



# Site Investigation Report

Hope Mill Project  
5 Main Street  
Scituate-Coventry, Rhode Island  
RIDEM No. SR-30-0623

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## **1.0 INTRODUCTION**

ESS Group, Inc. (ESS), on behalf of Paramount Apartments LLC (Paramount; the Client and current property owner), has prepared this Site Investigation Report (SIR) for the property located at 5 Main Street, Scituate, Rhode Island (the Contaminated Site or Site), known as the former Hope Mill. This SIR has been prepared pursuant to Section 1.8.3 of Part 1 of the “Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases” (the Remediation Regulations; 250-RICR-140-30-1) and is being submitted as a hard copy and in electronic format to RIDEM for review and approval.

The Site is the location of historic Releases of Hazardous Materials and petroleum to soil and/or groundwater reported to the Rhode Island Department of Environmental Management (RIDEM) and assigned Site Remediation (SR) No. SR-30-0623 and Leaking Underground Storage Tank (LUST) Case No. 3024-ST, respectively. Collectively, the releases are being managed under SR-30-0623. Refer to Figure 1 (Site Locus Map) for the location of the Site in relation to regional geographic features.

A completed RIDEM SIR Checklist is provided in Appendix A. Refer to the SIR Checklist for a cross-reference of sections and pages in this SIR that provide detailed information and address each stated requirement.

### **1.1 Site Investigation Objectives [§ 1.8.3(A)(1)]**

The objectives of the Site Investigation (SI) are as follows:

1. Perform the Site Investigation (SI) in accordance with § 1.8 of Part 1 of 250-RICR-140-30-1.
2. Characterize the nature and extent of Hazardous Materials and petroleum at the Site consistent with the proposed redevelopment design and to generally satisfy acknowledged deficiencies of an initial SIR [Jacques Whitford Company, Inc. (JWC) - 2007] submitted to RIDEM by the former Site owner, Hope Mill Village Associates LLC (i.e., Vincent R. Coccoli);
3. Incorporate new soil and groundwater data to supplement the historic/existing data set and build upon the existing Conceptual Site Model<sup>1</sup> (CSM).
4. Determine actual and potential impacts of Hazardous Materials and petroleum and evaluate remedial alternatives for Releases at the Site.

ESS designed the SI at the Site to meet the objectives outlined above.

### **1.2 Release History [§ 1.8.3(A)(2)]**

The following is a general description of the Release history of the Site based on documents and files obtained by ESS from a file review at RIDEM. Appendix B presents copies of the pertinent documents.

- From March through April 2006, JWC of Lincoln, Rhode Island completed a Phase II Environmental Site Assessment (ESA) at the Site on behalf of the former Site owner. The Phase II ESA, based on the findings of a Phase I ESA (JWC – 2005), included subsurface investigations (i.e., excavation of test pits, advancement of soil borings, installation of monitoring wells, and collection of soil and groundwater samples) to determine if a Release(s) had occurred at select areas of concern (AOCs). The results of the subsurface investigations revealed:

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<sup>1</sup> A CSM means “a written and/or illustrative representation of the physical, chemical and biological processes that control the transport, migration and actual or potential impacts of hazardous materials in soil, air, groundwater, surface water and/or sediments to human and/or ecological receptors at a site”, pursuant to RI General Law § 23-19.14-4.



- Concentrations of certain polycyclic aromatic hydrocarbons (PAHs), arsenic, beryllium and lead in soil above the Reportable Concentrations (RCs) for RIDEM Residential Direct Exposure Criteria (RDEC); and
- A concentration of benzene in groundwater above the GA Groundwater Objective (GAGO).
- A Letter of Responsibility (LOR), dated May 10, 2007, was issued by the RIDEM to the former Site owner (Hope Mill Village Associates LLC) and generally indicated:
  - The RIDEM was in receipt of certain documents/files for the Site including the Phase II ESA (JWC; 2006) and a conceptual master plan for Hope Mill Village, a formerly proposed redevelopment of the Site.
  - The identification of PAHs and metals in soil above RDECs constitutes a Release of Hazardous Materials to the environment.
  - Hope Mill Village Associates LLC, as the Site owner at the time and, therefore, the Responsible Party (RP), was required to submit a Hazardous Material Release Notification Form (RNF) and address the Release condition under the Remediation Regulations.
- A SIR (JWC, August 23, 2007) was submitted to the RIDEM Office of Waste Management (OWM) (currently known as the Office of Land Revitalization and Sustainable Materials Management) on behalf of Hope Mill Village Associates LLC. The SIR summarized the actions and findings of additional SI activities (refer to Section 2.3), contained a copy of the Release Notification Form (RNF) and generally indicated:
  - Concentrations of arsenic and various PAHs were discovered above RIDEM RDECs in surface soils throughout the Site and near an underground storage tank (UST) located adjacent to a former boiler house (Building 7).
  - The source of arsenic and PAHs in soil was likely from former coal storage and usage and fuel oil storage.

The RNF did not list include beryllium and lead in soil and benzene in groundwater above the applicable RIDEM Criteria and Objectives.

- Between 2007 and 2008, comments on the 2007 SIR and the proposed response actions for the Site were exchanged between RIDEM and JWC. RIDEM's comments on the SIR were generally that: (i) the SIR did not meet the requirements pursuant to the Remediation Regulations; (ii) further sampling was required; and (iii) the proposed sampling plan was insufficient for delineating the extent of Hazardous Materials on the Contaminated Site.
- A Notice of Violation (NOV) (Case No. C07-0076) dated February 22, 2008 was issued to Hope Mill Village Associates, LLC by the RIDEM's Office of Compliance and Inspection (OC&I) for various wetland, water quality and Release-related violations. The NOV required the following: (i) immediately cease further alteration of freshwater wetlands; (ii) restore all freshwater wetlands in conjunction with the remediation of the Site; and (iii) submit a SIR and fulfill public notice requirements. Note that to ESS's knowledge, Hope Mill Village Associates, LLC did not comply with the conditions of the NOV (e.g., wetlands were not restored and an updated/final SIR was not submitted to the RIDEM). However, Paramount, as the former prospective buyer and current owner of the Site, has developed draft agreements with RIDEM's OC&I to form corrective actions and comply with the violations associated with the former owner's Site activities.



- In August 2016, ESS submitted a SI Work Plan (SIWP) for review and approval by RIDEM. The SIWP was prepared on behalf of Paramount, who was a Bona Fide Prospective Purchaser<sup>2</sup> of the Site at that time. The SIWP presented: (i) data generated from previous investigations and a Limited Phase II ESA (ESS, 2016); and (ii) a strategy for assessing known and suspected Hazardous Materials in soil and groundwater that accounted for Paramount's proposed redevelopment plan. The SIWP also covered the OWM deficiencies identified by RIDEM in the SIR (JWC, 2007) and presented in the NOV.
- Between 2016 and 2017, comments on the SIWP (ESS, 2016) and the proposed SI actions were exchanged between RIDEM's OWM and ESS. This comment exchange resulted in an agreed upon scope of work (SOW) to the proposed SI actions by Paramount.

### **1.3 Past Incidents and Releases [§ 1.8.3(A)(3)]**

The following is a general description of other Hazardous Material and/or Petroleum Releases, which are separate from those described in Section 1.2 above. Information on the following Releases was obtained from a file review with RIDEM. Appendix C presents copies of pertinent documents.

- A Release of No. 6 fuel oil from an abandoned 20,000-gallon UST was reported for the Site in 2010 (Refer to 2.4). The actual reporting date to the RIDEM UST Management Program is not known; however, the Release was documented in several RIDEM Emergency Response Reports signed by responding RIDEM personnel between December 23, 2010 and September 8, 2011 and a RIDEM Complaint Form dated August 18, 2011. RIDEM assigned the Release, associated with multiple events of rainwater filling the UST and overflowing to and spreading across the ground surface, with LUST Case No. 3024-ST. No documents and/or files were available during a file review with RIDEM completed in 2016 memorializing LUST Case No. 3024-ST.

According to a RIDEM Emergency Response Report (September 8, 2011), a prospective purchaser of the Site at the time (Mr. Kevin Sullivan) retained Cyn Environmental Services and BilRay Construction to vacuum liquids from the UST and excavate petroleum-impacted soil. The UST closure activities and the collection of confirmatory soil samples occurred in November 2011 and were summarized in a UST Closure Assessment Report prepared by Clean Environmental Inc. (CEI) in 2014. CEI concluding that "based upon data included in the report, no further environmental investigation of the Site is warranted at this time."

An Inter-Office Memo from RIDEM's OWM to OC&I, dated November 3, 2014, generally summarizes the release conditions at the Site, non-compliance for exceeding soil disposal and UST reporting deadlines, and concludes that a closure certificate and No Further Action determination would not be issued until the UST compliance issues were resolved. To the best of ESS' knowledge, the UST compliance issues were not resolved and, therefore, a closure certificate or No Further Action determination have not been issued for the 20,000-gallon UST.

- A Release of petroleum resulting from a leaking 1,000-gallon UST was reported to RIDEM in July 2020. This UST was identified (refer to Section 4.5.1) on the southwestern portion of the Site near one of the existing sheds. The Release, assigned LUST No. 3024-LS, is associated with a detection of volatile organic vapors in soil<sup>3</sup> above 20 parts per million by volume (ppmV) as determined with a portable

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<sup>2</sup> Bona Fide Prospective Purchaser Certification Statement (August 9, 2016).

<sup>3</sup> Maximum detection of 42.4 ppmV.



photoionization detector (PID) during actions performed to close the UST. Historical records indicate the UST was used for storing gasoline; however, closure actions could not confirm the prior use of the UST. Approximately 8 tons of petroleum-impacted soil was removed from beneath the UST and confirmatory soil samples were subsequently collected from the final extents of the UST excavation. Laboratory analytical data for the confirmatory soil samples revealed no detection of volatile organic compounds (VOCs) or total petroleum hydrocarbons (TPH) above RIDEM RDECs or GAGOs. The filing of a UST Closure Assessment Report with RIDEM's UST Management Program will be submitted after the petroleum-impacted soil is disposed of off-Site.

#### **1.4 Past Owners and Operators [§ 1.8.3(A)(4)]**

A history of the Site, including past owners and operators and uses, was determined through a review of United States Department of Interior, National Park Service registration forms for consideration to the National Register of Historic Places (June 19, 1995), unofficial Property Record Cards obtained from the Town of Scituate Assessor's on-line database, and Sanborn Fire Insurance Maps (Sanborns) obtained from EDR™, copies of which are provided in Appendix C. A general summary of the Site's owner and operator history is as follows:

- The Town of Scituate is incorporated in 1731. Joseph Remington initially developed 21 acres of Scituate, including the areas of the Site, in 1731. Remington offers a lease of the area including Lot 58 and 69 for use as an "Ironworks" in 1765 with ore supplied from Cranston.
- The Furnace Hope is operated from 1765 to 1806 supplying cannonballs and pig-iron. No known ruins of the furnace exist along the southern portion of the Pawtucket River. The operators of Furnace Hope continue to buy neighboring lands from Remington including much of the land now identified as Lots 1, 8, and 114.
- In 1806, Furnace Hope and all "wrought iron" is sold to Silvanus Hopkins who intended to build a textile mill with the available iron. A small cotton mill is built around the area of Lots 1 and 114. The mill is sold and contained at the time "lands, tenements, factories, building, privileges of water...also the die house, machine shop, weaving room, picking house, grist mill and other buildings" at a total of 29 acres. The furnace is dismantled to provide granite for the mill.
- In 1844, the firm of Brown and Ives built a new 5-story stone structure, replacing the first cotton mill built by Hopkins. The mill is further expanded in the mid-1870's, the mid-1890's, and the years following World War I.
- Between 1916 and 1917, the sawtooth building was constructed. This building houses spindles and looms for textile manufacturing.
- In 1944, the mill was sold to F. Jacobson & Sons, Inc. and continued operation as a textile mill.
- From 1979 to 1984, the mill was owned by Gilbert R. Bodell and operated as Valley Lace Corporation.
- In 1984, the mill was owned by L&L Associates and operated as Just-A-Stretch Corporation.
- In 1995, an inventory of businesses operating on the property included: Just-A-Stretch (operating power turbine and generator in Mill No. 1 and elastic tape manufacturing in Weave Shed); Leather goods manufacture (Mill No. 1); Machine tool molds (fifth floor, Mill No. 1); Jewelry boxes (Mill No. 1); Head phone assembly (Mill No. 1); Lace Processing (Mill No. 2); and Automotive Repair (Mill No. 4).
- In 2010, the Site is owed by New England Development RI, LLC.



- Thereafter at an unknown date, the Site went into receivership. Peter J. Furness (not individually and on behalf of Boyajian, Harrington, Richardson & Furness, Inc.) was listed as Receiver of New England Development RI, LLC. In 2016, a Purchase & Sales Agreement was established between Furness (Seller) and BMP, LLC.
- On June 30, 2020, Paramount purchased the Site from the Receiver and is proposing a residential redevelopment.

## **2.0 PREVIOUS REPORTS AND SUBMITTALS [§ 1.8.3(A)(5)]**

Documents and reports prepared for the Site, copies of which were initially presented in the SIWP (ESS, 2016) and generally summarized below, were reviewed and/or prepared by ESS to support the development of the SI.

### **2.1 Phase I Environmental Site Assessment (JWC, 2005)**

ESS reviewed a Phase I ESA dated September 13, 2005 and prepared by JWC for Hope Mill Village Associates LLC. The Phase I ESA report presented the following significant findings:

- Several transformers throughout the buildings, three elevators, and large panels of electrical equipment could contain polychlorinated biphenyls (PCBs). Some of the electrical equipment could also contain mercury.
- One 10,000-gallon No.6 fuel oil UST was identified and evidence of three other potential USTs was discovered.
- An on-Site septic system is used and has historically been used for the disposal of sanitary and process wastewater.
- Coal was stored and used for fuel on the Site.
- Several containers of various-sizes and construction and containing various potentially hazardous liquids or petroleum products were identified throughout the subject buildings.
- Miscellaneous discharge features were identified with unknown sources and unknown discharge or the final discharge point location (i.e., pipes, sumps, catch basins, etc. were identified, some of which of which were sourced from or discharged to unknown locations).

### **2.2 Phase II Environmental Site Assessment (JWC, 2006)**

ESS reviewed the Phase II ESA report dated July 10, 2006 and prepared by JWC for Hope Mill Village Associates LLC. The Phase II ESA generally included the excavation of seventeen test pits, advancement of eight soil borings, installation of six groundwater monitoring wells, soil classification, and soil and groundwater sampling and analysis. The Phase II ESA report provided the following significant findings:

- Certain PAHs, arsenic, beryllium and lead were detected in soil samples collected across the Site at concentrations greater than the respective RDECs. The exceedances were attributed to the historic coal storage, ash disposal and or deposition from burning coal on the Site.
- Groundwater analytical results identified benzene above the applicable GAGO. JWC suggested that benzene, and other VOCs detected below GAGO's, were associated with the potential use of solvents and gasoline by-products during historic operations.





- Groundwater gauging revealed approximately three feet of free product in monitoring well MW-5. (Note - ESS questions the validity of this data due to inconsistencies between monitoring well installation and gauging dates and the sampling of well MW-5 without a reference of free product).
- Groundwater generally flows to the east towards the Pawtuxet River and the average depth to groundwater at the Site is approximately 7.38 feet below grade.

Historic laboratory analytical results for soil and groundwater are summarized in Tables 1 and 2 and compared to current RIDEM Criteria and Objectives, respectively. Figure 2 (Site Plan) depicts the approximate location of historic soil and groundwater sample locations. Figures 3 and 4 show which sample locations exceeding applicable RIDEM Criteria and Objectives.

### **2.3 Site Investigation Report (JWC, 2007)**

ESS reviewed the SIR dated August 23, 2007 and prepared by JWC for Hope Mill Village Associates LLC. The SIR was primarily comprised of the actions and findings of presented in the Phase II ESA (JWC – 2006) but also included results of additional surface soil sampling. The SIR provided the following significant findings:

- There does not appear to be any significant impacts from any of the USTs, the two dumpsters, the exterior transformers, or the septic system.
- It appears that the storage of coal, placement of ash and/or debris, and/or deposition from the burning of coal have impacted soils on the Site. PAHs, arsenic, beryllium, and lead were detected in soil samples at concentrations greater than the RDEC. The highest concentrations of the PAHs and metals were reported in the soil samples that contained what appears to be ash.
- Benzene was detected in one groundwater sample at a concentration greater than the GAGO. The concentration of benzene detected in the groundwater sample is not expected to result in volatilization that poses a risk to indoor air quality.
- There were no observed or expected impacts to manmade structures from the detected contamination. The detected elevated contaminants are not expected to adversely impact any environmentally sensitive areas.
- The preferred remedial alternative included permanently closing the two USTs and the septic system, capping all soils at the Site with an engineered cap, and implementing an Environmental Land Use Restriction (ELUR) with the purpose of maintaining the cap, prohibiting the use of the groundwater at the Site for potable uses, and requiring proper management of soils and groundwater at the Site during future excavation activities.

To the best of ESS's knowledge, no additional soil or groundwater testing or other response actions were performed by JWC beyond those summarized in the SIR, and the SIR was never finalized or approved by RIDEM. Laboratory analytical results for soil and groundwater samples collected by JWC are summarized in Tables 1 and 2, respectively.

### **2.4 UST Closure Assessment Report (CEI, 2014)**

ESS reviewed a UST Closure Assessment Report prepared by CEI (2014) on behalf of Hope Mill Village Associates, LLC. This report documented the closure of a 20,000-gallon UST formerly located adjacent to Building 7 (the boiler room). In general, the UST closure included excavation and removal of the UST for





off-Site disposal, excavation of 134.72 tons of No. 6 fuel oil-impacted soil for off-Site disposal, and collection of two confirmatory soil samples for laboratory analysis of total petroleum hydrocarbons (TPH) and VOCs. The analytical results revealed no detection of TPH or VOCs above RIDEM RDECs and/or GA Leachability Criteria (GALC). CEI concluded that the UST closure was complete and recommended a No Further Action determination by RIDEM. Refer to Section 1.3 for additional details and the regulatory status of this former UST.

### **2.5 SI Work Plan (ESS, 2016)**

In August 2016, ESS submitted a SIWP for review and approval by the RIDEM. The SIWP was prepared on behalf of Paramount, who was a Bona Fide Prospective Purchaser of the Site at that time. The SIWP presented: (i) data generated from previous investigations (JWC, 2006) and a Limited Phase II Environmental Site Assessment (ESS, 2016); and (ii) a strategy for assessing known and suspected Hazardous Materials in soil and groundwater that took into consideration Paramount's proposed redevelopment plan. The SIWP also covered the OWM deficiencies identified by RIDEM in the SIR (JWC, 2007) and presented in the NOV. The SIWP was conditionally approved by RIDEM after exchanging comments on the scope of the proposed SI investigations. It is ESS's understanding that the RIDEM-approved SIWP has in part satisfied the OWM issues presented in the NOV for the Site.

### **2.6 Initial Findings Site Investigation (Phase 1, ESS, 2016)**

In November 2016, ESS submitted an Initial Findings Site Investigations (Phase 1) report to RIDEM for review. The report was prepared on behalf of Paramount, who was a Bona Fide Prospective Purchaser of the Site at that time, described the action and findings of the first phase (Phase 1) of the SI, and generally concluded that: (i) a majority of the data generated from SI activities indicate that the infiltration of storm water in the proposed pervious pavement areas and infiltration of wastewater/effluent in the proposed On-Site Wastewater Treatment System (OWTS; AOC 4 – refer to Section 4.0) leach field will not degrade groundwater quality; (ii) soil collected from soil boring (ESS-31) advanced in the proposed pervious pavement area (AOC 4; refer to Section 4.0) and located west of the southwest corner of the Sawtooth Building (Building 3) contained lead above the RIDEM GALC. Soil in the area of ESS-31 will be subject to excavation combined with placement of clean soil/fill; and (iii) further assessment is warranted in the area of ESS-31 to delineate the extent of lead GALC exceedances.

## **3.0 SITE LOCATION AND SETTING**

### **3.1 Zoning and Active Operations [§ 1.8.3(A)(6)]**

The Site is located in areas zoned as "RSW-60/80" (Single-Family Residence/Water District), "M" (General Manufacturing) and "R-20" (Residential District) and improved with multi-floored, interconnected industrial buildings (formerly identified as Hope Mill) located at the central to westerly portion of the Site. The Site was recently purchased by Paramount who intends to redevelopment the Site for residential use. The Site and associated buildings are currently unoccupied; therefore, no active operations are performed and no Hazardous Wastes are being generated.

### **3.2 Site Description and Location [§ 1.8.3(A)(7)]**

The Site consists of five parcels of which four are located in Scituate, Rhode Island and identified on Town of Scituate Assessor's Plat Map 3 as Lot 8 and Plat Map 5 as Lots 1, 114 and 117 and one is located in Coventry, Rhode Island and identified on Town of Coventry Assessor's Plat Mat 101 as Lot 5. Collectively, the parcels occupy approximately 28.9 acres of land. As shown on the Site Locus Map (Figure 1), the Site ranges from approximately 56 to 76 meters (185 to 250 feet) above mean sea level (msl) and is centrally



located at the following coordinates: Latitude 41° 43' 51.29" North (UTM: 4,623,079 meters Northing) and Longitude 71° 33' 40.47" West (UTM: 287,004 meters Easting).

The Site is bordered to the west by Main Street (Route 116) followed by residential properties and Hope Pond Recreation Area, to the south and east by undeveloped forested areas and residential properties, and to the north by Mill Street, undeveloped forested areas and residential properties. The Pawtuxet River flows through the southern and eastern portions of the Site. A raceway, also part of the Pawtuxet River, flows under the northern portion of the Site building and along the western portion of the Site. Paved parking areas and a driveway are located to the west of the Site mill building. Grassy and wetland areas surround and make up a majority of the Site.

### **3.3 Site Plan [§ 1.8.3(A)(8)]**

A Site plan (Figure 2) shows locations of on-Site buildings and other structures, subsurface investigations and media sampling, former and proposed septic and wastewater treatment systems, former USTs, abutting features and the property line. The Site is serviced by public water and overhead electric lines which are currently inactive

### **3.4 Location and Distance to Surface Water Bodies Within 500 Feet [§ 1.8.3(A)(9)(a)]**

The Pawtuxet River and associated raceway originate from the Scituate Reservoir located approximately two miles northwest of the Site. Refer to Section 3.2 for a description of the location of the Pawtuxet River and associated raceway in relation to the Site.

### **3.5 Environmentally Sensitive Areas Within 500 Feet [§ 1.8.3(A)(9)(b)]**

The Pawtuxet River (and associated raceway) is an environmentally sensitive area flowing through portions of the Site. Refer to Section 3.2 for a description of the location of the Pawtuxet River and associated raceway in relation to the Site. The Site is also located within a Natural Heritage Area, according to the RIDEM Environmental Resource Map. No other environmentally sensitive areas are known to exist within 500 feet of the Site.

### **3.6 Source(s) of Potable Water [§ 1.8.3(A)(9)(c)]**

The Site and immediately abutting properties receive potable water from the Scituate Reservoir via a municipal water system operated by the Providence Water Supply Board.

### **3.7 Location and Distance to Public Water Supplies Within One Mile [§ 1.8.3(A)(9)(d)]**

No public water supplies are located within one mile of the Site.

### **3.8 Site Groundwater Classification [§ 1.8.3(A)(9)(f) & (A)(10)]**

Groundwater underlying the Site is classified by RIDEM as "GA", or groundwater suitable for public or private drinking water without treatment.

### **3.9 Classification of Surface Water [§ 1.8.3(A)(10)]**

The Pawtuxet River North Branch flows through the southern and eastern portions of the Site. A raceway, also part of the Pawtuxet River, flows under the northern portion of the Site building and along the western portion of the Site. According to the RIDEM's 2016 "State of Rhode Island 2016 Impaired Waters Report", the Pawtuxet River North Branch is classified by RIDEM as "B", or water suitable for the protection, maintenance, and propagation of a viable community of aquatic life and wildlife.

### **3.10 Site Geology [§ 1.8.3(A)(14)(c)]**

According to the RIDEM Environmental Resource Map, bedrock underlying the Site consists of the Scituate Igneous Suite, which is described as gray to pink, medium to coarse-grained, porphyritic to sub-porphyritic alkali-feldspar granite with phenocrysts of perthite. The surficial geology is described as till in the northwestern portion of the Site, and outwash covering the remaining of the Site. Subsurface investigations completed on the Site (2006, 2016 and 2020) have identified fill at approximately 1 to 10 feet thick and consisting mainly of fine to coarse silty sands with varying amounts of miscellaneous debris (brick, glass, metal, wood, rubber, coal, ash).

### **3.11 Site Hydrogeology [§ 1.8.3(A)(14)]**

#### **3.11.1 Survey**

ESS retained DiPrete Engineering (DiPrete) of Cranston, Rhode Island to conduct a survey to determine the vertical elevations and horizontal locations of the completed monitoring wells (designated as MW-7 through MW-17). DiPrete first established an elevation benchmark using a fixed marker unlikely to be moved or relocated. Using a level and survey rod, DiPrete personnel then located the wells relative to existing Site features (e.g., Site building, roads, etc.) and measured the relative elevation of dedicated measuring points for each well. The well locations area shown on Figures 2 through 5.

