ☐ Herbicides ☐ Formaldehyde

TAT REQUESTED

Priority (24 hr)* ☐
Expedited (48 hr)* ☐
Standard (10 Business Days) ☐
*Date Needed 8/10

See absoluteresourceassociates.com for sample acceptance policy and current accreditation lists.

SPECIAL INSTRUCTIONS PERFORM MS/MSD (METALS ONLY) ON CA-SS-2

REPORTING INSTRUCTIONS ☒ PDF (e-mail address) SAME
☐ HARD COPY REQUIRED ☐ FAX (FAX#)

RECEIVED ON ICE ☒ YES ☐ NO
TEMPERATURE 6 °C

CUSTODY RECORD

QSD-01 Revision 08/05/14

	Relinquished by Sampler:	Date	Time	Received by:	Date	Time
1		7/30/15	1505		7/30/15	1505
2	Relinquished by:	7/30/15	1620	Received by:	Date	Time
3	Relinquished by:	Date	Time	Received by Laboratory:	7/30/15	16:20

40

APPENDIX D

DATA USABILITY ASSESSMENT

Data Usability Assessment (DUA)
Macosko Foundry
187 Chance Pond Road, Franklin, New Hampshire
Limited Phase II Environmental Site Assessment

Credere has reviewed the following laboratory analytical data reports for precision, bias, accuracy, representativeness, comparability, and completeness:

- Absolute Resource Associates Job ID 32097
- Absolute Resource Associates Job ID 33821

The following samples were included in the above reports and were reviewed as part of this DUA:

Field Sample ID	Laboratory Sample ID
CA-SS-7	32097-001
CA-CC-1	33821-001
CA-CC-3	33821-003
CA-SS-2	33821-005
CA-DUP	33821-007

Field Sample ID	Laboratory Sample ID
CA-SS-8	32097-002
CA-CC-2	33821-002
CA-SS-1	33821-004
Trip Blank	33821-006

CA-DUP is a field duplicate of CA-SS-1

General Summary

In general, the data reviewed for this project are usable for making project decisions. Data are considered representative with regard to the sample design. Laboratory non-conformances did not result in qualification of the data and are not expected to alter the conclusions drawn from this data.

Precision

Precision is a measure of the mutual agreement between concentrations of samples (e.g., duplicates) collected at the same time from the same location. Precision is measured by performing duplicate measurements in the field or laboratory. Precision is expressed in terms of relative percent difference (RPD) using the following equation:

$$RPD = [(C1-C2) /(C1+C2)/2)] \times 100$$

Where:
C1 = The larger of the two concentrations.
C2 = The smaller of the two concentrations.

The following duplicate samples were collected during this Phase II ESA:

- CA-DUP: Duplicate soil sample collected from CA-SS-1

All analyte results were either non-detect (for at least one sample), less than 5 times the laboratory reporting limit (for at least one sample), or the calculated RPDs were less than the acceptable limit of 50% for soil and 30% for groundwater.

Bias

Bias is the systematic or persistent distortion of a measurement process that causes errors in one direction. Bias assessments are made using personnel, equipment, and spiking materials or reference materials as independent as possible from those used in the calibration of the measurement system. Bias assessments were based on the analysis of spiked samples so that the effect of the matrix on recovery is incorporated into the assessment. A documented spiking protocol and consistency in following that protocol are important in obtaining meaningful data quality estimates.

Matrix spike and matrix spike duplicate samples (MS/MSD) were used to assess bias as prescribed in EPA Method 6010C and 7471B/7470A. Recovery values were within the recoveries specified by each of the analysis methods. Control samples for assessing bias were analyzed at a rate as specified in the analytical SOPs and specified analytical methods. Recovery values were within the recoveries specified by each of the metals analysis methods.

- Analine and 4-chloroanaline percent recoveries were below the allowable limit for the SVOC matrix spike. Since the matrix spike analyzed with the batch was not associated with any of the soil samples submitted by Credere, data is not considered impacted by this non-conformance.