#### **3.11.2 Monitoring Well Gauging**

On April 16 and June 30, 2020, ESS personnel gauged the on-Site monitoring wells with an electronic interface probe (EIP) for the depth to groundwater and for the potential presence of non-aqueous phase liquid (NAPL). The gauging data for the two events indicated the presence of NAPL in one monitoring well (MW-10) located near the former 20,000-gallon No. 6 fuel oil UST. The thickness of NAPL could not be accurately measured with the IEP due to the dense viscosity of the NAPL (No. 6 fuel oil). The gauging data for the remaining wells revealed no measurable NAPL. The depth to groundwater for both gauging events ranged from ~3.87 to 12.04 feet below ground surface (bgs). The depth to NAPL in well MW-10 ranged from ~7.39 to 9.55 feet bgs. Table 3 summarizes the gauging events.

#### **3.11.3 Groundwater Flow and Gradients**

The June 30, 2020 depth to water measurements were subtracted from the surveyed well elevations to determine groundwater elevations for each well. The groundwater elevations were plotted on a Site plan to generate equipotential groundwater contour lines (refer to Figure 5). Groundwater in the unconsolidated deposits predominantly flows in an easterly/southeasterly direction across the Site and is expected to discharge (at most locations) to the Pawtucket River. The hydraulic gradient is approximately 0.0261 feet per day. Localized groundwater flow patterns are expected to be seasonally influenced by subsurface utilities, heterogeneous geologic conditions and precipitation events.

### **3.12 Site Topography [§ 1.8.3(A)(15)]**

According to the United State Geological Survey (USGS) 7.5-minute series Crompton, Rhode Island Quadrangle topographic map (Figure 1) and a recent topographic survey prepared by DiPrete Engineering, the Site is at an elevation of approximately 56 to 76 meters (185 to 250 feet) above msl. The Site is generally flat with the eastern and western portions of the Site sloping down towards the Pawtucket River and raceway, respectively. The Federal Emergency Management Agency (FEMA) National Flood Insurance Program Flood Insurance Rate Map (FIRM) Numbers 44007C0402H, 44007C0406H, and 44003C0106H, effective October 2, 2015, places the Pawtucket River and the portions of the Site surrounding the River within Zone

AE and a Regulatory Floodway. Zone AE is designated as a Special Flood Hazard Area, which is defined as an area that is within the 100-year floodplain for which flood elevations and flood factors have been determined. The remaining of the Site is within Zone X, or area of minimal flood hazard.

#### **4.0 SITE INVESTIGATION [§ 1.8.3(A)(11) & (12)]**

ESS designed the SI for the Site to collect soil and groundwater data necessary to meet the objectives outlined in Section 1.1. Based on Paramount's proposed redevelopment design and RIDEM's comments to the initial SIR (JWC – 2007), ESS identified and focused the SI on eight specific AOCs including:

- AOC 1 (Potential Former Liquid Lagoons) – These are three areas where RIDEM suspected the presence of former liquid lagoons based on historic aerial photographs.
- AOC 2 (Former Railroad Bridge Abutments) – This is an area at the far northern portion of the Site where the raceway and Pawtuxet River meet and where RIDEM observed discolored soils.
- AOC 3 (Annual Fireworks Display Area) – This is an area where the Town of Scituate reportedly ignited fireworks for over 20 years for their annual fireworks display.
- AOC 4 (Pervious Pavement/Sub-Drain Area) – This is an area where the proposed redevelopment plan involves use of pervious pavement for future vehicle parking and road access and could include placement of suitable clean fill and a sub-drain piping system for managing stormwater.
- AOC 5 (On-Site Wastewater Treatment System) – This is an area proposed for the installation of an On-Site Wastewater Treatment System (OWTS) that includes holding tanks, associated piping and a leach field. Soil/fill in the OWTS area will need to be excavated to allow installation of these structures.
- AOC 6 (Former UST #2) – This is an area where a former 20,000-gallon No. 6 fuel oil UST was removed and historic groundwater analytical data (well MW-5) revealed a detection of benzene exceeding the GAGO.
- AOC 7 (Fill Area) – This is an area north of the Site building and west of the raceway where filling with soil from an unknown source was observed.
- AOC 8 (West of Building 2) – This is an area west of Building 2 where historic data (JWC, 2006) indicated the presence of metals and PAHs above RIDEM RDECs.

The following sections describe the SI activities and results in detail.

#### **4.1 SI Scope of Work**

The SI scope of work outlined in the SIWP (ESS, 2016) was completed<sup>4</sup> in three general phases between 2016 through 2020. The first phase (Phase 1) was completed in 2016 and, due to limited funding resources, included only certain activities as presented in the SIWP (ESS, 2016) with a general focus on evaluating contaminants of concern (COCs) in soils in future excavation areas and at areas where stormwater and/or wastewater infiltration will occur (i.e., porous paved/subdrain areas and OWTS area). The second phase (Phase 2) was completed in 2020 and generally included the remainder of SI activities outlined in the SIWP. The last phase (Phase 3) was completed in 2020 and focused on delineating the extent of NAPL and

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<sup>4</sup> Note that the completed SI activities slightly varied from SIWP based on following discussions with RIDEM on Paramount's Site redevelopment plans and associated modifications.



petroleum impacts near monitoring well MW-10 and the former No. 6 fuel oil UST. The collective SI activities included the following:

- Excavation of 21 test pits.
- Advancement of 21 soil borings.
- Installation and development of 11 groundwater monitoring wells (consistent with RIDEM's Groundwater Quality Rules; 250-RICR-150-05-3).
- Collection and laboratory analysis of 10 shallow soil samples (~0 to 0.5 feet bgs).
- Collection and laboratory analysis of 53 subsurface soil samples.
- Collection and laboratory analysis of 12 groundwater samples.
- A ground penetrating radar (GPR) survey near a suspected UST.

Soil and groundwater samples collected from the Site during the SI activities were placed in clean preserved and/or non-preserved glassware, labeled in the field, stored on ice and submitted under standard chain-of-custody protocol to certified laboratories. Refer to Table 3 for a summary of groundwater gauging data, Table 4 for a summary of soil and groundwater samples and laboratory analysis relative to the eight AOCs, and Tables 5 and 6 for a tabulated summary of soil and groundwater analytical results compared to applicable RIDEM Criteria and Objectives, respectively. Refer to Figures 2, 3, 4, and/or 5 for the location of completed test pits, soil borings, monitoring wells, soil and groundwater sample locations and GPR survey area. Refer to Appendix D through H for copies of Test Pit Logs, laboratory analytical reports, Boring and Well Construction Logs, Groundwater Monitoring Well Development Forms, and Low Flow Groundwater Monitoring Well Sampling Forms.

#### **4.2 Public Involvement**

In accordance with § 1.8.7 of 250-RICR-140-30-1, the Town of Scituate and all abutting property owners to the Site were notified on two separate occasions that SI activities were to occur. The notifications (refer to Appendix I), were in the form of a letter and mailed via certified mail approximately one week prior to the commencement of activities in 2016 and 2020. In addition to public notifications, prior to the commencement of Phase 2 SI activities, a sign listing the RIDEM, Brownfield Remediation and Economic Development Fund as a source of funding for the Project was posted on the fencing at the Site entrance, off Main Street.

#### **4.3 Limited Phase II ESA (ESS, 2016)**

In January 2016, ESS performed a Limited Phase II ESA on behalf of Paramount as a prospective buyer of the Site at that time. This assessment was completed to inform Paramount about potential environmental liabilities and to provide updated and current environmental information and data to support filing of the SIWP (ESS, August 2016) with the RIDEM. The objectives of the due diligence activities were generally to: (i) further characterize some of the known COCs in soil and groundwater; (ii) characterize soil and groundwater at select on-Site areas for other potential Hazardous Materials; and (iii) identify preliminary preferred remedial alternatives and associated costs for addressing the COCs in soil and groundwater. The scope and findings of the due diligence activities are presented below and were presented in the SIWP (ESS, 2016).



#### **4.3.1 Test Pitting (AOC 1)**

On January 14, 2016, Kenny Lavigne of Cranston, Rhode Island, as a subconsultant to Paramount, utilized an excavator to excavate one test pit at each of three suspected former liquid lagoons on the northern portion of the Site. The test pits (designated ESSTP-19, ESSTP-21 and ESSTP-22) were excavated to depths ranging from approximately 8 to 10 feet bgs. Excavated soils were temporarily staged adjacent to the test pits.

ESS scientists were on-Site to direct and document the excavation program, screen soils for the presence of volatile organic vapors with a portable PID calibrated to read “as benzene”, and collect representative soil samples for laboratory analysis. Soils encountered in the test pits generally consisted of fine to coarse silty sands and also contained varying amounts of miscellaneous debris (including rubber, bricks, glass, metal, wood, coal, and ash). Bedrock was not encountered during excavating activities. Groundwater was encountered at depths ranging from approximately 8 to 9.5 feet bgs. PID screening results revealed a low detection of volatile organic vapors in soil from the test pits at concentrations ranging from 0.2 to 2.8 parts per million by volume (ppmV). Refer to Section 4.3.1.1 for a summary of soil sampling and analysis.

Following the assessment of subsurface conditions, excavated soils were subsequently backfilled into the respective test pits. Backfilling was performed in a manner such that native and non-native soils (i.e., fill) were placed back into the relative depths from which they were excavated.

##### **4.3.1.1 Soil Sampling and Analysis**

Discrete and composite soil samples were collected during the test pitting program and submitted to Alpha Analytical Inc. (Alpha) of Westborough, Massachusetts. Discrete samples (designated as ESSTP-19, ESSTP-21 and ESSTP-22) consisting of soil from a specified depth (versus a depth range) were submitted for analysis of VOCs by US Environmental Protection Agency (EPA) Method 5035/8260C. Composite samples [designated as ESSTP-19 (3–5’), ESSTP-21 (3–4’), and ESSTP-22 (3–5’)] consisting of soil collected across a vertical zone were submitted for analysis of the following parameters:

- TPH by EPA Method 8015C.
- Semi-volatile organic compounds (SVOCs) by EPA Method 8270D.
- PCBs by EPA Method 8082A (with Soxhlet Extraction).
- Organochlorine Pesticides (Pesticides) by EPA Method 8081B.
- Total metals (i.e. antimony, arsenic, barium, beryllium, cadmium, chromium, copper, cyanide, lead, manganese, mercury, nickel, selenium, silver, thallium, vanadium and zinc) by EPA Methods 6010C, 9010C/9012B, and 7471B, respectively.
- Synthetic Precipitation Leaching Procedure (SPLP) by EPA Method 1312 (conditional for metals pending total concentrations).
- General disposal chemistry analysis including total solids, pH, reactive cyanide and sulfide, and ignitability.

One additional composite sample [designated as ESSTP-22 (9’)] was collected from test pit ESSTP-22. This sample was submitted to Alpha for analysis of TPH by EPA Method 8015C.





Laboratory analytical results are discussed in Section 4.3.1.2 below.

#### **4.3.1.2 Soil Analytical Results**

Laboratory analytical results for soil samples collected during test pitting activities are summarized as follows:

- Chlordane was detected in soil sample ESSTP-22 above the RDEC. Concentrations of all other contaminants detected above laboratory Reporting Limits (RLs) were below RDECs and GALCs.
- SPLP lead was not detected in soil samples ESSTP-19, ESSTP-21 or ESSTP-22 and SPLP beryllium was not detected in soil sample ESSTP-22 above the laboratory RLs.
- Except for 1,2-Dibromoethane (EBD), laboratory RLs for all constituents not detected in soil samples ESSTP-19, ESSTP-21 and ESSTP-22 were below RDECs and GALCs. EDB has not been historically identified at the Site at concentrations above laboratory RLs, RDECs or GALCs and is not considered a COC.

The soil analytical results and absence of identifiable lagoon-type materials (e.g., sediment, discoloration, etc.) suggests that the suspected lagoons did most likely not exist in this area of the Site. However, further investigation(s) were warranted to delineate the vertical and horizontal extent of chlordane in ESSTP-22 above the RDEC.

Note that based on ESS's review of available aerial imagery available through the RI Geographic Information System (RIGIS), Historic Aerial Imagery and recent Google Earth imagery, ESS believes that infrequent flooding of low lying areas persisted at the Site for some time and that these low-lying flooded areas on the northern portion of the Site may represent what RIDEM initially believed might be former lagoons.

#### **4.3.2 Surficial Soil Sampling and Analysis (AOCs 2 and 3)**

On January 14, 2016, ESS utilized shovels to collect two soil samples (designated ESS-27 and ESS-28) adjacent to the former railroad bridge abutments (AOC 2) at the northern end of the Site and eight soil samples (designated FW-1 through FW-8) within a suspected former fireworks display area (AOC 3) at the northern to central portion of the Site. The soil samples, collected from ground surface to 0.5 ft bgs, were submitted to Alpha for analysis of the following parameters:

- ESS-27 and ESS-28
  - PAHs by EPA Method 8270D.
  - 13 Primary Pollutant Metals (i.e. antimony, arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, thallium and zinc) by EPA Methods 6010C and 7471B, respectively.
  - SPLP by EPA Method 1312 [conditional for metals pending total concentrations exceeding 20x the respective GALC standards].
- FW-1 through FW-8
  - Perchlorate by EPA Method 6860.

Laboratory analytical results are discussed in Section 4.3.2.1 below.

#### **4.3.2.1 Analytical Results**

Laboratory analytical results for surface soil samples are generally summarized as follows:

- Various PAHs including benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, and chrysene were detected in soil sample ESS-28 above RDECs.
- Leachable lead was not detected in soil samples ESS-27 or ESS-28 above the laboratory RL or GALC, respectively.
- Antimony and thallium were not detected in soil samples ESS-27 or ESS-28; however, the laboratory RLs were 20 times (20X) greater than the respective GALCs. Due to the limited detection of these metals in historic soil samples and no detection in the foregoing soil samples collected by ESS, no further evaluation of SPLP analysis was performed.
- Perchlorate was not detected in soil samples FW-1 through FW-8 above the laboratory RL of 0.0005 milligrams per kilogram (mg/kg). RIDEM has not established soil cleanup standards for perchlorate; however, the Massachusetts Department of Environmental Protection (MassDEP) has established a soil cleanup concentration of 0.1 mg/kg under the Massachusetts Contingency Plan (MCP; 310 CMR 40.0000) for soil category S-1/GW-1 (the most stringent of soil cleanup categories under the MCP and comparable to RIDEM RDEC and GALC). For comparison purposes, the RL is below the S-1/GW-1 cleanup standard.

The soil analytical results for the former firework area (AOC-3) did not show perchlorate at concentrations of concern and therefore additional testing of soil for perchlorate was not warranted. The PAH detections in soil near the former railroad bridge abutments (AOC 2) was excepted and is consistent with other findings on the Site and suspected sources (fill material).

#### **4.3.3 Groundwater Sampling and Analysis (AOC 5)**

On January 15, 2016, ESS collected groundwater samples from two observation wells (designated as TH-4 and TH-7) installed by DiPrete Engineering (DiPrete) in the area of the proposed OWTS (AOC 5). The wells, utilized by DiPrete for evaluating seasonal groundwater elevations, were constructed of perforated, four-inch polyvinyl chloride (PVC) pipe. The depth to groundwater, as measured with an EIP, was recorded as being ~ 8.59 and 7.81 feet bgs. NAPL was not measured in the wells. The groundwater samples (designated as SSP-7 and SSP-8) were collected via a peristaltic pump and dedicated polyethylene and silicone tubing after purging approximately 5 gallons from each well and were submitted to Alpha for the following parameters:

- TPH by EPA Method 8015C(M).
- SVOCs by EPA Method 8270D.
- Total metals (i.e. arsenic, antimony, barium, beryllium, cadmium, chromium, copper, cyanide, lead, manganese, mercury, nickel, selenium, silver, thallium, vanadium and zinc) by EPA Methods 6020A, 9010C/9012B, and 7470A, respectively.
- Perchlorate by EPA Method 332.0.

Laboratory analytical results are discussed in Section 4.3.3.1 below.



#### **4.3.3.1 Analytical Results**

Laboratory analytical results for the groundwater samples are summarized as follows:

- Various metals were detected in groundwater samples SSP-7 and SSP-8 above laboratory RLs but at concentrations below the applicable GAGOs.
- TPH or SVOCs were not detected in the groundwater samples above the laboratory RLs.
- Perchlorate was detected in groundwater samples SSP-7 and SSP-8 at concentrations of 0.000455 and 0.000335 milligrams per liter (mg/L), respectively. RIDEM has not established groundwater cleanup standards for perchlorate; however. For comparison purposes, the detected perchlorate concentrations are below the MassDEP's GW-1 groundwater category (i.e., drinking water) of 2 micrograms per liter (ug/l); equivalent to 0.002 milligrams per liter (mg/l) for groundwater category GW-1.

The groundwater analytical results show that groundwater quality near the proposed OWTS area is not impacted with COCs.

#### **4.4 Initial SI Activities (Phase 1)**

Subsequent to filing and conditional approval of the SIWP, initial SI activities (Phase 1) were completed on the Site between September 7 and 8, 2016. The scope and findings of the initial SI activities presented below were also presented in a report (ESS, 2016) entitled "Initial Findings Site Investigations (Phase 1)".

These SI activities generally consisted of the advancement of fifteen soil borings, installation of three monitoring wells and collection of various soil samples for laboratory analysis. New England Geotech (NEG) of Jamestown, Rhode Island utilized a truck-mounted Geoprobe™ ("direct-push" methodology) to advance the soil borings and install the monitoring wells. Soils from the soil borings were collected in dedicated acetate liners advanced at contiguous five-foot intervals, as applicable.

ESS scientists were on-Site during the SI activities to provide direction on and document the investigation methods, locations, and extents, screen soils from the liners for the presence of volatile organic vapors with a PID, and collect representative soil samples for laboratory analysis. General descriptions of subsurface features (e.g., soil lithology, depth to groundwater, etc.) and conditions (e.g., PID screening results) encountered during the SI activities including well construction details are provided in the following sections; however, for further details refer to the Boring and Well Construction Logs.

#### **4.4.1 Soil Borings**

##### **4.4.1.1 Pervious Pavement/Sub-Drain Area (AOC 4)**

A total of nine soil borings (designated ESS-30, ESS-31, ESS-32, ESS-33, ESS-34, ESS-35, ESS-36, ESS-37, and ESS-38) were advanced generally around AOC 4 for the purpose of characterizing shallow soils that may require potential off-Site disposal during the Site redevelopment and deeper soils from areas where future stormwater infiltration may occur. The soil borings were advanced to refusal or a maximum depth of 15 feet bgs.

Subsurface soils encountered in the soil borings generally consisted of fine to coarse loamy sands and contained varying amounts of ash. Bedrock was not encountered. Groundwater was encountered at depths ranging from ~5.5 to 13 feet bgs. PID soil screening results ranged from non-detect (i.e., 0.0 ppmV) to 0.10 ppmV.



Three soil samples, consisting of soil from ground surface to ~3 feet bgs and composited from each of three soil borings, were collected for laboratory analysis and included:

- COMP-1 – consisted of soil from soil borings ESS-30, ESS-31 and ESS-32.
- COMP-2 – consisted of soil from soil borings ESS-33, ESS-34 and ESS-35.
- COMP-3 – consisted of soil from soil borings ESS-36, ESS-37 and ESS-38.

The composite soil samples, in addition to discrete soil samples collected from ~3 to 8 feet bgs from each soil boring, were submitted to ESS Laboratory<sup>5</sup> (ESS Laboratory) of Cranston, Rhode Island for the following parameters:

- VOCs by EPA Method 5035/8260B
- TPH by EPA Method 8100M.
- SVOCs by EPA Method 8270D.
- PCBs (with Soxhlet Extraction) by EPA Method 8082A.
- Pesticides (chlordane and dieldrin only) by EPA Method 8081B.
- Total metals [i.e. antimony, arsenic, barium, beryllium, cadmium, chromium (trivalent and hexavalent), copper, cyanide, lead, manganese, mercury, nickel, selenium, silver, thallium, vanadium and zinc] by EPA Methods 6010C, 6020A, 9010C/9012B, and 7471B, respectively.
- SPLP by EPA Method 1312 (conditional for metals pending total concentrations).

Laboratory analytical results are discussed below.

### Soil Analytical Results

Laboratory analytical results for the soil samples are as follows:

- Soil sample COMP-1 contained the following SVOCs above the respective RDECs: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene.
- Soil sample COMP-1 contained SPLP lead above the respective GALC.
- Soil sample COMP-2 contained the following SVOCs above the respective RDECs: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene and dibenzo(a,h)anthracene.
- Soil sample ESS-31 (3-8') contained SPLP lead above the respective GALC.
- TPH, PCB Aroclor 1254, metals and VOCs, pesticides, and other SVOCs were detected in certain soil samples but at concentrations below applicable RDECs and GALCs.

The type and concentrations of PAHs detected during this soil boring program were relatively consistent with previous soil sampling events (JWC, 2006 and ESS, 2016). However, the detection

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<sup>5</sup> ESS Laboratory is a division of Thielsch Engineering, Inc. and is not affiliated with ESS Group, Inc. (ESS).

of SPLP lead was a new finding and indicated that further assessment was warranted to characterize and delineate the extent of SPLP lead in certain areas where for pervious pavement installation is proposed (refer to Figures 2 through 5 for the extent of proposed pervious pavement).

#### 4.4.1.2 OWTS (AOC 5)

A total of four soil borings (designated ESS-41, ESS-43, ESS-44, and ESS-45) were advanced generally around AOC 5 for the purpose of characterizing shallow soils that may require potential off-Site disposal during Site redevelopment and deeper soils where leachate infiltration is proposed. The soil borings were advanced to refusal or a maximum depth of 10 feet bgs.

Subsurface soils encountered in the soil borings generally consisted of sandy loam to silty loam with varying amounts of ash and coal. Neither bedrock nor groundwater were encountered. PID soil screening results ranged from non-detect (i.e., 0.0 ppmV) to 0.10 ppmV.

One composite soil sample [designated as COMP-7 (0-2')] representative of soil from borings ESS-43, ESS-44 and ESS-45, and discrete soil samples collected from borings ESS-43, ESS-44 and ESS-45 (all from ~3 to 8 feet bgs) were submitted to the ESS Laboratory for the analysis listed in Section 4.3.1.1. Laboratory analytical results are discussed below.

#### Soil Analytical Results

Laboratory analytical results for the soil samples are summarized as follows:

- VOCs, SVOCs, TPH, PCBs, pesticides and metals were not detected above RDECs.

The laboratory results as described above indicated that no further assessment of AOC 5 was warranted.

#### 4.4.1.3 Former UST #2 (AOC 6)

Two soil borings (designated ESS-46 and ESS-47) were advanced in AOC 6 for the purpose of converting the soil borings to monitoring wells and evaluating groundwater conditions for VOCs. Boring ESS-46 was advanced in the general area of former monitoring well MW-5 and the former UST to a depth of approximately 10 feet bgs. Boring ESS-47 was advanced at a presumed hydraulically downgradient (easterly) direction from ESS-46 to a depth of approximately 15 feet bgs.

Subsurface soils encountered in soil boring ESS-46 generally consisted of sandy loam to silty loam with varying amounts of ash and brick. Subsurface soils encountered in the soil boring ESS-47 generally consisted of fine and coarse sand with gravel and varying amounts of ash and brick. Bedrock was not encountered. Groundwater was encountered between ~8 and 9.25 feet bgs. PID soil screening results from ESS-46 at ~4 and 7 feet bgs revealed volatile organic vapors at 24.9 and 37.5 ppmV, respectively. No volatile organic vapors were detected with the PID in soil screened from ESS-47.

One soil sample (designated ESS-46 and ESS-47) was collected from each boring at depths of ~8 and 8.5 feet bgs, respectively. The samples, the depths of which were based on PID screening results, were submitted to ESS Laboratory for analysis of VOCs. Laboratory analytical results are discussed in the following section.

After advancement, soil borings ESS-46 and ESS-47 were completed as two-inch diameter groundwater monitoring wells (designated MW-10 and MW-11, respectively). The monitoring wells were constructed with 10 feet of 0.010-inch slotted PVC piping installed to straddle the groundwater table (i.e., from total depth to approximately five to six feet bgs). A solid PVC riser installed above the slotted PVC to approximately 0.25 feet bgs. A sand pack was installed around and to approximately one foot above the slotted PVC and a one-foot bentonite seal was installed above the sand pack. Clean native fill or a sand pack was installed above the bentonite seal to approximately one-half foot below grade. The monitoring wells were completed with a metal road box installed flush with ground surface and secured with a concrete pad. Note that these two monitoring wells were not sampled as part of the initial SI activities (Phase 1) but were evaluated and/or sampled during the additional SI activities (Phase 2). Refer to Section 4.5.4.

### Soil Analytical Results

Laboratory analytical results for the soil samples are as follows:

- Four VOCs, two of which do not have promulgated RDECs and/or GALCs, were detected in soil sample ESS-46. The detected VOC concentrations were below the respective RDECs and GALC.
- No VOCs were detected in soil sample ESS-47.
- Except for EDB, laboratory RLs for all non-detect VOCs in soil samples ESS-46 and ESS-47 were below their respective RDECs and/or GALCs. EDB has not been historically identified at the Site at concentrations above laboratory RLs, RDECs or GALC and is not considered a COC.

The laboratory results as described above indicated that no further assessment of soil was warranted at AOC 6. However, based on the findings of the supplemental SI activities (refer to Sections 4.5 and 4.6 below), additional assessment was subsequently determined to be warranted at AOC 6.

#### 4.4.1.4 Fill Area (AOC 7)

One soil boring (designated ESS-49) was advanced in AOC 7 for the purpose of converting the soil boring to a monitoring well and subsequently evaluating the groundwater quality for various Hazardous Materials. The soil boring was advanced to 15 feet bgs in an area suspected of containing fill.

Subsurface soils encountered in boring ESS-49 generally consisted of loam and fine to coarse sand. The subsurface soils could not necessarily be described as fill and urban fill was not identified; however, urban fill materials and debris (e.g., metal, glass, etc.) were observed on the ground surface in AOC 7 (refer also to Section 4.5.2.3). Bedrock was not encountered. Groundwater was encountered at ~10 feet bgs. PID soil screening results revealed no detection of volatile organic vapors (i.e., 0.0 ppmV).

After advancement, soil boring ESS-49 was completed as a two-inch diameter groundwater monitoring well (designated MW-12). The well was constructed using the same techniques described in Section 4.4.1.3 above.

Neither a groundwater sample nor soil samples were collected from MW-12 or ESS-49, respectively, during this first phase (Phase 1) of the SI activities. However, during the second phase (Phase 2) of SI activities, soil samples were collected from test pits excavated in the general vicinity of ESS-49 and a groundwater sample was collected from MW-12 (refer to Sections 4.5.2.3 and 4.5.4, respectively).

#### **4.5 Additional SI Activities (Phase 2)**

Additional SI activities (Phase 2) were completed on the Site between March and April 2020 and intended for further characterization and delineation of COCs in soil and groundwater. The SI activities generally consisted of a ground penetrating radar (GPR) survey, excavation of test pits, installation of four monitoring wells and collection of various soil and groundwater samples for laboratory analysis. The scope and findings of the additional SI activities are presented below.

ESS scientists were on-Site during the additional SI activities to provide direction to subcontractors, document the investigation methods and locations, screen soils for the presence of volatile organic vapors with a PID, and collect representative soil and groundwater samples for laboratory analysis. General descriptions of subsurface conditions (e.g., soil lithology, depth to groundwater, PID screening results) encountered during the investigative program are provided in the following sections.

##### **4.5.1 GPR Survey**

On March 25, 2020, Ground Penetrating Radar Systems, Inc. (GPRS) of Boston, Massachusetts, as a subconsultant to ESS, completed a GPR survey around two sheds at the southwestern portion of the Site to potentially locate a 500-gallon gasoline UST suspected to have been abandoned (pre-1973) and formerly used for on-Site operations. The survey revealed several subsurface anomalies (i.e., unknown features) in a localized area north of the southern-most shed suggesting a UST may exist.

On April 1, 2020, an excavator was used to investigate the anomalies and a UST was identified in the subsurface. The UST was subsequently closed on July 1, 2020 under RIDEMs UST Management Program in accordance with Rules and Regulations for Underground Storage Facilities Used for Regulated Substances and Hazardous Materials (250-RICR-140-25-1; effective November 20, 2018) and associated UST Closure Assessment Guidelines (revised May 2019). Refer to Section 1.3 for further details regarding the UST Closure. The approximate location of the UST is depicted on Figure 2.

##### **4.5.2 Test Pitting**

A test pitting program was completed on April 1 and 2, 2020 that included the excavation of eighteen test pits and collection of soil samples for laboratory analysis. The test pits, excavated with a backhoe by Kenny Lavigne as a subconsultant to Paramount, were completed in areas or at depths generally consistent with the SIWP and supplemental to initial Phase 1 SI activities, or at areas that warranted further characterization of soil conditions and delineation of COCs previously identified. The test pitting program is described below.

###### **4.5.2.1 Pervious Pavement/Sub-Drain Area (AOC 4)**

A total of nine test pits (designated ESS-30A, ESS-31A, ESS-31B, ESS-31C, ESS-31D, ESS-32A, ESS-33A, ESS-34A, and ESS-35A) were excavated in AOC 4. Five of the test pits (ESS-30A, ESS-32A, ESS-33A, ESS-34A, and ESS-35A) were excavated to ~3 feet bgs at the proximal locations



to the soil borings that were completed during the initial SI activities (Phase 1, 2016) to evaluate shallow soil conditions. Four of the test pits (ESS-31A, ESS-31B, ESS-31C, and ESS-31D) were excavated to the groundwater table and approximately 20 feet to the north, east, south and west, respectively, of former soil boring ESS-31 to delineate the horizontal and vertical extent of SPLP lead detected above GALC in soil samples ESS-31 (3 – 8') and COMP-1 (0 – 3').

Subsurface soil encountered in the test pits consisted mainly of fine to medium sands and also contained varying amounts of miscellaneous debris including metal ore, woody debris, and coal. Bedrock was not encountered. Groundwater was encountered in test pits ESS-31A, ESS-31B, ESS-31C, ESS-31D at depths ranging from 4.25 to 4.75 feet bgs. PID soil screening results revealed no detection of volatile organic vapors (i.e., 0.0 ppmV). Soil samples were collected from ground surface to ~3 feet bgs for laboratory analysis from each test pit. One additional sample was collected from each of test pits ESS-31A, ESS-31B, ESS-31C, and ESS-31D from ~3 feet bgs to the encountered groundwater table. All soil samples collected for laboratory analysis with the exception of ESS-30A (0-3')<sup>6</sup> were submitted to ConTest Analytical Laboratory Inc. (ConTest) of East Longmeadow, Massachusetts for the following parameters:

- SVOCs (PAHs only) by EPA Method 8270.
- Arsenic and lead by EPA Method 6010D.
- SPLP by EPA Method 1312 (conditional for arsenic and lead pending total concentrations)

Laboratory analytical results are discussed below.

### **Soil Analytical Results**

Laboratory analytical results for the soil samples are summarized as follows:

- Soil sample ESS-31A (0-3') contained the following constituents above the respective RDECs: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, indeno(1,2,3-cd)pyrene and arsenic.
- Soil sample ESS-31B (0-3') contained the following constituents above the respective RDECs: chrysene and arsenic.
- Soil sample ESS-31B (3-4.5') contained arsenic above the respective RDEC.
- Soil sample ESS-31C (0-3') contained the following constituents above the respective RDECs: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, dibenzo(a,h)anthracene, indeno(1,2,3-cd)pyrene and arsenic.
- Soil sample ESS-31D (0-3') contained the following constituents above the respective RDECs: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, indeno(1,2,3-cd)pyrene and lead. This soil sample also contained SPLP lead above the respective GALC.

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<sup>6</sup> ESS-30A (0-3') was submitted to ConTest for analysis of PAHs only.

- Soil sample ESS-32A (0-3') contained the following constituents above the respective RDECs: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene and indeno(1,2,3-cd)pyrene.
- Soil sample ESS-33A (0-3') contained the following constituents above the respective RDECs: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene and chrysene.
- Soil sample ESS-34A (0-3') contained the following constituents above the respective RDECs: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene and indeno(1,2,3-cd)pyrene. Dibenz(a,h)anthracene was not detected above the RDEC; however, the laboratory RL was above the RDEC at 0.93 mg/kg.
- Soil sample ESS-35A (0-3') contained the following constituents above the respective RDECs: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene and chrysene.
- Arsenic, lead, and other PAHs were detected in most of the samples collected from AOC 4 but were below the respective RDECs and/or GALCs.

The type and concentrations of PAHs and metals detected during this test pitting program were relatively consistent with the previous soil sampling events (JWC, 2006 and ESS, 2016). The detection of SPLP lead in soil sample ESS-31D (0-3') indicates that future remedial efforts, coupled with subsequent confirmatory soil sampling (if necessary) is warranted in this immediate area.

#### **4.5.2.2 OWTC (AOC 5)**

A total of four test pits (designated ESS-57A through ESS-57D) were excavated generally north, east, south, and west, respectively, of former test pit ESSTP-22 to delineate the horizontal and vertical extent of chlordane in soil above the RDEC. The test pits were excavated to depths ranging from ~8 to 9 feet bgs, which is the depth of the encountered groundwater table.

Subsurface soils encountered in the test pits consisted predominantly of fine to medium sands, some fine to coarse gravel, cobbles, and boulders and little silt. Bedrock was not encountered. PID soil screening results revealed no detection of volatile organic vapors (i.e., 0.0 ppmV). Three soil samples were collected from each test pit at depths ranging from ~0 to 3 feet bgs, ~3 to 5 feet bgs, and ~5 feet to 8+ feet bgs and submitted to ConTest for analysis of pesticides (chlordane only).

Laboratory analytical results for soil are discussed below.

#### **Soil Analytical Results**

Laboratory analytical results for soil samples collected from ESS-57A through ESS-57D revealed no detection of chlordane above the laboratory RL. Further, the RL was below the RDEC. These results indicate that: (i) the horizontal extent of chlordane was delineated and is limited to an isolated area between the test pits; and (ii) limited remedial efforts, likely including excavation for off-Site disposal and subsequent confirmatory soil sampling, are warranted to address limited chlordane-impacted soil/fill.



#### **4.5.2.3 Fill Area (AOC 7)**

Three test pits (designated ESS-48, ESS-50, and ESS-60) were excavated to generally characterize fill in AOC 7. The test pits were excavated to depths ranging from ~9.5 to 10.5 feet bgs, which is the depth of the encountered groundwater table.

Subsurface soils encountered in the test pits consisted predominantly of fine to medium sands, little coarse sand and fine to coarse gravel, and trace silt and cobbles. Miscellaneous debris including metal, glass, and asphalt was imminently observed to ~0.50 feet bgs. Bedrock was not encountered. PID soil screening results revealed no detection of volatile organic vapors (i.e., 0.0 ppmV). Multiple soil samples were submitted to ConTest from each test pit. ESS requested analysis of only soil samples submitted from ground surface to ~4 feet bgs for various parameters (listed in Section 4.5.2.1) and to hold the remaining deeper samples pending analytical results. As such, based on a detection of certain PAHs in soil sample ESS-58 (0-4') above RDECs, ESS subsequently requested analysis of ESS-50 (4-8') for SVOCs (PAHs only) by EPA Method 8270. Laboratory analytical results for soil are discussed below

#### **Soil Analytical Results**

Laboratory analytical results for the soil samples are as follows:

- Soil sample ESS-50 (0-4') contained the following constituents above the respective RDECs: benzo(a)pyrene and chrysene.
- Lead and other PAHs were detected in most of the samples collected from AOC 7 but were below the respective RDECs and/or GALCs.

The type and concentrations of PAHs and lead detected during this test pitting program were relatively consistent with previous sampling events (JWC, 2006 and ESS, 2016). The detection of PAHs and lead above RDECs indicates that practical remedial efforts coupled with subsequent confirmatory soil sampling (if necessary) is warranted.

#### **4.5.2.4 West of Building 2 (AOC 8)**

Two test pits (designated ESS-58 through ESS-59) were excavated for the purpose of characterizing soil/fill in AOC 8. The test pits were excavated to depths of ~10.5 and 8 feet, respectively, which is the depth of the encountered groundwater table.

Subsurface soils encountered in test pit ESS-58 primarily consisted of fine and medium sand with trace coarse sand, fine and coarse gravel, and cobbles. Subsurface soils in test pit ESS-59 primarily consisted of medium to coarse sand with some fine and coarse gravel, little fine sand and cobbles, and trace boulders. Bedrock was not encountered. PID soil screening results revealed no detection of volatile organic vapors (i.e., 0.0 ppmV). Two soil samples were submitted to ConTest from each test pit. ESS requested analysis of only soil samples submitted from ground surface to ~3 feet bgs for various parameters (listed in Section 4.5.2.1) and to hold the remaining deeper samples pending analytical results. As such, based on a detection of arsenic in soil sample ESS-58 (0-3') above the RDEC, ESS subsequently requested analysis of ESS-58 (-7.5') for arsenic by EPA Method 6010D. Laboratory analytical results for soil are discussed below.



### Soil Analytical Results

Laboratory analytical results for the soil samples are as follows:

- Soil sample ESS-58 (0-3') contained arsenic above the respective RDEC.
- Lead and certain PAHs were detected in most of the samples collected from AOC 7 but were below the respective RDECs and/or GALCs. Further, if arsenic and PAHs were not detected above the laboratory RL, the RL was below the respective RDECs and/or GALCs.

The type and concentrations of PAHs and metals detected during the test pitting program were relatively consistent with previous sampling events (JWC, 2006 and ESS, 2016). Additionally, arsenic at AOC 8 and other on-Site areas can be considered 'background' (refer to Section 5.2). The analytical results and regulatory provisions suggest that no remedial actions or further assessment is warranted in AOC 8.

#### 4.5.3 Groundwater Monitoring Wells

On April 8, 2020, Geosearch, Inc. (Geosearch) of Sterling, Massachusetts, as a subcontractor to ESS, utilized a truck-mounted hollow-stem auger (HSA) with air-rotary capabilities to install four two-inch monitoring wells (designated MW-7, MW-8, MW-9, and MW-13). The wells were intended for use in evaluating groundwater conditions (e.g., presence or absence of NAPL, depth to NAPL and/or groundwater, and groundwater quality). Three of the monitoring wells (MW-7, MW-8, and MW-9) were completed at depths ranging from ~13 to 15 feet bgs, distributed in and around AOC 4 (Pervious Pavement/Subdrain Areas) and supplemental to existing monitoring wells. One well (MW-13), completed at ~17 feet bgs, was installed in AOC 5 (OWTS) generally central to the proposed leach field. The four newly installed monitoring wells were installed using the same techniques described in Section 4.4.1.3.

#### 4.5.4 Well Development and Groundwater Sampling and Analysis

On April 13, 2020, following depth to groundwater measurements (refer to Section 3.11), ESS developed groundwater from all existing monitoring wells (i.e., MW-7, MW-8, MW-9, MW-11, MW-12, and MW-13), with the exception of MW-10<sup>7</sup>, with the purpose of removing fine-grained sediment suspended in the water column, reducing the amount of fine-grained material from entering the wells from the surrounding aquifer, and generally to enhance the hydraulic connection between the well screens and the surrounding aquifer. The well development process, which included purging the groundwater at approximately 3 to 5 times the initial well volume, was completed using a whale pump and dedicated polyethylene and silicone tubing. Applicable data (e.g., predevelopment gauging data, time of development, groundwater volume purged, etc.) was recorded on Groundwater Monitoring Well Development Forms.

On April 16 and 17, 2020, following depth to groundwater measurements (refer to Section 3.11), ESS used a peristaltic pump and dedicated polyethylene and rubber tubing to collect groundwater samples from the existing monitoring wells, with the exception of MW-10, in general accordance with the USEPA low-flow Standard Operating Procedure (SOP)<sup>8</sup>. Pertinent data including, but not limited to, field

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<sup>7</sup> MW-10 was not developed due to a detection of NAPL (refer to Section 3.11.2).

<sup>8</sup> Low Stress (low flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells [US EPA, Region 1; EQASOP-GW4 (Revised September 19, 2017)].



parameters (i.e., turbidity, temperature, specific conductance, pH, oxidation reduction potential, and dissolved oxygen), groundwater purge volumes, and depth to groundwater measurements were recorded on Low Flow Groundwater Monitoring Well Sampling Forms. The groundwater samples were labeled to correspond with the wells sampled and submitted to ConTest for laboratory analysis as follows:

- VOCs by EPA Method 8260C-D (all samples).
- Arsenic and lead by EPA Method 6020B (all samples).
- SVOCs (PAHs only) by EPA Method 8270D-E (MW-8, MW-9, and MW-12 only).
- Pesticides (Chlordane only) by EPA Method 8081B (MW-13 only).

Laboratory analytical results are discussed in Section 4.5.4.1 below.

Purged groundwater [i.e., investigative derived waste (IDW)] from the development of monitoring wells was uniformly discharged directly adjacent to the respective wells, observed to infiltrate into the ground surface, and did not result in increased migration of contaminants from the Site nor impact a surface water body, wetland, or neighboring property. As a conservative measure, IDW generated from the sampling of Site monitoring wells was securely stored on-Site in Department of Transportation (DOT)-approved 55-gallon drums pending transportation off-Site for disposal. In general, the handling of liquid IDW was performed in general accordance with RIDEM Policy Memo 95-01 (Guidelines for the Management of Investigation Derived Wastes). Refer to Section 4.8 for additional details pertaining to disposal of IDW.

#### **4.5.4.1 Groundwater Analytical Results**

Laboratory analytical results for the soil samples are as follows:

- Certain VOCs were detected in samples MW-8 and MW-11 and lead was detected in sample MW-9 but at concentrations below the GAGOs.
- Other VOCs, arsenic, SVOCs and pesticides were not detected in the groundwater samples above the laboratory RLs. Further, except for the RLs for 1,2-dibromo-3-chloropropane and EDB, the RLs were below the GAGOs. 1,2-dibromo-3-chloropropane and EDB have not been historically detected at the Site at concentrations above laboratory RLs or GAGOs and are not considered COCs.

The laboratory analytical results indicated that no further assessment of groundwater in AOC 4, 5, or 7 is warranted. As discussed in Section 4.6 below, further assessment of NAPL impacts to soil and groundwater was warranted around monitoring well MW-10 (AOC 6 – former No. 6 fuel oil UST area).

#### **4.6 Supplemental SI Activities (Phase 3)**

The supplemental SI activities (Phase 3) were completed on the Site in June 2020 and focused on delineating the extent of NAPL in the subsurface at AOC 6 (former No. 6 fuel oil UST area). This program consisted of the advancement of five soil borings, installation of four monitoring wells, and collection of soil and groundwater samples for laboratory analysis.



ESS scientists were on-Site during these SI activities and completed the same actions as specified in Section 4.5.

#### **4.6.1 Soil Borings and Monitoring Wells**

The soil boring and monitoring well program was designed for the purpose of delineating the extent of NAPL (No. 6 fuel oil) in AOC 6. Initially, a track-mounted Geoprobe™ (“direct-push” methodology) was used for the program but due to physical obstructions encountered, a HSA with air-rotary capabilities was subsequently used to complete the program. A summary of the program is provided below.

##### **4.6.1.1 Direct-Push Technology**

On June 3, 2020, NEGTEC, as a subcontractor to ESS, utilized a track-mounted Geoprobe™ (“direct-push” technology) to advance five soil borings (designated ESS-61, ESS-62, ESS-63, and ESS-65) generally east, south, north (adjacent to the south side of Building 7), and west of MW-10, respectively. Soil borings ESS-61, ESS-62, and ESS-63 were advanced to refusal, assumed to be large boulders, encounter between ~6 to 15 feet bgs. Soil boring ESS-65 was advanced to ~20 feet bgs. Soils from the soil borings were collected in dedicated acetate liners advanced at contiguous five-foot intervals. Refer to Section 4.6.2 for soil lithology descriptions, PID soil screening results, and soil sampling and analysis.

Soil boring ESS-65 was converted to a two-inch monitoring well completed to ~20 feet bgs, approximately 7 feet below the encountered groundwater table. The well was installed using the same techniques described in Section 4.4.1.3. Drilling equipment refusals, prior to reaching the groundwater table, in borings ESS-61 and ESS-62 prevented installation of monitoring wells. In addition, ESS elected not to install a monitoring well at ESS-63 due to the detection of NAPL<sup>9</sup>.

##### **4.6.1.2 HSA and Air-Rotary**

On June 23, 2020, SoilX, Corp. (SoilX) of Leominster, Massachusetts, as a subcontractor to Paramount, utilized a truck-mounted HSA rig with air-rotary hammer capabilities to advance one soil boring (designated ESS-64A) and install three two-inch monitoring wells (designated MW-15 through MW-17). Boring ESS-64A was advanced generally east of the northwest corner of Building 7 to a depth of ~20 feet bgs. Soil was collected from the soil boring via stainless steel split spoons advanced at 2-foot increments (refer to Section 4.6.2 for soil lithology descriptions, PID soil screening results, and soil sampling and analysis). Soil boring ESS-64A was converted to a monitoring well (designated as MW-17). In addition, monitoring wells (designated MW-15 and MW-16) were installed at the locations of former borings ESS-62 and ESS-61, respectively, and completed at depths of ~19 feet bgs. The wells were installed using the same techniques described in Section 4.4.1.3.

#### **4.6.2 Soil Screening, Sampling and Analysis**

Subsurface soils retrieved from liners and split spoons primarily consisted of fine sand with varying amount of medium and coarse sand, fine and coarse gravel, and silt. PID soil screening results ranged from no detection to 0.2 ppmV in soils collected from ESS-61, ESS-62, ESS-64A, and ESS-65. PID soil

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<sup>9</sup> The identification of NAPL in MW-10 indicates that remedial actions (likely, excavation, dewatering and off-Site disposal) would be required. ESS-63 is less than 20 feet from MW-10 and the presence of NAPL indicates that any remedial actions would include the area surrounding ESS-63.



screening results ranged from 16.0 to 70.4 ppmV in soils collected at ~3 to 5 feet bgs and ~6 to 7 feet bgs, respectively from boring ESS-63. It should be noted that NAPL was observed in soil at depths ranging from 5 to 15 feet bgs in soil boring ESS-63.

A representative soil sample was collected from borings ESS-61, ESS-62 and ESS-65 for laboratory analysis. A soil sample was not selected from ESS-63 for laboratory analysis as the results would only confirm what was expected by the identification of NAPL, that contamination exists above applicable RIDEM Criteria. In addition, a soil sample was not selected from ESS-64A for laboratory analysis because volatile organic vapors were not detected in soil screened from the vadose zone and a deeper soil sample could not be collected due to refusal encountered (~7 feet bgs). The soil samples collected from soil borings ESS-61, ESS-62 and ESS-65 were submitted to ConTest for VOCs and TPH analyses. Laboratory analytical results for soil are discussed below.

#### **4.6.2.1 Soil Analytical Results**

Laboratory analytical results for the soil samples are as follows:

- TPH was detected in soil samples ESS-62 and ESS-65 at concentrations below the RDEC and GALC.
- TPH was not detected in ESS-61 and VOCs were not detected in soil samples ESS-61, ESS-62 or ESS-65 above the laboratory RLs. Except for the RL for EDB, RLs for TPH and VOCs were below RDECs and GALCs. EDB has not been historically identified at the Site at concentrations above laboratory RLs, RDEC, or GALC and is not considered a COC.

The laboratory analytical results, field screening and observations indicate that No. 6 fuel oil impacts (i.e., NAPL and dissolved phase) to soil are limited to an area immediately south of Building 7 in the generally area of the former UST. The completed SI investigations have delineated to the extent practical the No. 6 fuel oil impacts to soil.

#### **4.6.3 Well Development and Groundwater Sampling and Analysis**

On June 24, 2020, following depth to NAPL and groundwater measurements (refer to Section 3.11), ESS developed the groundwater from the newly installed monitoring wells. The well development process was completed using the same methodologies as described in Section 4.5.4.

On June 30, 2020, after depth to NAPL and groundwater measurements (refer to Section 3.11), ESS collected groundwater samples from the newly installed monitoring well, with the exception of MW-10 due to the presence of NAPL, using the same methodologies described in Section 4.5.4. The samples were submitted to ConTest for analysis of VOCs by EPA Method 8260. Laboratory analytical results are discussed in Section 4.6.3.1 below.

Purged groundwater from the development and sampling activities was transferred into DOT-approved 55-gallon drums pending transportation off-Site for disposal. Refer to Section 4.8 for additional details pertaining to disposal of IDW.

#### **4.6.3.1 Groundwater Analytical Results**

Laboratory analytical results for groundwater revealed no detection of VOCs above the laboratory RL. Except for the RL for EDB, RLs for VOCs were below GAGOs. EDB has not been historically



identified at the Site at concentrations above laboratory RLs or GAGOs and is not considered a COC.

The laboratory analytical results indicate that No. 6 fuel oil impacts (i.e., NAPL and dissolved phase) to groundwater are limited to an area south of Building 7 in the generally area of the former UST. The completed SI investigations have delineated to the extent practical the No. 6 fuel oil impacts to groundwater.

#### **4.7 Quality Assurance/Quality Control [§ 1.8.3(A)(22)]**

A review of data quality and data usability was performed for all of the data collected by ESS as part of this SI. This data review included a completeness check of field documentation including sample collection and preservation methods, a completeness check of laboratory data and documentation, a review of the internal laboratory QA/QC procedures and results including surrogate recoveries, blank results, laboratory control standard (LCS) results, and reporting limits, as well as an evaluation of sample holding times.

The laboratory reports for soil and groundwater, as included in Appendix X herein, document laboratory QA/QC issues, if any, associated with certain laboratory analysis. The following provides a summary of the identified issues:

- Blank Spike recovery was reported above and below upper control limits on several samples.
- The relative percent difference (RPD) for duplicates were outside of criteria for a few samples.
- Calibration required a quadratic regression for a few samples.
- The laboratory fortified blank duplicate RPD was outside of the control limit for several samples.
- A Laboratory Control Sample/ Laboratory Control Sample Duplicate (LCS/LCSD) was performed in lieu of a Laboratory Duplicate due to insufficient sample volume available for analysis.
- LCS recovery was below in-house acceptance criteria, but within the vendor-certified acceptance limits for several samples.
- LCS/LCSD recoveries were below acceptance criteria and were identified as “difficult” analytes for a few samples.
- There was an elevated reporting limit due to matrix interference for several samples.
- The reported results were estimated for a few compounds.
- Continuing calibration verification (CCV) did not meet method specifications and was either biased on the high or low side for specific compounds in several samples.
- Laboratory fortified blank/laboratory control sample recovery and duplicate recovery were outside of control limits for several samples.
- Initial calibration verification (ICV) did not meet method specifications and was biased on the low side for a specific compound in several samples. The reported results were estimated.
- Initial calibration did not meet method specifications for a few samples. Compounds were calibrated using a response factor where relative percent differences (RPDs) is outside of method specified criteria. The reported results were estimated.



Detailed QA/QC reporting is included with each laboratory report. Laboratory QA/QC issues identified do not significantly affect data usability. With respect to field QA/QC, soil and groundwater samples were collected using ESS' SOPs, which comply with EPA and/or RIDEM requirements. Once collected, the samples were placed in clean preserved and/or non-preserved glassware, labeled in the field, stored on ice, and managed under standard chain-of-custody protocol.