The laboratory provides quality control non-conformance reports that indicate if Laboratory Control Samples/Laboratory Control Sample Duplicates (LCS/LCSD) and/or MS/MSD had low, failing, or high recoveries, and if the sample result was affected. Likewise, the laboratory reports any compounds that had failing RPDs in the LCS/LCSD pair or the MS/MSD pair. This indicates the percent difference between the laboratory sample and its duplicate or the spike and it's duplicate. The following were reported by the laboratory as being outside their acceptable limits:

- The VOC LCS and LCSD percent recoveries for 1,2,3-trichlorobenzene were above the allowable limits and the LCSD dichlorodifluoromethane percent recovery was below the allowable limits limits affecting soil sample CA-SS-7. Since less than 10% of compounds were affected, reanalysis was not required and data is not expected to be impacted by this non-conformance.
- The VOC LCS percent recoveries for chloroethane, naphthalene, and 1,2,3-trichlorobenzene were above the allowable limits and the chloromethane was below the allowable limits. Percent recoveries were within the allowable limits for the LCSD for naphthalene and 1,2,3-trichlorobenzne; however, chloromethane was below and chloroethane was above the allowable limits. This non-conformance affects samples CA-SS-1, CA-SS-2, CA-DUP, and the trip blank. Since less than 10% of the compounds were affected, reanalysis was not required and data is not expected to be impacted by this non-conformance.

- The SVOC LCS percent recovery for hexachlorobutadiene was below the limits affecting soil sample CA-SS-7 and CA-SS-8. Since less than 10% of compounds were affected, reanalysis was not required and data is not expected to be impacted by this non-conformance.
- The SVOC LCS percent recoveries for hexachlorobutadiene and pentachlorophenol were below the allowable limit affecting soil samples CA-SS-1, CA-SS-2, and CA-DUP. Since less than 10% of compounds were affected, reanalysis was not required and data is not expected to be impacted by this non-conformance.

Accuracy

Accuracy is a statistical measurement of correctness and includes components of random error (variability due to imprecision) and systemic error. It, therefore, reflects the total error associated with a measurement. A measurement is accurate when the value reported does not differ from the true value or known concentration of the spike or standard. For VOCs and PAHs, surrogate compound recoveries are also used to assess accuracy and method performance for each sample analyzed. Analysis of performance evaluation samples are also used to provide additional information for assessing the accuracy of the analytical data being produced. Both accuracy and precision are calculated for each analytical batch, and the associated sample results are interpreted by considering these specific measurements.

Representativeness

Sample representativeness was assessed through an analysis of the blank results. The concentrations and frequencies of target analytes detected in blanks provide an indication of data representativeness. The five times and ten times rules were used judiciously to eliminate potential false positive results indicated by the blank data. Regulatory criteria were considered when using the five and ten times rule to avoid elevation of the reporting limit above the criteria for certain compounds. Blank non-conformances were not encountered during review of the data.

Sample representativeness was also assessed through an evaluation of the sample results compared to the sample design (locations and conceptual site model) to determine if the results are representative of the environment from which the samples were collected.

All objectives for sampling and analytical representativeness for samples that were analyzed, as specified in the SSQAPP Addendum, were met.

Comparability

Comparability is the confidence with which one data set can be compared to another data set (i.e. how well the data can be reproduced). The objective for this quality assurance/quality control (QA/QC) program is to produce data with the greatest possible degree of comparability. Comparability was achieved by using standard methods for sampling and analysis, reporting data in standard units, normalizing results to standard conditions and using standard and

comprehensive reporting formats. Complete field documentation was used, including standardized data collection forms to support the assessment of comparability.

Completeness

Completeness is calculated by comparing the number of samples successfully analyzed to the number of samples collected. The goal for completeness is 95 percent. The completeness for this project was 100 percent, as there were no samples that were not analyzed due to holding time violations, samples spilled or broken, or any other reason.

With regard to completeness of the SSQAPP, the following deficiencies occurred:

- A concrete sample field duplicate was not collected during this Phase II ESA as specified by the SSQAPP; however, since analytical results were below the laboratory reporting limits, results would not have been useful in assessing laboratory precision.