Based on a review of the analytical results, the data quality/data usability assessment indicates that soil and groundwater data are of sufficient quantity and quality for use in rendering an opinion of soil and groundwater conditions at the Site. No data was rejected, and completeness was achieved. Finally, the sample results are representative of Site conditions.

#### **4.8 IDW Management [§ 1.8.3(A)(21)]**

Liquid IDW generated from well sampling on April 16 and 17, 2020, well development on June 23, 2020, and well sampling on June 30, 2020 was stored on-Site in DOT-approved 55-gallon drums. On July 1, 2020, the drums were purged of the IDW (approximately 90 gallons) via a vacuum truck operated by NRC East Environmental Services (NRC) of Newburyport, Massachusetts. IDW generated from the recent UST Closure (refer to Section 1.3) and also managed with the above-listed liquids and subsequently transported by NRC under a Non-Hazardous Waste Manifest (Manifest) to their Newburyport, Massachusetts facility for recycling and/or disposal. A copy of the Manifest used to document the collection, transport, and disposal of the liquid IDW is included in Appendix J.

### **5.0 NATURE AND EXTENT OF CONTAMINATION**

#### **5.1 Reportable Concentrations and Conditions**

For the SI activities completed on the Site, ESS has identified the reportable concentrations listed below (sorted by constituent). The reportable concentrations for those constituents (Hazardous Substances) detected above applicable RIDEM RDECs, GALCs, and/or GAGOs and are considered the COCs for the Site. The exception is arsenic (refer to Section 5.2). Note that no COCs were detected above RIDEM Upper Concentration Limit (UCLs) of 10,000 mg/kg.

#### **SVOCs**

- 20 soil samples contained benzo(a)anthracene at concentrations above the RIDEM RDEC (0.90 mg/kg).
- 26 soil samples contained benzo(a)pyrene at concentrations above the RIDEM RDEC (0.40 mg/kg).
- 21 soil samples contained benzo(b)fluoranthene at concentrations above the RIDEM RDEC (0.90 mg/kg).
- 15 soil samples contained benzo(g,h,i)perylene at concentrations above the RIDEM RDEC (0.80 mg/kg).
- 15 soil samples contained benzo(k)fluoranthene at concentrations above the RIDEM RDEC (0.90 mg/kg).
- 28 soil samples contained chrysene at concentrations above the RIDEM RDEC (0.40 mg/kg).
- 9 soil samples contained dibenzo(a,h)anthracene at concentrations above the RIDEM RDEC (0.40 mg/kg).





- 13 soil samples contained indeno(1,2,3-cd)pyrene at concentrations above the RIDEM RDEC (0.90 mg/kg).
- One soil sample contained pyrene at a concentration above the RIDEM RDEC (13 mg/kg).

Note - SVOCs were not detected in groundwater samples above applicable RIDEM GAGOs.

#### Metals

- 11 soil samples contained arsenic above the RIDEM GALC (7 mg/kg).
- 8 soil samples contained lead above the RIDEM RDEC (150 mg/kg).
- 3 soil samples contained SPLP lead above the RIDEM GALC (0.04 mg/L).

Note – Total metals were detected in groundwater samples above applicable RIDEM GAGOs.

#### Organochlorine Pesticides

- One soil sample contained chlordane above the RIDEM RDEC (0.50 mg/kg).

Note – Chlordane (a pesticide) was not detected in the groundwater sample above RIDEM GAGOs.

#### LNAPL

- NAPL was measured (undetermined thickness) in one monitoring well (MW-10).

No VOCs or TPH were detected in soil or groundwater sample above applicable RIDEM Criteria or Objectives. However, due to the presence of NAPL and volatile organic vapors in isolated unsaturated zones, petroleum-based VOCs are expected in limited soil areas (AOC 6).

### **5.2 Determination of Background Concentrations of Hazardous Substances [§ 1.8.3(A)(16)]**

With the exception of arsenic, a focused assessment to determine background concentrations of Hazardous Substances identified at the Site above RDECs and/or GALCs was not required because the COCs are present at concentrations requiring some level of remedial actions.

In accordance with §1.13 of 250-RICR-140-30-1, an assessment was completed to evaluate the background concentration of arsenic at the Site and determine compliance with the 7 mg/kg DEC. Based on §1.13, the assessment is summarized as follows:

- Sampling frequency [§1.13.2 (B)]: The Site is estimated at 28.9 acres. A total of 68 soil samples have been collected from the Site (2006 through 2020) at various depths within the AOCs. The distribution of samples is considered adequate for properly characterizing the Site, the Release, and the AOCs. Refer to Section 4.0 for soil sample collection rationale.
- Greatest detection of arsenic from any individual sample [§1.13.3(A)(1)]: 13.5 mg/kg.
- Percent (%) of Sample Results Exceeding 7 mg/kg [§1.13.3(A)(2)]: 16%.
- Average of all soil samples<sup>10</sup>: 3.82 mg/kg.

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<sup>10</sup> In accordance with §1.13.3(B) of Part 1 of 250-RICR-140-30-1, ESS used half of the laboratory RL for analytical results in which a concentration was not detected for calculating the average concentration of arsenic in soil samples..

The background assessment for arsenic shows compliance with the Criteria presented in §1.13 and listed above. Therefore, ESS concludes that arsenic in soil at the Site is consistent with state background levels and hence, non-jurisdictional. Refer to Table 7 for a summary of soil samples collected from the Site for arsenic, analytical results associated with the soil samples, and the procedures for evaluating data collected in accordance with § 1.13.2(A) and (B).

### **5.3 Concentration Gradients [§ 1.8.3(A)(12)]**

The horizontal and vertical extent of the COCs in soil have been delineated to the extent practical for the Site. The concentrations of PAHs and lead in soil above RDECs are relatively uniform within the shallow fill areas in the ~0 to 3-foot depth range. Deeper soil samples within the fill (generally 3+ feet bgs) have not shown lead or PAHs above the RDEC. SPLP results for lead showed similar results to the total metals analysis, meaning that SPLC lead exceedances of the GALCs were relatively consistent in concentrations and primarily isolated to the upper ~0 to 3-foot depth range in the fill. Chlordane at sample location ESSTP-22 is similar in that it was detected at one location (3-5 feet bgs) and not at adjoining shallow soil and/or within deeper soil samples. Overall, the COCs associated with fill/urban fill (lead and PAHs) typically do not form concentration gradients in soil. No COCs in soil exceeded the UCL of 10,000 mg/kg.

NAPL has been detected at one location (MW-10) near the former No.6 fuel oil UST (AOC 6) and not in other monitoring wells proximal (within ~30 to 40 feet) of this well. Based on PID soil screening results and depth to groundwater and NAPL measurements, the NAPL and petroleum impacts appear isolated in the ~4 to 10-foot depth range around well MW-10 and boring ESS-63 (~10 feet away from MW-10). Groundwater analytical results and PID soil screening results show no VOC detections or NAPL outside of the MW-10 and ESS-46 area. NAPL impacts in AOC 6 have been delineate to the extent practical. Pursuant to §1.9.7(B)(1), the presence of NAPL in any environmental medium (in this case groundwater) is considered a condition that exceeds the UCL. Analytical results for groundwater samples collected in other AOCs at the Site revealed no Hazardous Substances above GAGOs and, further, revealed no indication of concentration gradients.

### **5.4 Impacts to Adjacent Properties [§ 1.8.3(A)(9)(e)]**

#### **5.4.1 Lead, PAHs and Arsenic**

Lead and PAHs were intermittently detected in Site soils/fill above applicable RDECs and/or GALCs however, they were not detected in groundwater above GAGOs. Lead and PAH impacts to soil/fill are likely related to random historic filling activities and coal usage and storage. The observed fill contents are relatively consistent with fill commonly present at other industrial and commercial areas throughout the State of Rhode Island. Lead and PAHs in Site soil/fill are not expected to pose a threat to adjacent properties based on the following: (i) they are primarily related to on-Site operations and filling; (ii) they were not detected in groundwater above GAGOs; (iii) they were detected adjacent to directly abutting properties; and (iv) the Site is primarily covered by pavement, buildings, and significant vegetation.

Arsenic in soil/fill at the Site was determined by ESS to be consistent with background, compliant with the 7 mg/kg DEC and, therefore, non-jurisdictional (refer to Section 5.2). Arsenic was not detected in groundwater at the Site above the GAGO. Based on the foregoing, arsenic in Site soils should not impact adjacent properties.



#### **5.4.1.1 Property Surrounded by Site**

One parcel of land identified by the Town of Scituate Assessing Department as Lot 107 on Plat Map 5 and currently owned by Mr. Nicholas Izzi was formerly part of and is currently surrounded by the Site (refer to Figures 2 through 5). Given that the parcel was formerly part of the Site, it is expected that soil/fill on this parcel contains similar concentrations of lead, PAHs, and arsenic. Based on the foregoing and that the parcel is generally free of vegetative or asphalt cover, it is unlikely that lead and PAHs would contribute to soil impacts in the parcel.

#### **5.4.2 NAPL**

As discussed in Section 5.3, NAPL was detected on groundwater in monitoring well MW-10 which is located immediately south of Building 7. Benzene was also historically detected in groundwater above the GAGO in a former monitoring well (MW-5) located in the vicinity of existing well MW-10. Other monitoring wells generally surrounding existing well MW-10 have no NAPL detections and no Hazardous Substances above GAGOs. Therefore, the SI activities have delineated the extent of NAPL is the subsurface at AOC 6 and have shown that adjacent properties are not impacted.

#### **5.4.3 Other Minerals, Compounds, and Constituents**

Certain other minerals, compounds, and constituents, other than those described above, were detected in soil and/or groundwater samples collected from the Site but at concentrations below applicable RDECs, GALCs, and GAGOs. As such, by definition the detections are below risks to receptors and, therefore, do not warrant further assessment of the Site, assessment of adjacent properties or remedial actions.

### **5.5 Determination of Downgradient Receptor Status of Groundwater Impacts [§ 1.8.3(A)(13)]**

As described herein, LNAPL and potential VOC impacts to groundwater were delineated in AOC 6 and limited to the Site. In addition, the results of SI activities revealed no impacts to groundwater in other areas of the Site above GAGOs. Therefore, Site groundwater does not pose a threat to downgradient receptors and the Site does not appear to be a downgradient receptor from an upgradient source.

## **6.0 ENVIRONMENTAL FATE AND TRANSPORT**

### **6.1 Potential for Volatilization [§ 1.8.3(A)(16)]**

Based on the completed SI activities, the only COCs on the Site which have the potential to volatilize are located in AOC 6 and include heavier-end petroleum-based constituents (~4 to 10 feet bgs) in soil south of Building 7 and NAPL in monitoring well MW-10. Based on the locations of these COCs, there is the potential for volatilization into the nearby Building 7. Sub-slab soil gas sampling was not performed in Building 7 as part of the SI activities, as the building is structurally unsafe to enter. Given that the Site buildings are currently vacant, volatilization of these COCs into indoor air is not a current risk concern. Future remedial actions will focus on removing NAPL and petroleum-impacted soil to the extent practical with the goal of achieved acceptable RIDEM Criteria and Objectives. The success and findings of the remedial effort will determine if additional actions are needed to address residual impacts that could pose volatile concerns (indoor air impacts) to the nearby building.

### **6.2 Potential for Wind and Water Erosion [§ 1.8.3(A)(17)]**

SI activities completed at the Site indicate that lead and PAHs exist above RDECs and/or GALCs in some shallow soils (i.e., ~0 to 3 feet bgs) and therefore, have the potential to be transported via wind or water erosion. However, a majority of the Site is heavily vegetated which inhibits wind from transporting the COCs.



Surface water runoff from the majority of the Site is minimal and infiltrates directly in the subsurface. Having no detections of metals or PAHs above GAGOs in on-Site monitoring wells suggests erosion has not likely impacted surface water quality (Pawtucket River). Future remedial actions will be designed to minimize direct contact and erosional affects.

### **6.3 Fate and Transport Modeling [§ 1.8.3(A)(18)]**

Fate and transport modeling were deemed not necessary as part of the completed SI activities. Rationale for this determination is as follows:

- NAPL (No. 6 fuel oil) was detected on groundwater in monitoring well MW-10 located in the immediate vicinity of a former 20,000-gallon No. 6 fuel oil UST. The NAPL appears to be residual No. 6 fuel oil left in-place following closure of the UST system (CEI, 2011). No. 6 fuel oil has dense viscosity generally immobile in the subsurface. The completed SI activities show the NAPL to be isolated in the immediate area around MW-10. Analytical results for groundwater samples collected from monitoring wells surrounding and downgradient (i.e., MW-14 through MW-17 and MW-11, respectively) of MW-10, showed no detection of VOCs above applicable GAGOs or the presence of NAPL indicating that groundwater impacts are localized in the area of MW-10. As such, fate and transport modeling was not necessary.
- Analytical results for groundwater samples collected from monitoring wells in other AOCs of the Site revealed no detection of COCs above GAGOs.

### **7.0 DEVELOPMENT OF REMEDIAL ALTERNATIVES [§ 1.8.4]**

In accordance with §1.8.4 of the Remediation Regulations, a minimum of two remedial alternatives other than the no action/natural attenuation alternative must be developed for the Site. This section provides an analysis of the remedial alternatives developed to address COC and NAPL impacts identified and/or suspected at the Site. In general, lead and PAH impacts to soil were intermittently detected across the Site and associated with miscellaneous debris contained in the fill. Therefore, the remedial alternatives presented herein for lead and PAHs encompass the entire Site. Remedial alternatives are also presented to address chlordane impacts in one defined area (AOC 5) and localized NAPL impacts to soil and groundwater (AOC 6). The remedial alternatives for the Site are discussed in the following sections.

Upon approval of this SIR, a final remedial design will be prepared for the Site as part of the Remedial Action Work Plan (RAWP) which will assume remediation will be conducted to meet the RIDEM RDECs, GALCs, and GAGOs, as applicable. In addition, an Environmental Land Use Restriction (ELUR) and Post-Construction Soil Management Plan (SMP) will be prepared pursuant to § 1.9.9 of the Remediation Regulations and associated RIDEM templates.

#### **7.1 Summary of Impacted Media**

Impacts to soil and groundwater as a result of historic Site uses were identified during the SI and include:

- Lead above the RDEC and GALC from ~0 to 3 feet bgs in AOC 4, specifically at soil boring ESS-31 and test pit ESS-31D.
- PAHs above the RDEC from ~0 to 0.5 feet bgs in AOC 2, ~ 0 to 3 feet bgs in AOC 4, and ~0 to 4 feet in AOC 7.
- Chlordane above the RDEC from ~3 to 5 feet bgs in AOC 5.



- NAPL on groundwater in AOC 6 at an undetermined thickness. Note that based on PID soil screening results and observations, petroleum impacts to soil are expected from the ~4 to 10-foot depth range bgs around well MW-10 and boring ESS-63 (~10 feet away from MW-10).

Arsenic was also detected in Site soils above the RDEC but, as discussed in Section 5.2, was determined to be consistent with state background levels and hence non-jurisdictional.

## **7.2 Remedial Alternatives (§ 1.9 and § 1.13)**

### **7.2.1 Remedial Alternative #1 - No Action**

In accordance with the Remediation Regulations, “No Action” has been evaluated as a remedial alternative at the Site. COCs confirmed at the Site include lead, PAHs and chlordane, which do not readily degrade over time. Therefore, without remedial action, these contaminants would likely be persistent in environmental media at the Site. Implementation of the “No Action” remedial alternative would not comply with the Remediation Regulations being that the COC concentrations at the Site exceed applicable RIDEM RDECs and/or GALCs. Although current exposures at the Site are limited, future activities at the Site may alter the potential for human exposure.

*Unless addressed via remedial activities and/or institutional controls, contaminants in environmental media would likely pose a risk to future users of the Site. Therefore, the “No Action” alternative is not an appropriate remedial strategy for the Site.*

### **7.2.2 Remedial Alternative #2 – Site-Wide Excavation, Dewatering and Off-Site Disposal**

This remedial alternative consists of the removal and off-Site disposal of all COC impacted soil and groundwater from the Site and backfilling and compacting post-excavation areas with clean soil. This alternative assumes all soils containing NAPL and COCs in excess of RDECs, GALCs and UCLs would need to be removed to avoid an ELUR. Dewatering of certain excavations, particularly at AOC 6 (NAPL area), to remove COC-impacted soils beneath groundwater table would apply. The on-Site area where remediation would occur to achieve soil cleanup goals for lead and PAHs would cover a significant portion of the Site.

#### **7.2.2.1 Risk Management**

By removing all COCs in soil and groundwater, long-term risks to human health and the environment would be mitigated and no restrictions on future Site uses and activities would be warranted to minimize risks. However, due to the anticipated quantity of COC-impacted soils (refer to Section 7.2.2.4), the soil removal and disposal program would likely extend over a lengthy time period and result in long-term and direct exposure risks to human health at or near the Site. Regarding the timeframe, direct exposure risks to construction workers and off-Site receptors would be mitigated by using proper engineering controls (e.g., wetting soils) during soil removal and loading activities.

#### **7.2.2.2 Technical Feasibility**

*Excavation, dewatering, and off-Site disposal of all COCs in soil and groundwater is technically feasible.* However, Site-wide excavations and dewatering activities would require significant disturbance to the Site and likely extend to the property lines. Additionally, underpinning of existing

buildings, shoring of excavations near sidewalks and subsurface utilities would likely be required. While this remedial alternative is technically feasible, it presents logistical and technical challenges based on the aforementioned physical constraints and Site-wide earth disturbance activities.

#### **7.2.2.3 Compliance with State and Local Laws or Other Public Concerns**

Excavation and dewatering and off-Site disposal of all COC-impacted soil and groundwater would comply with applicable state and local laws and regulations. However, this remedial alternative may carry public concerns due to increased construction traffic and noise and work performed at the Site boundaries and near adjoining properties.

#### **7.2.2.4 Financial Feasibility**

*The costs of excavating, dewatering, and transporting and disposing (T&D) of all COC-impacted soil and groundwater is financially infeasible.* For example, it is estimated that a minimum of approximately 980,000 cubic yards (yds<sup>3</sup>), equivalent to ~1,470,000 tons, of lead and PAH-impacted soil/fill would need to be excavated and disposed of off-Site to achieve RIDEM Criteria. This represents an area of approximately 7.5 acres excavated to an average depth of 3 feet bgs. Assuming a T&D cost of \$50 per ton (disposal as solid waste soil at Central Landfill in Johnston, RI carries a tipping fee of \$25 per ton), the cost would exceed \$73.5 million. Additional costs (~\$35 million) would include purchase and placement of clean fill into excavations to meet final surface grades. Furthermore, other costs would also be incurred for permitting, regulatory coordination, project engineering, and incidental costs related to shoring, utility protection or other requirements.

### **7.2.3 Remedial Alternative #3 – Focused Excavation and Dewatering, Encapsulation, Physical Access Barriers and ELUR**

This remedial alternative consists of: (i) removal and off-Site disposal of COC-impacted soil at select areas where RDECs and GALC exceedances exist; (ii) backfilling and compacting post-excavation areas with clean soil; (iii) excavation and dewatering to remove NAPL and petroleum-impacted soil and groundwater at AOC 6; (iv) encapsulating certain surficial areas with clean fill where COCs exist above RDECs; (v) placement of other physical controls and barriers at certain surficial areas to prevent access by human receptors and accommodate wetland restoration; and (vi) implementing an ELUR and/or Variance (§ 1.14.3). Further detail on this remedial alternative is as follows:

- Excavate and dewater, as applicable, soil and groundwater containing COCs for off-Site disposal. This would generally include:
  - SPLP lead-impacted soil in AOC 4 at ESS-31 and ESS-31D.
  - Chlordane-impacted soil in AOC 5 at ESSTP-22.
  - NAPL and petroleum-impacted soil and groundwater in AOC 6, near well MW-10.
- For soils containing lead and PAHs above RDECs, restrict and/or prevent access to certain soils while encapsulating other soils. This would generally include:
  - Installing fencing and thorny brush along wetland, river front and other areas to restrict or prevent access. This exercise would take into consideration the wetlands restoration plans and requirements to satisfy certain provisions of the NOV.

- Encapsulation at specific areas would generally include a combination of the following over existing soil: (i) a two-foot thick layer of clean fill; (ii) a one-foot thick layer of clean fill underlain by geotextile fabric; (iii) a four-inch thick layer of asphalt or concrete underlain by six inches of clean fill; and/or (iv) existing asphalt and building foundations that are in good physical condition and are to remain as part of redevelopment activities.
- Prepare and record an ELUR and/or Variance for COC-impacted soil remaining in-place on-Site. The specific contents of the ELUR would be coordinated with RIDEM and Paramount in accordance with § 1.9.9 (Institutional Controls). The ELUR would prohibit certain activities at the Site, such as the use of groundwater as potable water, while requiring regular inspection and maintenance of any installed barriers or caps used to isolate or restrict access to COC-impacted soils to ensure their integrity is sustained indefinitely. Further, the ELUR would include a Post-Construction Soil Management Plan (SMP) describing soil management and handling requirements as well as inspection and maintenance requirements for the barriers and caps.

#### **7.2.3.1 Risk Management**

By removing, encapsulating and/or restricting access to residual COCs in soil and groundwater, risks to human health and the environment would be mitigated and minimized. The ELUR would be used as a mechanism to further reduce future risks to human health and the environment based on specific prohibited uses and maintenance requirements. As compared to Remedial Alternative #2, this remedial alternative would be completed in a shorter timeframe and thus represent and thereby having less short-term direct exposure risks to human health at or near the Site. Regardless of the implementation timeframe, direct exposure risks to construction workers and off-Site receptors would be mitigated by using proper engineering controls (e.g., wetting soils) during soil removal and loading activities.

#### **7.2.3.2 Technical Feasibility**

*Excavation, dewatering, and off-Site disposal of COCs in soil and groundwater and capping and/or restricting access to areas are technically feasible actions.* Fencing, plantings, and capping activities can be incorporated into the future redevelopment activities. Comparatively, this alternative would involve substantially less earthwork activities and fewer engineering controls than Remedial Alternative #2.

#### **7.2.3.3 Compliance with State and Local Laws or Other Public Concerns**

Excavation, dewatering and off-Site disposal of certain soils and groundwater containing COCs, combined with the institutional controls and installed physical barriers, would comply with applicable state and local laws and regulations. Also, there is expected to be less public concern with this remedial alternative, compared to Remedial Alternative #2, due to a shorter timeframe to complete, less construction traffic and noise and limited work performed at the Site boundaries and near adjoining properties.

#### **7.2.3.4 Financial Feasibility**

The anticipated cost to implement this remedial alternative is more financially feasible than Remedial Alternative #2 for the following comparative reasons: (i) substantially less COC-impacted soil would be generated for off-Site disposal; (ii) substantially less time would be required to



accomplish the work, thereby limiting costs for contractors, consultants and vendors; and (iii) less clean fill would be needed because fewer excavations apply.

A cost estimate to implement this remedial alternative has not yet been prepared but is fully expected to be orders of magnitude less than Remedial Alternative #2. While this remedial alternative is considered financially feasible for comparative purposes of this SIR, the total costs are expected to be excessive for Paramount and alternative funding and/or state and federal grants would be needed.

### **7.3 Preferred Remedial Alternatives**

Based on the three remedial alternatives presented above, as evaluated pursuant to §1.8.4 of the Remediation Regulations, ESS recommends Remedial Alternative #3 (Focused Excavation and Dewatering, Encapsulation, Physical Access Barriers and ELUR). The selection of this preferred remedial alternative of the Site is supported by Site-specific data and information and is consistent with the proposed redevelopment considerations for the Site.



**8.0 CERTIFICATION [§ 1.8.5(A)(1)]**

This SIR has been prepared by ESS for our Client (Paramount Apartments, LLC c/o Paramount Development Group LLC, Inc.), in accordance with 250-RICR-140-30-1. The information presented in this SIR is, to the best of our knowledge, complete and accurate.

  
\_\_\_\_\_

William M. Chapman  
Market Director  
Land and Waterfront Development Group

Date: 8/10/2020

The information presented in this SIR is, to the best of our knowledge, a complete and accurate representation of the Site and the Release(s) and contains all known facts surrounding the Release(s).

Name Printed: Richard J. Derosas  
Paramount Apartments, LLC

Signature: *Richard Derosas*

Date: 8/10/20



## Tables

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## Figures

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**Appendix A**

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**Site Investigation Report Checklist**

**Appendix B**

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**Release Notification Form and Letter of  
Responsibility**



## Appendix C

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### Previous Reports and Submittals (provided on CD)



## Appendix D

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### Test Pit Logs Soil Boring/Well Construction Logs



## Appendix E

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### Laboratory Analytical Reports (provided on CD)





## Appendix F

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### Boring and Well Construction Logs



## Appendix G

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### Groundwater Monitoring Well Development Forms



## Appendix H

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# Low Flow Groundwater Monitoring Well Sampling Forms



## Appendix I

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### Public Notification Letters

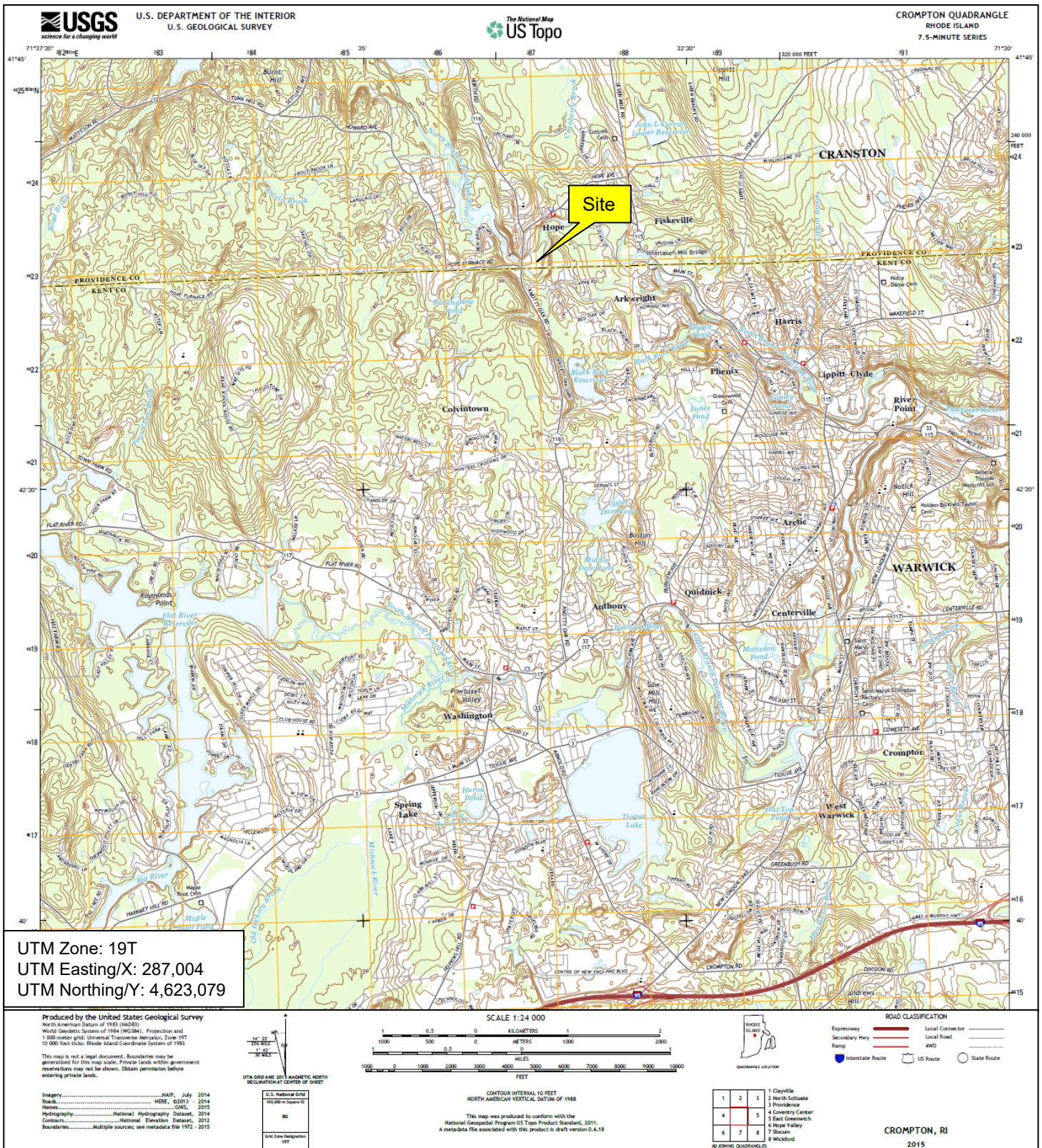


## Appendix J

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### Disposal Documentation





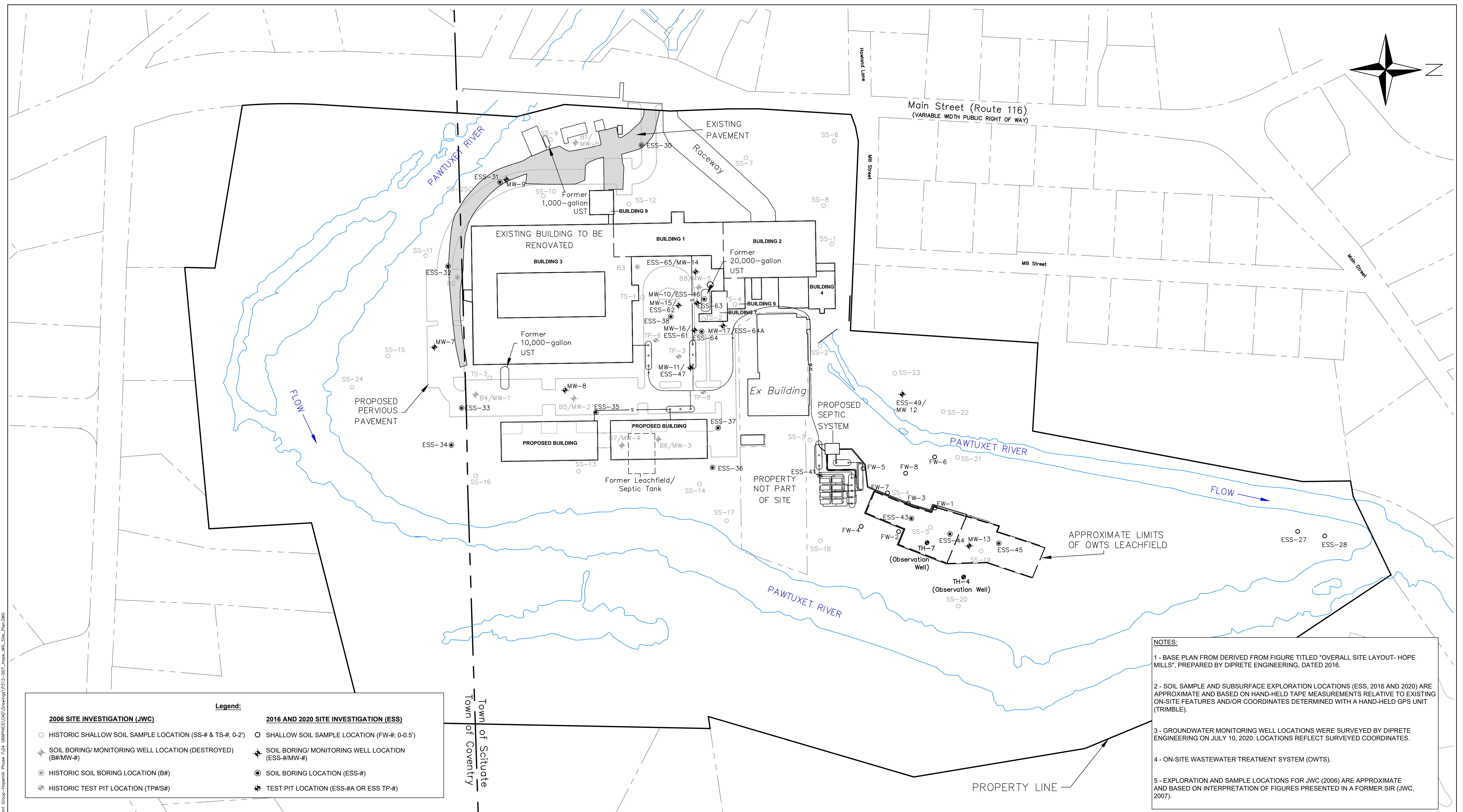
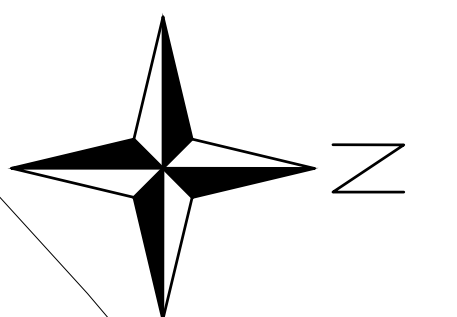
Hope Mill Project  
5 Main Street  
Scituate, Rhode Island 02831

Source: USGS Crompton Quadrangle 7.5 Minute Topographic Map  
Scale: As shown above

## Site Locus Map

Figure 1





2006 SITE INVESTIGATION (JWC)		2016 AND 2020 SITE INVESTIGATION (ESS)	
○	HISTORIC SHALLOW SOIL SAMPLE LOCATION (SS-# & TS-#, 0-2')	○	SHALLOW SOIL SAMPLE LOCATION (FW-#, 0-0.5')
⊕	SOIL BORING/ MONITORING WELL LOCATION (DESTROYED) (B#/MW-#)	⊕	SOIL BORING/ MONITORING WELL LOCATION (ESS-#/MW-#)
●	HISTORIC SOIL BORING LOCATION (B#)	●	SOIL BORING LOCATION (ESS-#)
⊕	HISTORIC TEST PIT LOCATION (TP#/S#)	⊕	TEST PIT LOCATION (ESS-#A OR ESS TP-#)

**NOTES:**

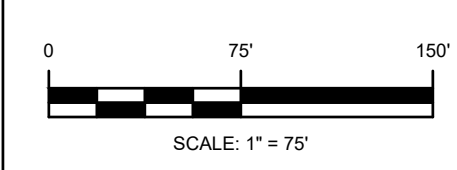
- 1 - BASE PLAN DERIVED FROM FIGURE TITLED "OVERALL SITE LAYOUT- HOPE MILLS", PREPARED BY DIPRETE ENGINEERING, DATED 2016.
- 2 - SOIL SAMPLE AND SUBSURFACE EXPLORATION LOCATIONS (ESS, 2016 AND 2020) ARE APPROXIMATE AND BASED ON HAND-HELD TAPE MEASUREMENTS RELATIVE TO EXISTING ON-SITE FEATURES AND/OR COORDINATES DETERMINED WITH A HAND-HELD GPS UNIT (TRIMBLE).
- 3 - GROUNDWATER MONITORING WELL LOCATIONS WERE SURVEYED BY DIPRETE ENGINEERING ON JULY 10, 2020. LOCATIONS REFLECT SURVEYED COORDINATES.
- 4 - ON-SITE WASTEWATER TREATMENT SYSTEM (OWTS).
- 5 - EXPLORATION AND SAMPLE LOCATIONS FOR JWC (2006) ARE APPROXIMATE AND BASED ON INTERPRETATION OF FIGURES PRESENTED IN A FORMER SIR (JWC, 2007).

DATE: Aug 04, 2020 - 4:39PM  
 FILENAME: J:\P312-000 Paramount Development Group-Hopemill Phase 1\04 08\PHAS1\CAD Drawings\312-P-007\_Hope\_Mill\_Site\_Plan.dwg  
 Not Valid Without Signature

404 Wyman Street, Suite 375  
 Waltham, Massachusetts 02451  
 p 781.419.7696  
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**Paramount Apartments, LLC**

**HOPE MILL PROJECT**  
 5 Main Street  
 Scituate, RI  
 02831



No.	REVISION	DATE	DRAWN	DESIGN	CHK

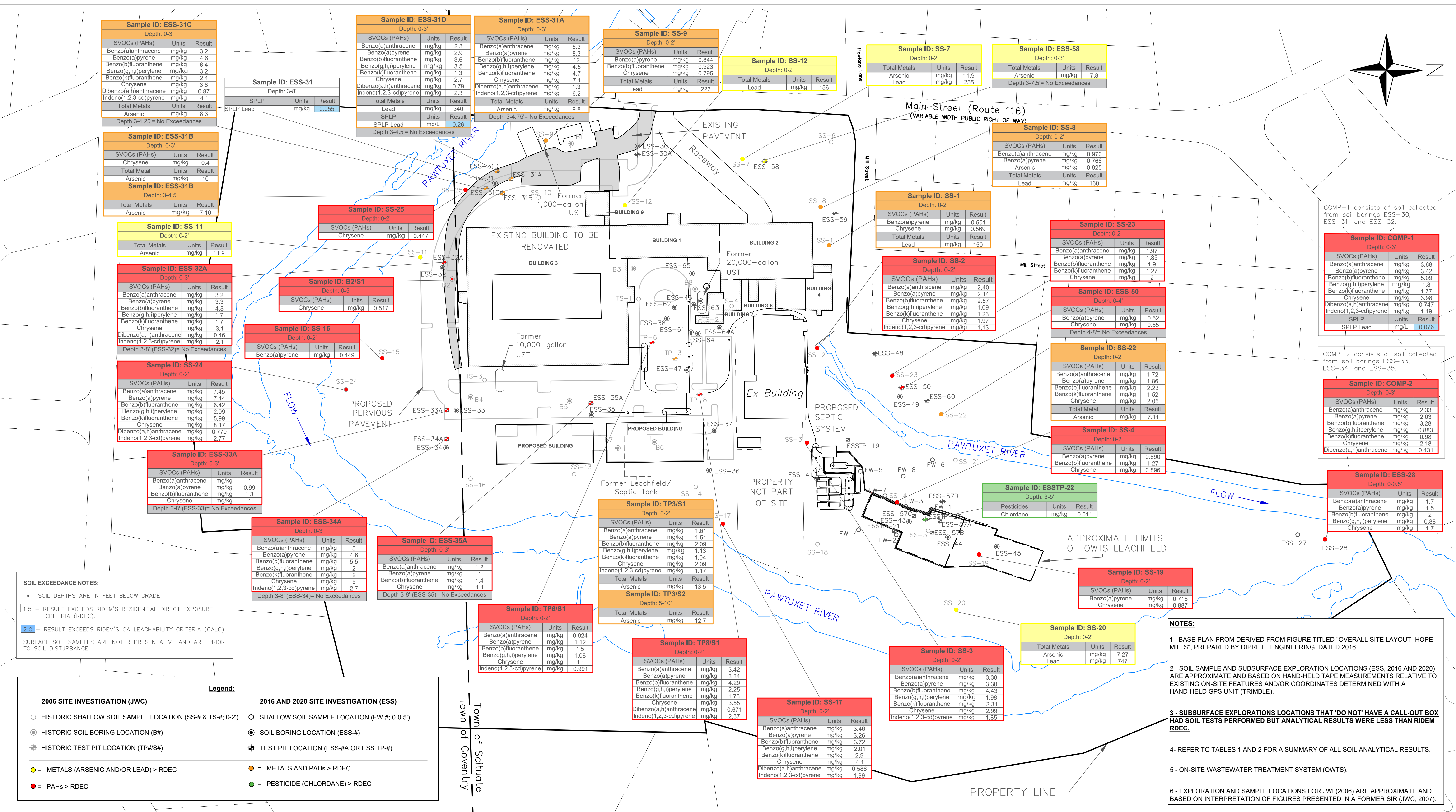
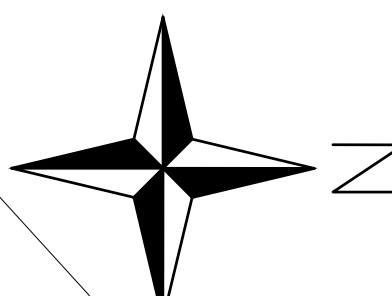
DRAWN BY: MMO    DESIGNED BY: CP    CHECKED BY: CP

**SITE PLAN**

**FIGURE:**  
**2**

PROJECT NO: P312-007  
 DATE OF ISSUE: XXXXX20XX  
 SHEET NO. 2 OF 5





**SOIL EXCEEDANCE NOTES:**

- SOIL DEPTHS ARE IN FEET BELOW GRADE
- 1.5 - RESULT EXCEEDS RIDEM'S RESIDENTIAL DIRECT EXPOSURE CRITERIA (RDEC).
- 2.0 - RESULT EXCEEDS RIDEM'S GA LEACHABILITY CRITERIA (GALC).

SURFACE SOIL SAMPLES ARE NOT REPRESENTATIVE AND ARE PRIOR TO SOIL DISTURBANCE.

**Legend:**

<b>2006 SITE INVESTIGATION (JWC)</b>	<b>2016 AND 2020 SITE INVESTIGATION (ESS)</b>
○ HISTORIC SHALLOW SOIL SAMPLE LOCATION (SS-# & TS-#: 0-2')	○ SHALLOW SOIL SAMPLE LOCATION (FW-#: 0-0.5')
● HISTORIC SOIL BORING LOCATION (B#)	● SOIL BORING LOCATION (ESS-#)
⊕ HISTORIC TEST PIT LOCATION (TP#/#S)	⊕ TEST PIT LOCATION (ESS-#A OR ESS TP-#)
● = METALS (ARSENIC AND/OR LEAD) > RDEC	● = METALS AND PAHS > RDEC
● = PAHS > RDEC	● = PESTICIDE (CHLORDANE) > RDEC

**NOTES:**

- 1 - BASE PLAN FROM DERIVED FROM FIGURE TITLED "OVERALL SITE LAYOUT- HOPE MILLS", PREPARED BY DIPRETE ENGINEERING, DATED 2016.
- 2 - SOIL SAMPLE AND SUBSURFACE EXPLORATION LOCATIONS (ESS, 2016 AND 2020) ARE APPROXIMATE AND BASED ON HAND-HELD TAPE MEASUREMENTS RELATIVE TO EXISTING ON-SITE FEATURES AND/OR COORDINATES DETERMINED WITH A HAND-HELD GPS UNIT (TRIMBLE).
- 3 - SUBSURFACE EXPLORATIONS LOCATIONS THAT 'DO NOT' HAVE A CALL-OUT BOX HAD SOIL TESTS PERFORMED BUT ANALYTICAL RESULTS WERE LESS THAN RIDEM RDEC.
- 4 - REFER TO TABLES 1 AND 2 FOR A SUMMARY OF ALL SOIL ANALYTICAL RESULTS.
- 5 - ON-SITE WASTEWATER TREATMENT SYSTEM (OWTS).
- 6 - EXPLORATION AND SAMPLE LOCATIONS FOR JWI (2006) ARE APPROXIMATE AND BASED ON INTERPRETATION OF FIGURES PRESENTED IN A FORMER SIR (JWC, 2007).

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environmental consulting & engineering services

**Paramount Apartments, LLC**

**HOPE MILL PROJECT**  
5 Main Street  
Scituate, RI  
02831

No.	REVISION	DATE	DRAWN	DESIGN	CHK

DRAWN BY: MMO    DESIGNED BY: CP    CHECKED BY: CP

**FIGURE: 3**

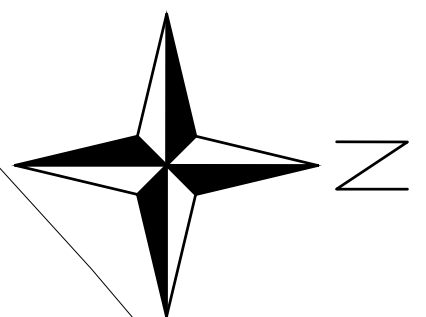
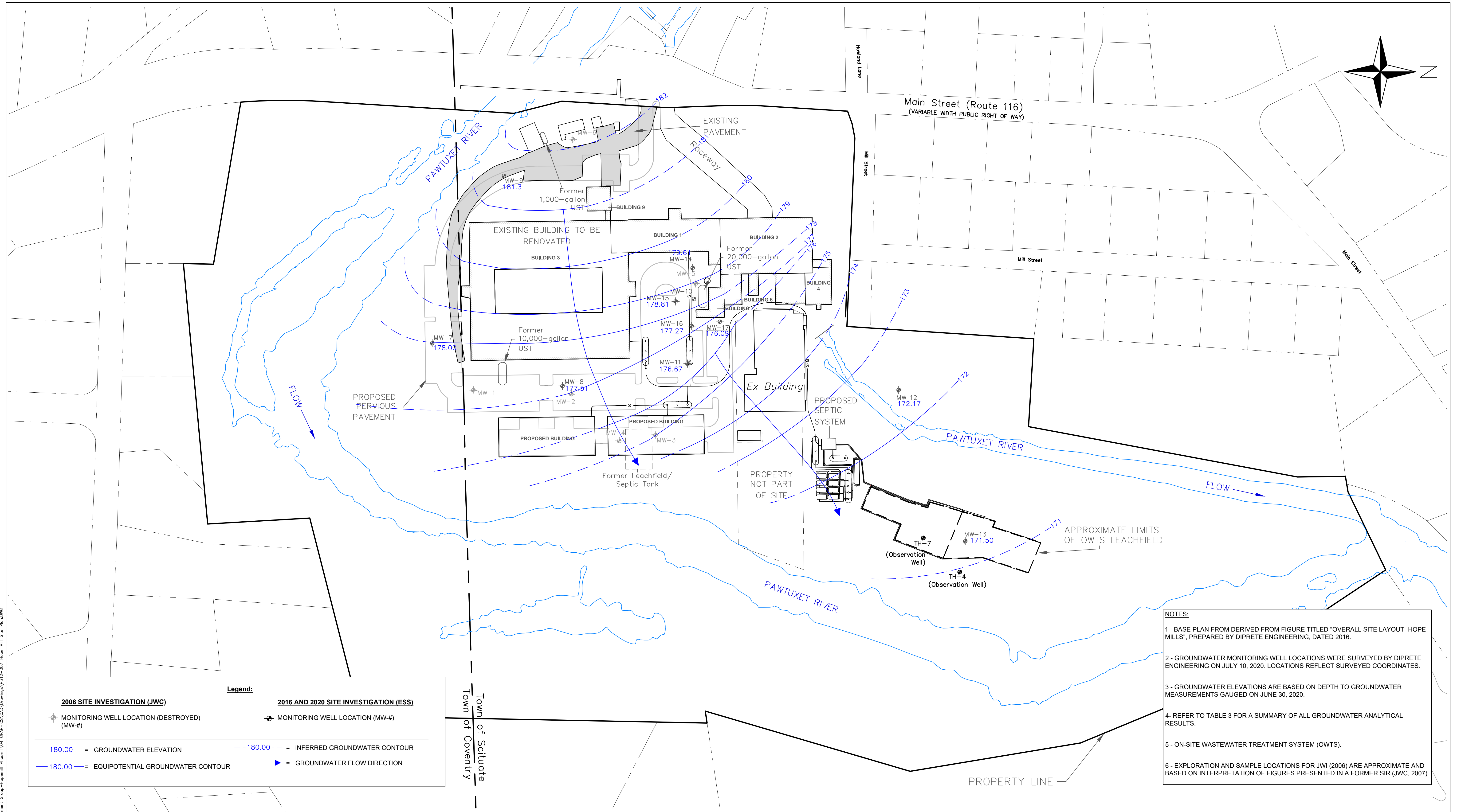
**SOIL EXCEEDANCES**

PROJECT NO: P312-007  
DATE OF ISSUE: XXXX/20XX  
SHEET NO. 3 OF 5









Legend:	
<b>2006 SITE INVESTIGATION (JWC)</b>	<b>2016 AND 2020 SITE INVESTIGATION (ESS)</b>
⊕ MONITORING WELL LOCATION (DESTROYED) (MW-#)	⊕ MONITORING WELL LOCATION (MW-#)
180.00 = GROUNDWATER ELEVATION	-- 180.00 -- = INFERRED GROUNDWATER CONTOUR
— 180.00 — = EQUIPOTENTIAL GROUNDWATER CONTOUR	→ = GROUNDWATER FLOW DIRECTION

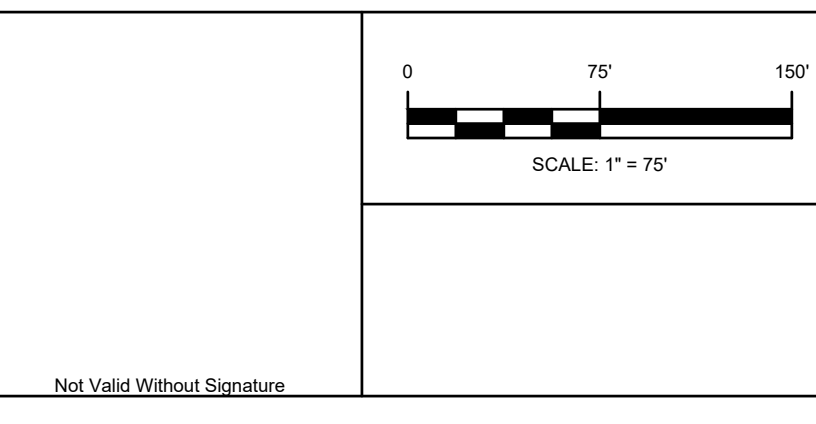
- NOTES:**
- 1 - BASE PLAN FROM DERIVED FROM FIGURE TITLED "OVERALL SITE LAYOUT- HOPE MILLS", PREPARED BY DIPRETE ENGINEERING, DATED 2016.
  - 2 - GROUNDWATER MONITORING WELL LOCATIONS WERE SURVEYED BY DIPRETE ENGINEERING ON JULY 10, 2020. LOCATIONS REFLECT SURVEYED COORDINATES.
  - 3 - GROUNDWATER ELEVATIONS ARE BASED ON DEPTH TO GROUNDWATER MEASUREMENTS GAUGED ON JUNE 30, 2020.
  - 4 - REFER TO TABLE 3 FOR A SUMMARY OF ALL GROUNDWATER ANALYTICAL RESULTS.
  - 5 - ON-SITE WASTEWATER TREATMENT SYSTEM (OWTS).
  - 6 - EXPLORATION AND SAMPLE LOCATIONS FOR JWI (2006) ARE APPROXIMATE AND BASED ON INTERPRETATION OF FIGURES PRESENTED IN A FORMER SIR (JWC, 2007).

DATE: Aug 04, 2020 - 4:39PM  
 FILENAME: J:\P312-009 Paramount Development Group-Hopemill Phase 1\04\_08\PHYS\DWG\Drawings\312-007\_Hope\_Mill\_Site\_Plan.dwg  
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 02831



No.	REVISION	DATE	DRAWN	DESIGN	CHK

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**GROUNDWATER CONTOUR MAP**

**FIGURE:**  
**5**

PROJECT NO: P312-007  
 DATE OF ISSUE: XXXX/20XX  
 SHEET NO: 5 OF 5



Table 1 - SUMMARY OF SOIL ANALYTICAL DATA (JWC)

PARAMOUNT APARTMENTS, LLC  
5 MAIN STREET  
SCITUATE, RHODE ISLAND

Parameter	Reporting Units	RIDEM RDEC (mg/kg)	RIDEM GALC (mg/kg)	Sample ID	B1/S2	B2/S1	B3/S1	B4/S3	B5/S3	B6/S3	B7/S2	B8/S3	TP3/S1 <sup>(1)</sup>	TP3/S2 <sup>(1)</sup>	TP6/S1 <sup>(1)</sup>	TP8/S1 <sup>(1)</sup>	SS-1	SS-2	SS-3	SS-4	SS-5	SS-6	SS-7	SS-8	SS-9	SS-10	SS-11	SS-12	SS-13				
				Sample Collection Date	4/28/2006	4/28/2006	4/28/2006	4/27/2006	4/27/2006	4/27/2006	4/27/2006	4/28/2006	--	--	--	--	5/22/2006	5/22/2006	5/22/2006	5/22/2006	5/22/2006	5/22/2006	5/22/2006	5/22/2006	5/22/2006	5/22/2006	5/22/2006	5/22/2006	5/22/2006	5/22/2006	5/22/2006	5/22/2006	5/22/2006
				Sample Interval (feet)	5 - 10	0 - 5	0 - 5	10 - 15	10 - 15	10 - 15	5 - 10	10 - 15	0 - 2	5 - 10	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2
VOLATILE ORGANIC COMPOUNDS (VOCs) - CONTINUED																																	
Toluene	mg/kg	190	32	< 0.0463	< 0.0371	< 0.0357	--	--	< 0.0355	< 0.0313	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,2,3-Trichlorobenzene	mg/kg	NS	NS	< 0.0463	< 0.0371	< 0.0357	--	--	< 0.0355	< 0.0313	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,2,4-Trichlorobenzene	mg/kg	96	140	< 0.0463	< 0.0371	< 0.0357	--	--	< 0.0355	< 0.0313	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,1,1-Trichloroethane	mg/kg	540	11	< 0.0463	< 0.0371	< 0.0357	--	--	< 0.0355	< 0.0313	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,1,2-Trichloroethane	mg/kg	3.6	0.1	< 0.0463	< 0.0371	< 0.0357	--	--	< 0.0355	< 0.0313	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Trichloroethene	mg/kg	13	0.2	< 0.0463	< 0.0371	< 0.0357	--	--	< 0.0355	< 0.0313	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Trichlorofluoromethane (Freon 11)	mg/kg	NS	NS	< 0.0463	< 0.0371	< 0.0357	--	--	< 0.0355	< 0.0313	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,1,2-Trichlorotrifluoroethane (Freon 113)	mg/kg	NS	NS	< 0.0463	< 0.0371	< 0.0357	--	--	< 0.0355	< 0.0313	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,2,3-Trichloropropane	mg/kg	NS	NS	< 0.0463	< 0.0371	< 0.0357	--	--	< 0.0355	< 0.0313	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	mg/kg	NS	NS	< 0.0463	< 0.0371	< 0.0357	--	--	< 0.0355	< 0.0313	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	mg/kg	NS	NS	< 0.0463	< 0.0371	< 0.0357	--	--	< 0.0355	< 0.0313	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl acetate	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	mg/kg	0.02	0.3	< 0.0463*	< 0.0371*	< 0.0357*	--	--	< 0.0355*	< 0.0313*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
o-Xylene	mg/kg	110	NS	< 0.0463	< 0.0371	< 0.0357	--	--	< 0.0355	< 0.0313	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p/m-Xylene	mg/kg	110	NS	< 0.0926	< 0.0743	< 0.0715	--	--	< 0.0711	< 0.0627	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylenes, Total	mg/kg	110	540	< 0.9723	< 0.114	< 0.1072	--	--	< 0.0355	< 0.0313	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SEMIVOLATILE ORGANIC COMPOUNDS (SVOCs)																																	
Acenaphthene	mg/kg	43	NS	--	< 0.176	< 0.204	--	--	< 0.235	< 0.192	--	ND	ND	ND	ND	< 0.143	<b>0.296</b>	< 0.736	< 0.158	< 0.148	< 0.153	< 0.161	< 0.162	< 0.151	< 0.151	< 0.162	< 0.157	< 0.145					
Acenaphthylene	mg/kg	23	NS	--	< 0.176	< 0.204	--	--	< 0.235	< 0.192	--	<b>0.311</b>	ND	ND	ND	< 0.143	< 0.144	< 0.736	< 0.158	< 0.148	< 0.153	< 0.161	< 0.162	<b>0.243</b>	< 0.151	< 0.162	< 0.157	< 0.145					
Aniline	mg/kg	NS	NS	--	< 0.176	< 0.204	--	--	< 0.235	< 0.192	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Anthracene	mg/kg	35	NS	--	<b>0.176</b>	<b>0.204</b>	--	--	< 0.235	< 0.192	--	<b>0.364</b>	ND	ND	<b>0.977</b>	<b>0.220</b>	<b>1.05</b>	<b>0.914</b>	<b>0.193</b>	< 0.148	< 0.153	< 0.161	<b>0.549</b>	<b>0.29</b>	< 0.151	< 0.162	< 0.157	< 0.145					
Atrazine	mg/kg	NS	NS	--	< 0.176	< 0.204	--	--	< 0.235	< 0.192	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Azobenzene	mg/kg	NS	NS	--	< 0.176	< 0.204	--	--	< 0.235	< 0.192	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzidine	mg/kg	NS	NS	--	< 0.176	< 0.204	--	--	< 0.235	< 0.192	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(a)anthracene	mg/kg	0.9	NS	--	<b>0.397</b>	< 0.204	--	--	< 0.235	< 0.192	--	<b>1.61</b>	ND	<b>0.924</b>	<b>3.42</b>	<b>0.595</b>	<b>2.40</b>	<b>3.38</b>	<b>0.845</b>	< 0.148	< 0.153	< 0.161	<b>0.970</b>	<b>0.791</b>	<b>0.340</b>	<b>0.303</b>	<b>0.184</b>	<b>0.307</b>					
Benzo(a)pyrene	mg/kg	0.4	240	--	<b>0.384</b>	<b>0.221</b>	--	--	< 0.235	< 0.192	--	<b>1.51</b>	ND	<b>1.12</b>	<b>3.34</b>	<b>0.501</b>	<b>2.14</b>	<b>3.30</b>	<b>0.890</b>	< 0.148	< 0.153	< 0.161	<b>0.766</b>	<b>0.844</b>	<b>0.330</b>	<b>0.261</b>	< 0.157	<b>0.288</b>					
Benzo(b)fluoranthene	mg/kg	0.9	NS	--	<b>0.476</b>	< 0.204	--	--	< 0.235	< 0.192	--	<b>2.09</b>	ND	<b>1.5</b>	<b>4.29</b>	<b>0.680</b>	<b>2.57</b>	<b>4.43</b>	<b>1.27</b>	< 0.148	< 0.153	< 0.161	<b>0.867</b>	<b>0.923</b>	<b>0.326</b>	<b>0.299</b>	<b>0.184</b>	<b>0.395</b>					
Benzo(g,h,i)perylene	mg/kg	0.8	NS	--	<b>0.231</b>	< 0.204	--	--	< 0.235	< 0.192	--	<b>1.13</b>	ND	<b>1.08</b>	<b>2.25</b>	<b>0.290</b>	<b>1.09</b>	<b>1.98</b>	<b>0.740</b>	< 0.148	< 0.153	< 0.161	<b>0.305</b>	<b>0.593</b>	<b>0.212</b>	< 0.162	< 0.157	< 0.145					
Benzo(k)fluoranthene	mg/kg	0.9	NS	--	<b>0.336</b>	<b>0.207</b>	--	--	< 0.235	< 0.192	--	<b>1.04</b>	ND	<b>0.666</b>	<b>1.73</b>	<b>0.283</b>	<b>1.23</b>	<b>2.31</b>	<b>0.657</b>	< 0.148	< 0.153	< 0.161	<b>0.506</b>	<b>0.474</b>	<b>0.196</b>	<b>0.228</b>	<b>0.162</b>	<b>0.250</b>					
Benzoic Acid	mg/kg	NS	NS	--	< 0.176	< 0.204	--	--	< 0.235	< 0.192	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl Alcohol	mg/kg	NS	NS	--	< 0.176	< 0.204	--	--	< 0.235	< 0.192	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroethoxy)methane	mg/kg	NS	NS	--	< 0.176	< 0.204	--	--	< 0.235	< 0.192	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroethyl)ether	mg/kg	0.6	NS	--	< 0.176	< 0.204	--	--	< 0.235	< 0.192	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroisopropyl)ether	mg/kg	9.1	NS	--	< 0.176	< 0.204	--	--	< 0.235	< 0.192	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Biphenyl	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	mg/kg	NS	NS	--	< 0.176	< 0.204	--	--	< 0.235	< 0.192	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Butyl benzyl phthalate	mg/kg	NS	NS	--	<b>0.226</b>	< 0.204	--	--	< 0.235	< 0.192	--	--	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	mg/kg	NS	NS	--	< 0.176	< 0.204	--	--	< 0.235	< 0.192	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	mg/kg	310	NS	--	< 0.176	< 0.204	--	--	< 0.235	< 0.192	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
P-Chloro-M-Cresol	mg/kg	NS	NS	--	< 0.176	< 0.204	--	--	< 0.235	< 0.192	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloronaphthalene	mg/kg	NS	NS	--	< 0.176	< 0.204	--	--	< 0.235	< 0.19																							

Table 1 - SUMMARY OF SOIL ANALYTICAL DATA (JWC)

PARAMOUNT APARTMENTS, LLC  
5 MAIN STREET  
SCITUATE, RHODE ISLAND

Parameter	Reporting Units	RIDEM RDEC (mg/kg)	RIDEM GALC (mg/kg)	Sample ID	B1/S2	B2/S1	B3/S1	B4/S3	B5/S3	B6/S3	B7/S2	B8/S3	TP3/S1 <sup>(1)</sup>	TP3/S2 <sup>(1)</sup>	TP6/S1 <sup>(1)</sup>	TP8/S1 <sup>(1)</sup>	SS-1	SS-2	SS-3	SS-4	SS-5	SS-6	SS-7	SS-8	SS-9	SS-10	SS-11	SS-12	SS-13					
				Sample Collection Date	4/28/2006	4/28/2006	4/28/2006	4/27/2006	4/27/2006	4/27/2006	4/27/2006	4/28/2006	--	--	--	--	5/22/2006	5/22/2006	5/22/2006	5/22/2006	5/22/2006	5/22/2006	5/22/2006	5/22/2006	5/22/2006	5/22/2006	5/22/2006	5/22/2006	5/22/2006	5/22/2006	5/22/2006	5/22/2006		
				Sample Interval (feet)	5 -10	0 -5	0 -5	10 -15	10 -15	10 -15	5 -10	10 -15	0 -2	5 -10	0 -2	0 -2	0 -2	0 -2	0 -2	0 -2	0 -2	0 -2	0 -2	0 -2	0 -2	0 -2	0 -2	0 -2	0 -2	0 -2	0 -2	0 -2	0 -2	
SEMIVOLATILE ORGANIC COMPOUNDS (SVOCs) - CONTINUED																																		
Hexachlorocyclopentadiene	mg/kg	NS	NS	--	< 0.176	< 0.204	--	--	< 0.235	< 0.192	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Hexachloroethane	mg/kg	46	NS	--	< 0.176	< 0.204	--	--	< 0.235	< 0.192	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Indeno(1,2,3-cd)Pyrene	mg/kg	0.9	NS	--	<b>0.193</b>	< 0.204	--	--	< 0.235	< 0.192	--	<b>1.17</b>	ND	<b>0.991</b>	<b>2.37</b>	<b>0.264</b>	<b>1.13</b>	<b>1.85</b>	<b>0.740</b>	< 0.148	< 0.153	< 0.161	<b>0.273</b>	<b>0.544</b>	<b>0.177</b>	< 0.162	< 0.157	< 0.145	--	--				
Isophorone	mg/kg	NS	NS	--	< 0.176	< 0.204	--	--	< 0.235	< 0.192	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1-Methylnaphthalene	mg/kg	NS	NS	--	< 0.176	< 0.204	--	--	< 0.235	< 0.192	--	--	--	--	--	< 0.143	< 0.144	< 0.736	< 0.158	< 0.148	< 0.153	< 0.161	< 0.162	< 0.151	< 0.151	< 0.162	< 0.157	< 0.145	--	--				
2-Methylnaphthalene	mg/kg	123	NS	--	< 0.176	< 0.204	--	--	< 0.235	< 0.192	--	--	--	--	--	< 0.143	< 0.144	< 0.736	< 0.158	< 0.148	< 0.153	< 0.161	< 0.162	< 0.151	< 0.151	< 0.162	< 0.157	< 0.145	--	--				
2-Methylphenol	mg/kg	NS	NS	--	< 0.176	< 0.204	--	--	< 0.235	< 0.192	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
3-Methylphenol/4-Methylphenol	mg/kg	NS	NS	--	< 0.176	< 0.204	--	--	< 0.235	< 0.192	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Naphthalene	mg/kg	54	0.8	--	< 0.176	< 0.204	--	--	< 0.235	< 0.192	--	--	--	--	--	< 0.143	< 0.144	< 0.736	< 0.158	< 0.148	< 0.153	< 0.161	< 0.162	< 0.151	< 0.151	< 0.162	< 0.157	< 0.145	--	--				
2-Nitroaniline	mg/kg	NS	NS	--	< 0.176	< 0.204	--	--	< 0.235	< 0.192	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
3-Nitroaniline	mg/kg	NS	NS	--	< 0.176	< 0.204	--	--	< 0.235	< 0.192	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
4-Nitroaniline	mg/kg	NS	NS	--	< 0.705	< 0.817	--	--	< 0.940	< 0.770	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Nitrobenzene	mg/kg	NS	NS	--	< 0.176	< 0.204	--	--	< 0.235	< 0.192	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2-Nitrophenol	mg/kg	NS	NS	--	< 0.176	< 0.204	--	--	< 0.235	< 0.192	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
4-Nitrophenol	mg/kg	NS	NS	--	< 0.705	< 0.817	--	--	< 0.940	< 0.770	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitrosodimethylamine	mg/kg	NS	NS	--	< 0.176	< 0.204	--	--	< 0.235	< 0.192	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitrosodi-n-propylamine	mg/kg	NS	NS	--	< 0.176	< 0.204	--	--	< 0.235	< 0.192	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NitrosoDiPhenylAmine(NDPA)/DPA	mg/kg	NS	NS	--	< 0.176	< 0.204	--	--	< 0.235	< 0.192	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	mg/kg	5.3	7.1	--	< 0.705	< 0.817	--	--	< 0.940	< 0.770	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	mg/kg	40	NS	--	<b>0.360</b>	<b>0.440</b>	--	--	< 0.235	< 0.192	--	<b>1.54</b>	ND	<b>0.45</b>	<b>3.44</b>	<b>0.890</b>	<b>3.81</b>	<b>3.52</b>	<b>0.738</b>	< 0.148	< 0.153	<b>0.182</b>	<b>2.05</b>	<b>1.08</b>	<b>0.400</b>	<b>0.292</b>	<b>0.219</b>	<b>0.380</b>	--	--				
Phenol	mg/kg	6,000	NS	--	< 0.176	< 0.204	--	--	< 0.235	< 0.192	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Pyrene	mg/kg	13	NS	--	<b>1.2</b>	<b>0.547</b>	--	--	< 0.235	<b>0.215</b>	--	<b>2.36</b>	ND	<b>1.44</b>	<b>4.98</b>	<b>1.41</b>	<b>4.57</b>	<b>6.66</b>	<b>1.27</b>	<b>0.194</b>	< 0.153	<b>0.234</b>	<b>2.04</b>	<b>1.42</b>	<b>0.536</b>	<b>0.573</b>	<b>0.420</b>	<b>0.727</b>	--	--				
Pyridine	mg/kg	NS	NS	--	< 0.176	< 0.204	--	--	< 0.235	< 0.192	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,2,4-Trichlorobenzene	mg/kg	96	140	--	< 0.176	< 0.204	--	--	< 0.235	< 0.192	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2,4,5-Trichlorophenol	mg/kg	330	NS	--	< 0.176	< 0.204	--	--	< 0.235	< 0.192	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2,4,6-Trichlorophenol	mg/kg	58	NS	--	< 0.176	< 0.204	--	--	< 0.235	< 0.192	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
TOTAL PETYROLEUM HYDROCARBONS (TPH)																																		
TPH	mg/kg	500/1,000	500	< 30.2	<b>122</b>	< 30.1	< 30.9	< 30.7	< 40.0	<b>66.0</b>	<b>270</b>	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
TOTAL METALS																																		
Antimony	mg/kg	10	NS	--	--	--	--	--	--	--	--	<b>2.71</b>	<b>1.64</b>	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Arsenic	mg/kg	7	NS	--	--	--	--	--	--	--	--	<b>13.5</b>	<b>12.7</b>	<b>2.95</b>	<b>2.56</b>	<b>3.86</b>	< 1.65	<b>1.75</b>	<b>3.25</b>	< 1.55	<b>2.30</b>	<b>11.9</b>	<b>3.84</b>	<b>5.41</b>	<b>3.40</b>	<b>11.9</b>	<b>5.07</b>	<b>2.79</b>	--	--				
Barium	mg/kg	5,500	NS	--	--	--	--	--	--	--	--	--	--	--	<b>22.5</b>	<b>12.1</b>	<b>22.8</b>	<b>43.2</b>	<b>13.4</b>	<b>31.5</b>	<b>112</b>	<b>59.3</b>	<b>46.8</b>	<b>33.2</b>	<b>93.3</b>	<b>57.6</b>	<b>46.3</b>	--	--					
Beryllium	mg/kg	1.5	NS	--	--	--	--	--	--	--	--	<b>0.776</b>	ND	<b>0.55</b>	<b>0.42</b>	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Cadmium	mg/kg	39	NS	--	--	--	--	--	--	--	--	<b>0.527</b>	ND	<b>0.265</b>	ND	< 0.251	< 0.275	<b>0.424</b>	<b>0.768</b>	< 0.259	<b>0.366</b>	<b>0.422</b>	<b>0.390</b>	<b>3.34</b>	< 0.274	<b>0.359</b>	0.475	<b>0.326</b>	--	--				
Chromium	mg/kg	390	NS	--	--	--	--	--	--	--	--	<b>5.51</b>	<b>1.6</b>	<b>37.3</b>	<b>3.72</b>	<b>1.69</b>	<b>1.80</b>	<b>3.29</b>	<b>3.92</b>	<b>2.69</b>	<b>5.79</b>	<b>6.80</b>	<b>7.18</b>	<b>3.34</b>	<b>2.89</b>	<b>3.92</b>	<b>5.55</b>	<b>2.72</b>	--	--				
Copper	mg/kg	3,100	NS	--	--	--	--	--	--	--	--	<b>85.2</b>	<b>8.68</b>	<b>139</b>	<b>59.7</b>	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Cyanide	mg/kg	200	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Lead	mg/kg	150	NS	--	--	--	--	--	--	--	--	<b>99.2</b>	<b>10.4</b>	<b>85.9</b>	<b>54.8</b>	<b>150</b>	<b>15.3</b>	<b>71.0</b>	<b>105</b>	<b>23.2</b>	<b>73.9</b>	<b>255</b>	<b>160</b>	<b>227</b>	<b>82.2</b>	<b>48.3</b>	<b>156</b>	<b>43.9</b>	--	--				
Manganese	mg/kg	390	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Mercury	mg/kg	23	NS	--	--	--	--	--	--	--	--	<b>0.113</b>	ND	ND	ND	<b>0.0610</b>	< 0.0543	<b>0.0697</b>	<b>0.101</b>	< 0.0544	<b>0.190</b>	<b>0.581</b>	<b>0.118</b>	<b>0.0714</b>	<b>0.261</b>	< 0.0598	<b>0.134</b>	<b>0.114</b>	--	--				
Nickel	mg/kg	1,000	NS	--	--	--	--	--	--	--	--	<b>16</b>	ND	<b>23</b>	<b>5.51</b>	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Selenium	mg/kg	390	NS	--	--	--	--	--	--	--	--	ND	ND	ND	ND	< 1.50	< 1.65	< 1.59	< 1.83	< 1.55	< 3.54	< 3.42	< 1.83	< 1.63	< 1.64	< 1.82	< 1.80</							



Table 1 - SUMMARY OF SOIL ANALYTICAL DATA (JWC)

PARAMOUNT APARTMENTS, LLC  
 5 MAIN STREET  
 SCITUATE, RHODE ISLAND

Parameter	Reporting Units	RIDEM RDEC (mg/kg)	RIDEM GALC (mg/kg)	Sample ID	SS-14	SS-15	SS-16 <sup>(1)</sup>	SS-17 <sup>(1)</sup>	SS-18 <sup>(1)</sup>	SS-19 <sup>(1)</sup>	SS-20 <sup>(1)</sup>	SS-21 <sup>(1)</sup>	SS-22 <sup>(1)</sup>	SS-23 <sup>(1)</sup>	SS-24 <sup>(1)</sup>	SS-25 <sup>(1)</sup>	TS-1	TS-2	TS-3	TS-4		
				Sample Collection Date	5/22/2006	5/22/2006	--	--	--	--	--	--	--	--	--	--	--	--	5/22/2006	5/22/2006	5/22/2006	5/22/2006
				Sample Interval (feet)	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2
Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results		
VOLATILE ORGANIC COMPOUNDS (VOCs)																						
Acetone	mg/kg	7,800	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Acrylonitrile	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Tert-amyl methyl ether	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Benzene	mg/kg	2.5	0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Bromobenzene	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Bromochloromethane	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Bromodichloromethane	mg/kg	10	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Bromoform	mg/kg	81	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Bromomethane	mg/kg	0.8	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2-Butanone (Methyl ethyl ketone)	mg/kg	10,000	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Tert-butyl alcohol	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
n-Butylbenzene	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
sec-Butylbenzene	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
tert-Butylbenzene	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Carbon disulfide	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Carbon tetrachloride	mg/kg	1.5	0.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Chlorobenzene	mg/kg	210	3.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Chloroethane	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Chloroform	mg/kg	1.2	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Chloromethane	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
o-Chlorotoluene	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
p-Chlorotoluene	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Dibromochloromethane	mg/kg	7.6	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1,2-Dibromo-3-chloropropane	mg/kg	0.5	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Dibromomethane	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1,2-Dibromoethane (EDB)	mg/kg	0.01	0.0005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1,2-Dichlorobenzene	mg/kg	510	41	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1,3-Dichlorobenzene	mg/kg	430	41	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1,4-Dichlorobenzene	mg/kg	27	41	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1,4-Dichlorobutane	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
trans-1,4-Dichloro-2-butene	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Dichlorodifluoromethane (Freon 12)	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1,1-Dichloroethane	mg/kg	920	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1,2-Dichloroethane	mg/kg	0.9	0.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1,1-Dichloroethene	mg/kg	0.2	0.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1,2-Dichloroethene	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
cis-1,2-Dichloroethene	mg/kg	630	1.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
trans-1,2-Dichloroethene	mg/kg	1,100	3.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1,2-Dichloropropane	mg/kg	1.9	0.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1,3-Dichloropropane	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2,2-Dichloropropane	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1,1-Dichloropropene	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1,3-Dichloropropene	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
cis-1,3-Dichloropropene	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
trans-1,3-Dichloropropene	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1,4-Dioxane	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Ethylbenzene	mg/kg	71	27	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Ethyl tert-butyl ether	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Ethyl ether	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Ethyl methacrylate	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Hexachlorobutadiene	mg/kg	8.2	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2-Hexanone	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Isopropylbenzene	mg/kg	27	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Di-isopropyl ether	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
p-Isopropyltoluene	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Methylene chloride	mg/kg	45	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
4-Methyl-2-pentanone	mg/kg	1,200	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Methyl tert butyl ether	mg/kg	390	0.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Naphthalene	mg/kg	54	0.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
n-Propylbenzene	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Styrene	mg/kg	13	2.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1,1,1,2-Tetrachloroethane	mg/kg	2.2	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1,1,2,2-Tetrachloroethane	mg/kg	1.3	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Tetrachloroethene	mg/kg	12	0.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Tetrahydrofuran	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		



Table 1 - SUMMARY OF SOIL ANALYTICAL DATA (JWC)

PARAMOUNT APARTMENTS, LLC  
5 MAIN STREET  
SCITUATE, RHODE ISLAND

Parameter	Reporting Units	RIDEM RDEC (mg/kg)	RIDEM GALC (mg/kg)	Sample ID	SS-14	SS-15	SS-16 <sup>(1)</sup>	SS-17 <sup>(1)</sup>	SS-18 <sup>(1)</sup>	SS-19 <sup>(1)</sup>	SS-20 <sup>(1)</sup>	SS-21 <sup>(1)</sup>	SS-22 <sup>(1)</sup>	SS-23 <sup>(1)</sup>	SS-24 <sup>(1)</sup>	SS-25 <sup>(1)</sup>	TS-1	TS-2	TS-3	TS-4			
				Sample Collection Date	5/22/2006	5/22/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	5/22/2006	5/22/2006	5/22/2006	5/22/2006
				Sample Interval (feet)	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2
Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results			
VOLATILE ORGANIC COMPOUNDS (VOCs) - CONTINUED																							
Toluene	mg/kg	190	32	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1,2,3-Trichlorobenzene	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1,2,4-Trichlorobenzene	mg/kg	96	140	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1,1,1-Trichloroethane	mg/kg	540	11	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1,1,2-Trichloroethane	mg/kg	3.6	0.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Trichloroethene	mg/kg	13	0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Trichlorofluoromethane (Freon 11)	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1,1,2-Trichlorotrifluoroethane (Freon 113)	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1,2,3-Trichloropropane	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1,2,4-Trimethylbenzene	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1,3,5-Trimethylbenzene	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Vinyl acetate	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Vinyl chloride	mg/kg	0.02	0.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
o-Xylene	mg/kg	110	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
p/m-Xylene	mg/kg	110	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Xylenes, Total	mg/kg	110	540	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
SEMIVOLATILE ORGANIC COMPOUNDS (SVOCs)																							
Acenaphthene	mg/kg	43	NS	< 0.142	< 0.143	ND	0.396	ND	ND	ND	ND	ND	ND	0.316	1.39	ND	--	--	--	--			
Acenaphthylene	mg/kg	23	NS	< 0.142	< 0.143	ND	0.436	ND	ND	ND	ND	ND	0.425	ND	ND	ND	--	--	--	--			
Aniline	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Anthracene	mg/kg	35	NS	< 0.142	0.159	ND	1.26	ND	ND	ND	ND	ND	0.411	0.921	3.22	ND	--	--	--	--			
Atrazine	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Azobenzene	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Benzidine	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Benzo(a)anthracene	mg/kg	0.9	NS	0.346	0.365	0.211	3.46	ND	0.749	ND	ND	1.72	1.97	7.45	0.325	--	--	--	--	--			
Benzo(a)pyrene	mg/kg	0.4	240	0.320	0.449	0.202	3.26	ND	0.715	ND	ND	1.86	1.85	7.14	0.339	--	--	--	--	--			
Benzo(b)fluoranthene	mg/kg	0.9	NS	0.500	0.458	0.00	3.72	ND	0.682	0.227	ND	2.23	1.9	6.42	0.416	--	--	--	--	--			
Benzo(g,h,i)perylene	mg/kg	0.8	NS	0.205	0.227	0.27	2.01	ND	0.403	ND	ND	0.781	0.753	2.99	0.173	--	--	--	--	--			
Benzo(k)fluoranthene	mg/kg	0.9	NS	0.282	0.259	0.172	2.9	ND	0.348	ND	ND	1.52	1.27	5.99	0.295	--	--	--	--	--			
Benzoic Acid	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Benzyl Alcohol	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Bis(2-chloroethoxy)methane	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Bis(2-chloroethyl)ether	mg/kg	0.6	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Bis(2-chloroisopropyl)ether	mg/kg	9.1	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Biphenyl	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
4-Bromophenyl phenyl ether	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Butyl benzyl phthalate	mg/kg	NS	NS	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--	--			
Carbazole	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
4-Chloroaniline	mg/kg	310	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
p-Chloro-M-Cresol	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2-Chloronaphthalene	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2-Chlorophenol	mg/kg	50	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
4-Chlorophenyl phenyl ether	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Chrysene	mg/kg	0.4	NS	0.350	0.375	0.27	4.1	ND	0.887	0.258	ND	2.05	2.0	8.17	0.447	--	--	--	--	--			
Dibenzo(a,h)anthracene	mg/kg	0.4	NS	< 0.142	< 0.143	ND	0.586	ND	ND	ND	ND	ND	0.189	0.779	ND	--	--	--	--	--			
Dibenzofuran	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1,2-Dichlorobenzene	mg/kg	510	41	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1,3-Dichlorobenzene	mg/kg	430	41	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1,4-Dichlorobenzene	mg/kg	27	41	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
3,3-Dichlorobenzidine	mg/kg	1.4	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2,4-Dichlorophenol	mg/kg	30	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Diethyl phthalate	mg/kg	340	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Dimethyl phthalate	mg/kg	1,900	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2,4-Dimethylphenol	mg/kg	1,400	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Di-n-butylphthalate	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
4,6-Dinitro-o-cresol	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2,4-Dinitrophenol	mg/kg	160	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2,4-Dinitrotoluene	mg/kg	0.9	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2,6-Dinitrotoluene	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Di-n-octylphthalate	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Bis(2-Ethylhexyl)phthalate	mg/kg	46	120	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Fluoranthene	mg/kg	20	NS	0.578	0.697	0.397	6.3	ND	1.06	0.378	ND	2.96	4.47	15.2	0.776	--	--	--	--	--			
Fluorene	mg/kg	28	NS	< 0.142	< 0.143	ND	0.456	ND	ND	ND	ND	ND	0.325	1.35	ND	--	--	--	--	--			
Hexachlorobenzene	mg/kg	0.4	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Hexachlorobutadiene	mg/kg	8.2	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			

Table 1 - SUMMARY OF SOIL ANALYTICAL DATA (JWC)

PARAMOUNT APARTMENTS, LLC  
5 MAIN STREET  
SCITUATE, RHODE ISLAND

Parameter	Reporting Units	RIDEM RDEC (mg/kg)	RIDEM GALC (mg/kg)	Sample ID	SS-14	SS-15	SS-16 <sup>(1)</sup>	SS-17 <sup>(1)</sup>	SS-18 <sup>(1)</sup>	SS-19 <sup>(1)</sup>	SS-20 <sup>(1)</sup>	SS-21 <sup>(1)</sup>	SS-22 <sup>(1)</sup>	SS-23 <sup>(1)</sup>	SS-24 <sup>(1)</sup>	SS-25 <sup>(1)</sup>	TS-1	TS-2	TS-3	TS-4		
				Sample Collection Date	5/22/2006	5/22/2006	--	--	--	--	--	--	--	--	--	--	--	--	5/22/2006	5/22/2006	5/22/2006	5/22/2006
				Sample Interval (feet)	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2
SEMIVOLATILE ORGANIC COMPOUNDS (SVOCs) - CONTINUED																						
Hexachlorocyclopentadiene	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Hexachloroethane	mg/kg	46	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Indeno(1,2,3-cd)Pyrene	mg/kg	0.9	NS	<b>0.186</b>	<b>0.191</b>	ND	<b>1.99</b>	ND	<b>0.271</b>	ND	ND	<b>0.785</b>	<b>0.75</b>	<b>2.77</b>	ND	--	--	--	--	--		
Isophorone	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1-Methylnaphthalene	mg/kg	NS	NS	< 0.142	< 0.143	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2-Methylnaphthalene	mg/kg	123	NS	< 0.142	< 0.143	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2-Methylphenol	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
3-Methylphenol/4-Methylphenol	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Naphthalene	mg/kg	54	0.8	< 0.142	< 0.143	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2-Nitroaniline	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
3-Nitroaniline	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
4-Nitroaniline	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Nitrobenzene	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2-Nitrophenol	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
4-Nitrophenol	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
n-Nitrosodimethylamine	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
n-Nitrosodi-n-propylamine	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
NitrosoDiPhenylAmine(NDPA)/DPA	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Pentachlorophenol	mg/kg	5.3	7.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Phenanthrene	mg/kg	40	NS	<b>0.308</b>	<b>0.414</b>	ND	<b>4.53</b>	ND	<b>0.664</b>	ND	ND	<b>1.53</b>	<b>3.45</b>	<b>14.5</b>	<b>0.437</b>	--	--	--	--	--		
Phenol	mg/kg	6,000	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Pyrene	mg/kg	13	NS	<b>0.691</b>	<b>0.920</b>	<b>0.458</b>	<b>6.030</b>	ND	<b>2.1</b>	<b>0.416</b>	ND	<b>3.060</b>	<b>3.97</b>	<b>17.1</b>	<b>0.738</b>	--	--	--	--	--		
Pyridine	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1,2,4-Trichlorobenzene	mg/kg	96	140	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2,4,5-Trichlorophenol	mg/kg	330	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2,4,6-Trichlorophenol	mg/kg	58	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
TOTAL PETYROLEUM HYDROCARBONS (TPH)																						
TPH	mg/kg	500/1,000	500	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
TOTAL METALS																						
Antimony	mg/kg	10	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Arsenic	mg/kg	7	NS	<b>3.15</b>	< 1.69	<b>2.81</b>	<b>3.34</b>	<b>2.56</b>	<b>2.61</b>	<b>7.27</b>	<b>4.43</b>	<b>7.11</b>	<b>5.18</b>	<b>2.82</b>	<b>2.98</b>	--	--	--	--	--		
Barium	mg/kg	5,500	NS	<b>32.4</b>	<b>17.4</b>	<b>19.6</b>	<b>33.6</b>	<b>12</b>	<b>16.3</b>	<b>320</b>	<b>181</b>	<b>45.5</b>	<b>25.9</b>	<b>37.5</b>	<b>23.8</b>	--	--	--	--	--		
Beryllium	mg/kg	1.5	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Cadmium	mg/kg	39	NS	<b>0.268</b>	< 0.281	ND	ND	--	--	ND	ND	ND	ND	ND	ND	--	--	--	--	--		
Chromium	mg/kg	390	NS	<b>2.39</b>	<b>2.06</b>	<b>1.48</b>	<b>3.76</b>	<b>5.53</b>	<b>2.04</b>	<b>13.1</b>	<b>3.85</b>	<b>3.27</b>	<b>2.51</b>	<b>3.15</b>	<b>2.49</b>	--	--	--	--	--		
Copper	mg/kg	3,100	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Cyanide	mg/kg	200	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Lead	mg/kg	150	NS	<b>60.6</b>	<b>54.8</b>	<b>12.8</b>	<b>118</b>	<b>7.91</b>	<b>17.6</b>	<b>747</b>	<b>41</b>	<b>74.8</b>	<b>62</b>	<b>105</b>	<b>63.5</b>	--	--	--	--	--		
Manganese	mg/kg	390	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Mercury	mg/kg	23	NS	<b>0.196</b>	< 0.0551	ND	<b>0.0854</b>	ND	<b>0.068</b>	<b>0.97</b>	ND	<b>0.0848</b>	<b>0.0861</b>	<b>0.0473</b>	<b>0.121</b>	--	--	--	--	--		
Nickel	mg/kg	1,000	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Selenium	mg/kg	390	NS	< 1.61	< 1.69	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--		
Silver	mg/kg	200	NS	<b>2.09</b>	<b>2.59</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--		
Thallium	mg/kg	5.5	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Vanadium	mg/kg	550	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Zinc	mg/kg	6000	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
POLYCHLORINATED BIPHENYLS (PCBs) (mg/kg)																						
PCBs, Total	mg/kg	10	10	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.292	< 0.0501	< 0.0287	< 0.0431		

Notes:

(1) Historic data with no laboratory analytical report available.

RIDEM = Rhode Island Department of Environmental Management

RDEC = Residential Direct Exposure Criteria

I/CDEC = Industrial/Commercial Direct Exposure Criteria

GALC = GA Leachability Criteria

mg/kg = milligrams per kilogram

NS = No Standard Promulgated

-- = Not Tested

< = Not detected above the laboratory reporting limit.

\* = The laboratory RL exceeds the respective RDEC.

\*\* = The laboratory RL exceeds the respective RDEC and GALC.

**Bold** concentrations exceed the laboratory reporting limit.

**Bold Red** concentrations are equal to or exceed applicable RIDEM Remediation Regulation Residential Direct Exposure Criteria.

Table 2 - SUMMARY OF GROUNDWATER ANALYTICAL DATA (JWC)

PARAMOUNT APARTMENTS, LLC  
5 MAIN STREET  
SCITUATE, RHODE ISLAND

	Sample ID		MW-1		MW-2		MW-3		MW-4		MW-5		MW-6	
	Sample Collection Date	RIDEM GA Groundwater Objective	5/4/2006	Q	5/4/2006	Q	5/4/2006	Q	5/4/2006	Q	5/4/2006	Q	5/4/2006	Q
Parameter	Reporting Units		Results		Results		Results		Results		Results		Results	
TOTAL PETROLEUM HYDROCARBONS (TPH)														
TPH	mg/l	NS	--		--		--		--		--		--	
VOLATILE ORGANIC COMPOUNDS (VOCs)														
Acetone	mg/l	NS	0.01	U	0.01	U	0.01	U	<b>0.0172</b>		0.01	U	0.01	U
Acrylonitrile	mg/l	NS	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
Tert-amyl methyl ether	mg/l	NS	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
Benzene	mg/l	0.005	0.001	U	0.001	U	0.001	U	0.001	U	<b>0.0096</b>		0.001	U
Bromobenzene	mg/l	NS	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
Bromochloromethane	mg/l	NS	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
Bromodichloromethane	mg/l	0.08	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
Bromoform	mg/l	0.08	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
Bromomethane	mg/l	NS	0.002	U	0.002	U	0.002	U	0.002	U	0.002	U	0.002	U
2-Butanone (Methyl ethyl ketone)	mg/l	NS	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U
Tert-butyl alcohol	mg/l	NS	0.01	U	0.01	U	0.01	U	<b>0.0109</b>		0.01	U	0.01	U
n-Butylbenzene	mg/l	NS	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
sec-Butylbenzene	mg/l	NS	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
tert-Butylbenzene	mg/l	NS	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
Tert-Butylethyl Ether	mg/l	NS	--		--		--		--		--		--	
Carbon disulfide	mg/l	NS	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
Carbon tetrachloride	mg/l	0.005	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
Chlorobenzene	mg/l	0.1	0.001	U	0.001	U	0.001	U	<b>0.0159</b>		0.001	U	0.001	U
Chlorodibromomethane	mg/l	0.08	--		--		--		--		--		--	
Chloroethane	mg/l	NS	0.002	U	0.002	U	0.002	U	0.002	U	0.002	U	0.002	U
Chloroform	mg/l	0.08	<b>0.0036</b>		<b>0.0039</b>		0.001	U	0.001	U	0.001	U	0.001	U
Chloromethane	mg/l	NS	0.002	U	0.002	U	0.002	U	0.002	U	0.002	U	0.002	U
o-Chlorotoluene	mg/l	NS	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
p-Chlorotoluene	mg/l	NS	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
Dibromochloromethane	mg/l	NS	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
1,2-Dibromo-3-chloropropane	mg/l	0.0002	0.002	U*	0.002	U*	0.002	U*	0.002	U*	0.002	U*	0.002	U*
1,2-Dibromoethane (EDB)	mg/l	0.00005	0.001	U*	0.001	U*	0.001	U*	0.001	U*	0.001	U*	0.001	U*
Dibromomethane	mg/l	NS	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
1,2-Dichlorobenzene	mg/l	NS	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
1,3-Dichlorobenzene	mg/l	NS	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
1,4-Dichlorobenzene	mg/l	NS	0.001	U	0.001	U	0.001	U	<b>0.102</b>		0.001	U	0.001	U
trans-1,4-Dichloro-2-butene	mg/l	NS	--		--		--		--		--		--	
Dichlorodifluoromethane (Freon 12)	mg/l	NS	0.002	U	0.002	U	0.002	U	0.002	U	0.002	U	0.002	U
1,1-Dichloroethane	mg/l	NS	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
1,2-Dichloroethane	mg/l	0.005	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
1,1-Dichloroethene	mg/l	0.007	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
1,2-Dichloroethene	mg/l	NS	--		--		--		--		--		--	
cis-1,2-Dichloroethene	mg/l	0.07	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
trans-1,2-Dichloroethene	mg/l	0.1	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
1,2-Dichloropropane	mg/l	0.005	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
1,3-Dichloropropane	mg/l	NS	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
2,2-Dichloropropane	mg/l	NS	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
1,1-Dichloropropene	mg/l	NS	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
1,3-Dichloropropene	mg/l	NS	--		--		--		--		--		--	
cis-1,3-Dichloropropene	mg/l	NS	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
trans-1,3-Dichloropropene	mg/l	NS	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
1,4-Dioxane	mg/l	NS	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U
Ethylbenzene	mg/l	0.7	0.001	U	0.001	U	0.001	U	0.001	U	<b>0.0026</b>		0.001	U
Ethyl ether	mg/l	NS	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
Ethyl tert-butyl ether	mg/l	NS	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
Hexachlorobutadiene	mg/l	NS	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
2-Hexanone	mg/l	NS	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U
Isopropylbenzene	mg/l	NS	0.001	U	0.001	U	<b>0.001</b>		0.001	U	<b>0.001</b>		0.001	U
Di-isopropyl ether	mg/l	NS	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
p-Isopropyltoluene	mg/l	NS	0.001	U	0.001	U	0.001	U	<b>0.0017</b>		0.001	U	0.001	U
Methyl Acetate	mg/l	NS	--		--		--		--		--		--	
Methylene chloride	mg/l	0.005	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U
4-Methyl-2-pentanone	mg/l	NS	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U
Methyl tert butyl ether (MTBE)	mg/l	0.04	0.001	U	0.001	U	0.001	U	0.001	U	<b>0.0144</b>		0.001	U
Methyl Cyclohexane	mg/l	NS	--		--		--		--		--		--	
Naphthalene	mg/l	NS	0.001	U	0.001	U	<b>0.0086</b>		<b>0.0023</b>		<b>0.0113</b>		0.001	U
n-Propylbenzene	mg/l	NS	0.001	U	0.001	U	0.001	U	0.001	U	<b>0.0012</b>		0.001	U
Styrene	mg/l	0.1	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
1,1,1,2-Tetrachloroethane	mg/l	NS	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
1,1,1,2,2-Tetrachloroethane	mg/l	NS	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
Tetrachloroethene	mg/l	0.005	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
Tetrahydrofuran	mg/l	NS	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U
Toluene	mg/l	1	0.001	U	0.001	U	0.001	U	<b>0.0896</b>		<b>0.0012</b>		0.001	U
1,2,3-Trichlorobenzene	mg/l	NS	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
1,2,4-Trichlorobenzene	mg/l	NS	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
1,3,5-Trichlorobenzene	mg/l	NS	--		--		--		--		--		--	
1,1,1-Trichloroethane	mg/l	0.2	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
1,1,2-Trichloroethane	mg/l	0.005	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
Trichloroethene (TCE)	mg/l	0.005	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
Trichlorofluoromethane (Freon 11)	mg/l	NS	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
1,1,2-Trichlorotrifluoroethane (Freon 113)	mg/l	NS	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
1,2,3-Trichloropropane	mg/l	NS	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
1,2,4-Trimethylbenzene	mg/l	NS	0.001	U	0.001	U	0.001	U	0.001	U	<b>0.0093</b>		0.001	U
1,3,5-Trimethylbenzene	mg/l	NS	0.001	U	0.001	U	0.001	U	0.001	U	<b>0.002</b>		0.001	U
Vinyl chloride	mg/l	0.002	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001	U
o-Xylene	mg/l	10	0.001	U	0.001	U	0.001	U	0.001	U	<b>0.0049</b>		0.001	U
p/m-Xylene	mg/l	10	0.002	U	0.002	U	0.002	U	0.002	U	<b>0.0067</b>		0.002	U
Xylenes, Total	mg/l	10	0.003	U	0.003	U	0.003	U	0.003	U	<b>0.0116</b>		0.003	U
TOTAL METALS														
Antimony, Total	mg/l	0.006	--		--</									

Table 2 - SUMMARY OF GROUNDWATER ANALYTICAL DATA (JWC)

PARAMOUNT APARTMENTS, LLC  
 5 MAIN STREET  
 SCITUATE, RHODE ISLAND

Parameter	Reporting Units	Sample ID Sample Collection Date RIDE M GA Groundwater Objective	MW-1 5/4/2006		MW-2 5/4/2006		MW-3 5/4/2006		MW-4 5/4/2006		MW-5 5/4/2006		MW-6 5/4/2006	
			Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q
<b>TOTAL METALS - CONTINUED</b>														
Cyanide, Total	mg/l	0.2	--		--		--		--		--		--	
Lead, Total	mg/l	0.015	0.0075	U	0.0075	U	0.0075	U	0.0075	U	0.0075	U	0.0075	U
Manganese, Total	mg/l	NS	--		--		--		--		--		--	
Mercury, Total	mg/l	0.002	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U
Nickel, Total	mg/l	0.1	--		--		--		--		--		--	
Selenium, Total	mg/l	0.05	0.015	U	0.015	U	0.015	U	0.015	U	0.015	U	0.015	U
Silver, Total	mg/l	NS	0.01	U	0.01	U	<b>0.0118</b>		0.01	U	0.01	U	0.01	U
Thallium, Total	mg/l	0.002	--		--		--		--		--		--	
Vanadium, Total	mg/l	NS	--		--		--		--		--		--	
Zinc, Total	mg/l	NS	--		--		--		--		--		--	
<b>PERCHLORATE</b>														
Perchlorate	mg/l	NS	--		--		--		--		--		--	
<b>PESTICIDES</b>														
Chlordane	mg/l	0.002	--		--		--		--		--		--	

**Notes:**

RIDE M = Rhode Island Department of Environmental Management

mg/l = milligrams per liter.

Q = Qualifier

NS = No Standard Promulgated

-- = Not Tested

U = Undetected the laboratory's Reporting Limit.

\* = The laboratory Reporting Limit is equal to or exceeds the respective GA Groundwater Objective.

- = Not Tested

**Bold** = concentrations detected above the laboratory Reporting Limit.

**Bold Red** = concentrations detected above the applicable RIDE M Remediation Regulation GA Groundwater Objective.

**TABLE 3 - SUMMARY OF GROUNDWATER GAUGING, ELEVATION AND LNAPL DATA**

**PARAMOUNT APARTMENTS, LLC  
5 MAIN STREET  
SCITUATE, RHODE ISLAND**

Well ID	Measuring Point Elevation (feet)	Date	Depth to LNAPL (feet)	Depth to Groundwater <sup>2</sup> (feet)	Corrected Groundwater Elevation <sup>3</sup> (feet)	Apparent LNAPL Thickness <sup>4</sup> (feet)
MW-7	187.46	4/16/2020	ND	5.31	182.15	0.00
		6/30/2020	ND	9.46	178.00	0.00
MW-8	186.36	4/16/2020	ND	3.87	182.49	0.00
		6/30/2020	ND	8.85	177.51	0.00
MW-9	187.83	4/16/2020	ND	3.24	184.59	0.00
		6/30/2020	ND	6.53	181.3	0.00
MW-10	188.72	4/16/2020	7.39	NM	--	NA
		6/30/2020	9.55	NM	--	NA
MW-11	185.69	4/16/2020	ND	5.82	179.87	0.00
		6/30/2020	ND	9.02	176.67	0.00
MW-12	182.19	4/16/2020	ND	8.92	173.27	0.00
		6/30/2020	ND	10.02	172.17	0.00
MW-13	181.13	4/16/2020	ND	6.01	175.12	0.00
		6/30/2020	ND	9.63	171.5	0.00
MW-14	191.649	6/30/2020	ND	12.04	179.609	0.00
MW-15	188.098	6/30/2020	ND	9.29	178.808	0.00
MW-16	187.392	6/30/2020	ND	10.12	177.272	0.00
MW-17	188.106	6/30/2020	ND	12.02	176.086	0.00

**Notes:**

LNAPL = Light Non Aqueous Phase Liquid

NM = Not measured

NA = Not available

1. Elevation of measuring points obtained from a DiPrete Engineering survey conducted July 1, 2020.
2. Distance below the dedicated measuring point (e.g., PVC riser pipe) as measured with an electronic interface probe.
3. Measuring point elevation minus depth to groundwater.
4. Apparent LNAPL Thickness = Depth to Groundwater minus Depth to LNAPL.

TABLE 5 - SUMMARY OF SOIL AND GROUNDWATER SAMPLES AND LABORATORY ANALYSIS (ESS)

PARAMOUNT APARTMENTS, LLC  
 5 MAIN STREET  
 SCITUATE, RHODE ISLAND

Area of Concern	Test Pits	Boring(s)	Surface Sampling	Well	Project Phasing	Sample IDs		Analysis	Analytical Method						
						Soil	Groundwater								
AOC 1 <sup>(1)</sup> (Potential Former Liquid Lagoons)	ESSTP-19	--	--	--	Limited Due Diligence	ESSTP-19 (3.0 - 5.0')	--	VOCs	US EPA Method 5035/8260C						
								SVOCs	US EPA Method 8270D						
								PCBs	US EPA Method 80802A (with Soxhlet Extraction)						
								Organochlorine Pesticides	US EPA Method 8081B						
								TPH	US EPA Method 8015C						
								Metals <sup>(2)</sup>	US EPA Methods 6010C, 9021B and 7471B						
								Ignitability	US EPA Method 1030						
								pH	US EPA Method 9045D						
								Reactive Cyanide	US EPA Method 7.3						
								Reactive Sulfide	US EPA Method 7.3						
	SPLP for Lead	US EPA Method 1312													
	ESSTP-21	--	--	--	Limited Due Diligence	ESSTP-21 (3.0 - 4.0')	--	VOCs	US EPA Method 5035/8260C						
								SVOCs	US EPA Method 8270D						
								PCBs	US EPA Method 80802A (with Soxhlet Extraction)						
								Organochlorine Pesticides	US EPA Method 8081B						
								TPH	US EPA Method 8015C						
								Metals <sup>(2)</sup>	US EPA Methods 6010C, 9021B and 7471B						
								Ignitability	US EPA Method 1030						
pH								US EPA Method 9045D							
Reactive Cyanide								US EPA Method 7.3							
Reactive Sulfide								US EPA Method 7.3							
SPLP for Lead	US EPA Method 3015/6010C														
ESSTP-22	--	--	--	Limited Due Diligence	ESSTP-22 (3.0 - 5.0')	--	VOCs	US EPA Method 5035/8260C							
							SVOCs	US EPA Method 8270D							
							PCBs	US EPA Method 80802A (with Soxhlet Extraction)							
							Organochlorine Pesticides	US EPA Method 8081B							
							TPH	US EPA Method 8015C							
							Metals <sup>(2)</sup>	US EPA Methods 6010C, 9021B and 7471B							
							Ignitability	US EPA Method 1030							
							pH	US EPA Method 9045D							
							Reactive Cyanide	US EPA Method 7.3							
							Reactive Sulfide	US EPA Method 7.3							
SPLP for Beryllium	US EPA Method 3015/6010C														
SPLP for Lead	US EPA Method 3015/6010C														
ESS-57A	--	--	--	Phase 2	ESS-57A (0.0 - 3.0')	--	Pesticides (Chlordane & Dieldrin Only)	US EPA Method 8081B							
							Pesticides (Chlordane & Dieldrin Only)	US EPA Method 8081B							
							Pesticides (Chlordane & Dieldrin Only)	US EPA Method 8081B							
							ESS-57B	--	--	--	Phase 2	ESS-57B (0.0 - 3.0')	--	Pesticides (Chlordane & Dieldrin Only)	US EPA Method 8081B
														Pesticides (Chlordane & Dieldrin Only)	US EPA Method 8081B
														Pesticides (Chlordane & Dieldrin Only)	US EPA Method 8081B
							ESS-57C	--	--	--	Phase 2	ESS-57C (0.0 - 3.0')	--	Pesticides (Chlordane & Dieldrin Only)	US EPA Method 8081B
														Pesticides (Chlordane & Dieldrin Only)	US EPA Method 8081B
														Pesticides (Chlordane & Dieldrin Only)	US EPA Method 8081B
							ESS-57D	--	--	--	Phase 2	ESS-57D (0.0 - 3.0')	--	Pesticides (Chlordane & Dieldrin Only)	US EPA Method 8081B
Pesticides (Chlordane & Dieldrin Only)	US EPA Method 8081B														
Pesticides (Chlordane & Dieldrin Only)	US EPA Method 8081B														
--	--	--	--	TH-4 <sup>(5)</sup>	Phase 1	--	SSP-7	SVOCs (PAHs Only)	US EPA Method 8270D						
								Metals <sup>(5)</sup>	US EPA Methods 6020A, 9010C/9012B, and 7470A						
--	--	--	--	TH-7 <sup>(5)</sup>	Phase 1	--	SSP-8	SVOCs (PAHs Only)	US EPA Method 8270D						
								Metals <sup>(5)</sup>	US EPA Methods 6020A, 9010C/9012B, and 7470A						
AOC 2 (Former Railroad Bridge Abutments)	--	--	ESS-27	--	Limited Due Diligence	ESS-27 (0.0 - 0.5')	--	SVOCs (PAHs Only)	US EPA Method 8270D						
								Metals <sup>(2)</sup>	US EPA Methods 6010C and 7471B						
--	--	--	ESS-28	--	Limited Due Diligence	ESS-28 (0.0 - 0.5')	--	SPLP for Lead	US EPA Method 1312						
								SVOCs (PAHs Only)	US EPA Method 8270D						
AOC 3 (Annual Fireworks Display Area)	--	--	FW-1	--	Limited Due Diligence	FW-1 (0.0 - 0.5')	--	Perchlorate	US EPA Method 6860						
								FW-2	--	Perchlorate	US EPA Method 6860				
								FW-3	--	Perchlorate	US EPA Method 6860				
								FW-4	--	Perchlorate	US EPA Method 6860				
								FW-5	--	Perchlorate	US EPA Method 6860				
								FW-6	--	Perchlorate	US EPA Method 6860				
								FW-7	--	Perchlorate	US EPA Method 6860				
								FW-8	--	Perchlorate	US EPA Method 6860				
AOC 4 (Pervious Pavement/Sub-Drain Area)	--	ESS-30	--	--	Phase 1	ESS-30 (3.0 - 8.0')	--	VOCs	US EPA Method 5035/8260C						
								SVOCs	US EPA Method 8270D						
								PCBs	US EPA Method 80802A (with Soxhlet Extraction)						
								Organochlorine Pesticides	US EPA Method 8081B (Chlordane & Dieldrin Only)						
	ESS-30A	--	--	--	Phase 2	ESS-30A (0.0 - 3.0')	--	TPH	US EPA Method 8100M						
								Metals <sup>(4)</sup>	US EPA Methods 6020A, 6010C, 7471B, 9014, and 7196A						
	--	ESS-31	--	--	Phase 1	ESS-31 (3.0 - 8.0')	--	SVOCs	US EPA Method 8270D						
								Metals (Arsenic & Lead Only)	US EPA Method 6010D						
								SPLP for Lead	US EPA Method 6020B						
								VOCs	US EPA Method 5035/8260C						
	ESS-31A	--	--	--	Phase 2	ESS-31A (0.0 - 3.0')	--	SVOCs	US EPA Method 8270D						
								Metals (Arsenic & Lead Only)	US EPA Method 6010D						
SPLP for Lead								US EPA Method 6020B							
SVOCs								US EPA Method 8270D							
ESS-31B	--	--	--	Phase 2	ESS-31B (0.0 - 3.0')	--	Metals (Arsenic & Lead Only)	US EPA Method 6010D							
							SPLP for Lead	US EPA Method 6020B							
							SVOCs (PAHs Only)	US EPA Method 8270D							
							Metals (Arsenic & Lead Only)	US EPA Method 6010D							
ESS-31C	--	--	--	Phase 2	ESS-31C (0.0 - 3.0')	--	SPLP for Lead	US EPA Method 6020B							
							SVOCs (PAHs Only)	US EPA Method 8270D							
							Metals (Arsenic & Lead Only)	US EPA Method 6010D							
							SPLP for Lead	US EPA Method 6020B							
--	--	--	--	Phase 2	ESS-31A (3.0 - 4.75')	--	SVOCs (PAHs Only)	US EPA Method 8270D							
							Metals (Arsenic & Lead Only)	US EPA Method 6010D							
							SPLP for Lead	US EPA Method 6020B							
							SVOCs (PAHs Only)	US EPA Method 8270D							
--	--	--	--	Phase 2	ESS-31B (3.0 - 4.5')	--	Metals (Arsenic & Lead Only)	US EPA Method 6010D							
							SPLP for Lead	US EPA Method 6020B							
							SVOCs (PAHs Only)	US EPA Method 8270D							
							Metals (Arsenic & Lead Only)	US EPA Method 6010D							
--	--	--	--	Phase 2	ESS-31C (3.0 - 4.25')	--	SPLP for Lead	US EPA Method 6020B							
							SVOCs (PAHs Only)	US EPA Method 8270D							
							Metals (Arsenic & Lead Only)	US EPA Method 6010D							
							SPLP for Lead	US EPA Method 6020B							

TABLE 5 - SUMMARY OF SOIL AND GROUNDWATER SAMPLES AND LABORATORY ANALYSIS (ESS)

PARAMOUNT APARTMENTS, LLC  
 5 MAIN STREET  
 SCITUATE, RHODE ISLAND

Area of Concern	Test Pits	Boring(s)	Surface Sampling	Well	Project Phasing	Sample IDs		Analysis	Analytical Method
						Soil	Groundwater		
AOC 4 (Pervious Pavement/Sub-Drain Area)	ESS-31D	--	--	--	Phase 2	ESS-31D (0.0 - 3.0')	--	SVOCs (PAHs Only)	US EPA Method 8270D
								Metals (Arsenic & Lead Only)	US EPA Method 6010D
								SPLP for Lead	US EPA Method 6020B
		ESS-32	--	--	Phase 1	ESS-32 (3.0 - 8.0')	--	SVOCs (PAHs Only)	US EPA Method 8270D
								Metals (Arsenic & Lead Only)	US EPA Method 6010D
								SPLP for Lead	US EPA Method 6020B
	--	ESS-32A	--	--	Phase 2	ESS-32A (0.0 - 3.0')	--	SVOCs (PAHs Only)	US EPA Method 8270D
								Metals (Arsenic & Lead Only)	US EPA Method 6010D
								SPLP for Lead	US EPA Method 6020B
	--	ESS-33	--	--	Phase 1	ESS-33 (3.0 - 8.0')	--	VOCs	US EPA Method 5035/8260C
								SVOCs	US EPA Method 8270D
								PCBs	US EPA Method 80802A (with Soxhlet Extraction)
	ESS-33A	--	--	--	Phase 2	ESS-33A (0.0 - 3.0')	--	Pesticides (Chlordane & Dieldrin Only)	US EPA Method 8081B
								TPH	US EPA Method 8100M
								Metals <sup>(4)</sup>	US EPA Methods 6020A, 6010C, 7471B, 9014, and 7196A
	--	ESS-34	--	--	Phase 1	ESS-34 (3.0 - 8.0')	--	SPLP for Lead	US EPA Method 3012/6010C
								SPLP for Nickel	US EPA Method 3012/6010C
								Metals <sup>(4)</sup>	US EPA Methods 6020A, 6010C, 7471B, 9014, and 7196A
	ESS-34A	--	--	--	Phase 2	ESS-34A (0.0 - 3.0')	--	SVOCs (PAHs Only)	US EPA Method 8270D
								Metals (Arsenic & Lead Only)	US EPA Method 6010D
SPLP for Lead								US EPA Method 6020B	
--	ESS-35	--	--	Phase 1	ESS-35 (3.0 - 8.0')	--	VOCs	US EPA Method 5035/8260C	
							SVOCs	US EPA Method 8270D	
							PCBs	US EPA Method 80802A (with Soxhlet Extraction)	
ESS-35A	--	--	--	Phase 2	ESS-35A (0.0 - 3.0')	--	Pesticides (Chlordane & Dieldrin Only)	US EPA Method 8081B	
							TPH	US EPA Method 8100M	
							Metals <sup>(4)</sup>	US EPA Methods 6020A, 6010C, 7471B, 9014, and 7196A	
--	ESS-36	--	--	Phase 1	ESS-36 (3.0 - 8.0')	--	SPLP for Lead	US EPA Method 3012/6010C	
							SPLP for Beryllium	US EPA Method 3012/6010C	
							Metals <sup>(4)</sup>	US EPA Methods 6020A, 6010C, 7471B, 9014, and 7196A	
--	ESS-37	--	--	Phase 1	ESS-37 (3.0 - 8.0')	--	VOCs	US EPA Method 5035/8260C	
							SVOCs	US EPA Method 8270D	
							PCBs	US EPA Method 80802A (with Soxhlet Extraction)	
--	ESS-38	--	--	Phase 1	ESS-38 (3.0 - 8.0')	--	Pesticides (Chlordane & Dieldrin Only)	US EPA Method 8081B	
							TPH	US EPA Method 8100M	
							Metals <sup>(4)</sup>	US EPA Methods 6020A, 6010C, 7471B, 9014, and 7196A	
--	ESS-30, ESS-31, ESS-32	--	--	Phase 1	COMP-1 (0.0 - 3.0')	--	SPLP for Beryllium	US EPA Method 3012/6010C	
							SPLP for Lead	US EPA Method 3012/6010C	
							Metals <sup>(4)</sup>	US EPA Methods 6020A, 6010C, 7471B, 9014, and 7196A	
--	ESS-33, ESS-34, ESS-35	--	--	Phase 1	COMP-2 (0.0 - 3.0')	--	VOCs	US EPA Method 5035/8260C	
							SVOCs	US EPA Method 8270D	
							PCBs	US EPA Method 80802A (with Soxhlet Extraction)	
--	ESS-36, ESS-37, ESS-38	--	--	Phase 1	COMP-3 (0.0 - 3.0')	--	Pesticides (Chlordane & Dieldrin Only)	US EPA Method 8081B	
							TPH	US EPA Method 8100M	
							Metals <sup>(4)</sup>	US EPA Methods 6020A, 6010C, 7471B, 9014, and 7196A	
--	--	--	--	MW-7	Phase 2	--	MW-7	VOCs	US EPA Method 8260C-D
								Metals (Arsenic & Lead Only)	US EPA Methods 6020B
								Metals <sup>(4)</sup>	US EPA Methods 6020A, 6010C, 7471B, 9014, and 7196A
--	--	--	--	MW-8	Phase 2	--	MW-8	VOCs	US EPA Method 8260C-D
								SVOCs (PAHs Only)	US EPA Method 8270D-E
								Metals (Arsenic & Lead Only)	US EPA Methods 6020B
--	--	--	--	MW-9	Phase 2	--	MW-9	VOCs	US EPA Method 8260C-D
								SVOCs (PAHs Only)	US EPA Method 8270D-E
								Metals (Arsenic & Lead Only)	US EPA Methods 6020B
AOC 5 (On-Site Wastewater Treatment System (OWTS))	--	ESS-43	--	--	Phase 1	ESSTP-43 (2.0 - 8.0')	--	VOCs	US EPA Method 5035/8260C
								SVOCs	US EPA Method 8270D
								PCBs	US EPA Method 80802A (with Soxhlet Extraction)
								Pesticides (Chlordane & Dieldrin Only)	US EPA Method 8081B
								TPH	US EPA Method 8015C
Metals <sup>(4)</sup>	US EPA Methods 6020A, 6010C, 7471B, 9014, and 7196A								

TABLE 5 - SUMMARY OF SOIL AND GROUNDWATER SAMPLES AND LABORATORY ANALYSIS (ESS)

PARAMOUNT APARTMENTS, LLC  
 5 MAIN STREET  
 SCITUATE, RHODE ISLAND

Area of Concern	Test Pits	Boring(s)	Surface Sampling	Well	Project Phasing	Sample IDs		Analysis	Analytical Method	
						Soil	Groundwater			
AOC 5 (On-Site Wastewater Treatment System (OWTS))	--	ESS-44	--	--	Phase 1	ESSTP-44 (2.0 - 8.0')	--	VOCs SVOCs PCBs Pesticides (Chlordane & Dieldrin Only) TPH Metals <sup>(4)</sup>	US EPA Method 5035/8260C US EPA Method 8270D US EPA Method 80802A (with Soxhlet Extraction) US EPA Method 8081B US EPA Method 8015C US EPA Methods 6020A, 6010C, 7471B, 9014, and 7196A	
	--	ESS-45	--	--	Phase 1	ESSTP-45 (2.0 - 8.0')	--	VOCs SVOCs PCBs Pesticides (Chlordane & Dieldrin Only) TPH Metals <sup>(4)</sup>	US EPA Method 5035/8260C US EPA Method 8270D US EPA Method 80802A (with Soxhlet Extraction) US EPA Method 8081B US EPA Method 8015C US EPA Methods 6020A, 6010C, 7471B, 9014, and 7196A	
	--	ESS-43, ESS-44, ESS-45	--	--	Phase 1	COMP-7 (0.0 - 2.0')	--	VOCs SVOCs PCBs Pesticides TPH Metals <sup>(4)</sup>	US EPA Method 5035/8260C US EPA Method 8270D US EPA Method 80802A (with Soxhlet Extraction) US EPA Method 8081B US EPA Method 8015C US EPA Methods 6020A, 6010C, 7471B, 9014, and 7196A	
	--	--	--	--	MW-13	Phase 2	--	MW-13 VOCs Pesticides (Chlordane Only) Metals (Arsenic & Lead Only)	US EPA Method 8260C-D US EPA Method 8081B US EPA Methods 6020B	
AOC 6 (Former UST #2)	--	ESS-46	--	--	Phase 1	ESS-46 (8.0')	--	VOCs	US EPA Method 5035/8260C	
	--	ESS-47	--	--	Phase 1	ESS-47 (8.5')	--	VOCs	US EPA Method 5035/8260C	
	--	ESS-61	--	--	Phase 3	ESS-61 (7.0 - 8.0)	--	VOCs TPH	US EPA Method 5035/8260C-D US EPA Method 8100M	
	--	ESS-62	--	--	Phase 3	ESS-62 (1.1 - 1.8)	--	VOCs TPH	US EPA Method 5035/8260C-D US EPA Method 8100M	
	--	ESS-65	--	--	Phase 3	ESS-65 (11.3 - 12.5')	--	VOCs TPH	US EPA Method 5035/8260C-D US EPA Method 8100M	
	--	--	--	--	MW-11	Phase 2	--	MW-11 VOCs Metals (Arsenic & Lead Only)	US EPA Method 8260C-D US EPA Methods 6020B	
	--	--	--	--	MW-14	Phase 3	--	MW-14	US EPA Method 8260C-D	
	--	--	--	--	MW-15	Phase 3	--	MW-15	US EPA Method 8260C-D	
AOC 7 (Fill Area)	ESS-48	--	--	--	Phase 2	ESS-48 (0.0 - 4.0')	--	VOCs (PAHs Only) Metals (Arsenic & Lead Only) SPLP for Lead	US EPA Method 8270D US EPA Method 6010C US EPA Method 3012/6010C	
	ESS-50	--	--	--	Phase 2	ESS-50 (0.0 - 4.0')	--	VOCs (PAHs Only) Metals (Arsenic & Lead Only) SPLP for Lead	US EPA Method 8270D US EPA Method 6010C US EPA Method 3012/6010C	
						ESS-50 (4.0 - 8.0')	--	SVOCs (PAHs Only) Metals (Arsenic & Lead Only)	US EPA Method 8270D US EPA Method 6010C	
	ESS-60	--	--	--	Phase 2	ESS-60 (0.0 - 4.0')	--	VOCs (PAHs Only) Metals (Arsenic & Lead Only) SPLP for Lead	US EPA Method 8270D US EPA Method 6010C US EPA Method 3012/6010C	
	--	--	--	--	MW-12	Phase 2	--	MW-12 VOCs SVOCs (PAHs Only) Metals (Arsenic & Lead Only)	US EPA Method 8260C-D US EPA Method 8270D-E US EPA Methods 6020B	
	AOC 8 (West of Building 2)	ESS-58	--	--	--	Phase 2	ESS-58 (0.0 - 3.0')	--	SVOCs (PAHs Only) Metals (Arsenic & Lead Only) SPLP for Lead	US EPA Method 8270D US EPA Method 6010C US EPA Method 3012/6010C
							ESS-58 (3.0 - 7.5')	--	Metals (Arsenic & Lead Only) SPLP for Lead	US EPA Method 6010C US EPA Method 3012/6010C
		ESS-59	--	--	--	Phase 2	ESS-59 (0.0 - 3.0')	--	SVOCs (PAHs Only) Metals (Arsenic & Lead Only)	US EPA Method 8270D US EPA Method 6010C
SPLP for Lead									US EPA Method 3012/6010C	

Notes:

- (1) See also AOCs 3 and 5.
- (2) Metals = antimony, arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, thallium, and zinc.
- (3) Metals = Antimony, arsenic, barium, beryllium, cadmium, chromium, copper, cyanide, lead, manganese, mercury, nickel, selenium, silver, thallium, vanadium, and zinc.
- (4) Metals = Antimony, arsenic, barium, beryllium, cadmium, chromium (trivalent and hexavalent), copper, cyanide, lead, manganese, mercury, nickel, selenium, silver, thallium, vanadium, and zinc.
- (5) Observation wells installed by DiPrete Engineering of Cranston, Rhode Island.





TABLE 5 - SUMMARY OF SOIL ANALYTICAL DATA (ESS)

PARAMOUNT APARTMENTS, LLC  
5 MAIN STREET  
SCITUATE, RHODE ISLAND

Parameter	Reporting Units	RIDE M		ESSTP-19		ESSTP-21		ESSTP-22		ESS-57A			ESS-57B			ESS-57C			ESS-57D			ESS-27	ESS-28	FW-1	
		RDEC	GALC	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q
		Sample ID	ESSTP-19	ESSTP-21	ESSTP-22		ESS-57A			ESS-57B			ESS-57C			ESS-57D			ESS-27	ESS-28	FW-1				
Sample Collection Date	1/14/2016	1/14/2016	1/14/2016		4/2/2020			4/2/2020			4/2/2020			4/2/2020			1/14/2016	1/14/2016	1/14/2016						
Sample Interval (feet)	3.0 - 5.0	3.0 - 4.0	3.0 - 5.0	9.0	0 - 3.0	3.0-5.0	5.0-9.0	0 - 3.0	3.0-5.0	5.0-8.0	0 - 3.0	3.0-5.0	5.0-8.0	0 - 3.0	3.0-5.0	5.0-9.0	0 - 3.0	3.0-5.0	5.0-9.0	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5			
PID (ppmV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
VOLATILE ORGANIC COMPOUNDS (VOCs) - CONTINUED																									
1,2,3-Trichlorobenzene	mg/kg	NS	NS	0.0044	U	0.0035	U	0.0046	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1,2,4-Trichlorobenzene	mg/kg	96	NS	0.0044	U	0.0035	U	0.0046	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1,3,5-Trichlorobenzene	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1,1,1-Trichloroethane	mg/kg	540	11	0.00087	U	0.0007	U	0.00091	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1,1,2-Trichloroethane	mg/kg	3.6	0.1	0.0013	U	0.001	U	0.0014	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Trichloroethene	mg/kg	13	0.2	0.00087	U	0.0007	U	0.00091	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Trichlorofluoromethane	mg/kg	NS	NS	0.0044	U	0.0035	U	0.0046	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1,2,3-Trichloropropane	mg/kg	NS	NS	0.0087	U	0.007	U	0.0091	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1,2,4-Trimethylbenzene	mg/kg	NS	NS	0.0044	U	0.0035	U	0.0046	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1,3,5-Trimethylbenzene	mg/kg	NS	NS	0.0044	U	0.0035	U	0.0046	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vinyl Acetate	mg/kg	NS	NS	0.0087	U	0.007	U	0.0091	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vinyl Chloride	mg/kg	0.02	0.3	0.0017	U	0.0014	U	0.0018	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Xylene P,M	mg/kg	110	540	0.0017	U	0.0014	U	0.0018	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Xylene O	mg/kg	110	540	0.0017	U	0.0014	U	0.0018	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Xylenes (Total)	mg/kg	110	540	0.0017	U	0.0014	U	0.0018	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
SEMIVOLATILE ORGANIC COMPOUNDS (SVOCs)																									
Acenaphthene	mg/kg	43	NS	0.14	U	0.14	U	0.17	U	-	-	-	-	-	-	-	-	-	-	-	-	0.14	U	0.28	-
Acenaphthylene	mg/kg	23	NS	0.14	U	0.14	U	0.17	U	-	-	-	-	-	-	-	-	-	-	-	-	0.14	U	0.3	-
Acetophenone	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aniline	mg/kg	NS	NS	0.21	U	0.21	U	0.26	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Anthracene	mg/kg	35	NS	0.11	U	0.1	U	0.13	U	-	-	-	-	-	-	-	-	-	-	-	-	0.1	U	0.81	-
Benidine	mg/kg	NS	NS	0.59	U	0.58	U	0.7	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzoic Acid	mg/kg	NS	NS	0.58	U	0.57	U	0.69	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)anthracene	mg/kg	0.9	NS	0.11	U	0.1	U	0.13	U	-	-	-	-	-	-	-	-	-	-	-	-	0.1	U	1.7	-
Benzo(a)pyrene	mg/kg	0.4	240	0.14	U	0.14	U	0.17	U	-	-	-	-	-	-	-	-	-	-	-	-	0.14	U	1.5	-
Benzo(b)fluoranthene	mg/kg	0.9	NS	0.11	U	0.1	U	0.13	U	-	-	-	-	-	-	-	-	-	-	-	-	0.1	U	2	-
Benzo(g,h,i)perylene	mg/kg	0.8	NS	0.14	U	0.14	U	0.17	U	-	-	-	-	-	-	-	-	-	-	-	-	0.14	U	0.88	-
Benzo(k)fluoranthene	mg/kg	0.9	NS	0.11	U	0.1	U	0.13	U	-	-	-	-	-	-	-	-	-	-	-	-	0.1	U	0.69	-
Benzyl Alcohol	mg/kg	NS	NS	0.18	U	0.18	U	0.21	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Biphenyl	mg/kg	NS	NS	0.4	U	0.4	U	0.49	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Biphenyl	mg/kg	0.8	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	mg/kg	NS	NS	0.19	U	0.19	U	0.23	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
bis(2-Chloroethyl)ether	mg/kg	0.6	NS	0.16	U	0.16	U	0.19	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
bis(2-chloroisopropyl)Ether	mg/kg	9.1	NS	0.21	U	0.21	U	0.26	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate	mg/kg	46	120	0.18	U	0.18	U	0.21	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Bromophenyl-phenylether	mg/kg	NS	NS	0.18	U	0.18	U	0.21	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Butylbenzylphthalate	mg/kg	NS	NS	0.18	U	0.18	U	0.21	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbazole	mg/kg	NS	NS	0.18	U	0.18	U	0.21	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Chloroaniline	mg/kg	310	NS	0.18	U	0.18	U	0.21	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Chloronaphthalene	mg/kg	NS	NS	0.18	U	0.18	U	0.21	U	-	-	-	-	-	-	-	-	-	-	-	-	0.17	U	0.19	U
4-Chloro-3-Methylphenol	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Chlorophenol	mg/kg	50	NS	0.18	U	0.18	U	0.21	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Chloro-phenyl-phenyl ether	mg/kg	NS	NS	0.18	U	0.18	U	0.21	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	mg/kg	0.4	NS	0.11	U	0.1	U	0.13	U	-	-	-	-	-	-	-	-	-	-	-	-	0.1	U	1.7	-
Dibenzo(a,h)Anthracene	mg/kg	0.4	NS	0.11	U	0.1	U	0.13	U	-	-	-	-	-	-	-	-	-	-	-	-	0.1	U	0.22	-
Dibenzofuran	mg/kg	NS	NS	0.18	U	0.18	U	0.21	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Di-n-butylphthalate	mg/kg	NS	NS	0.18	U	0.18	U	0.21	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	mg/kg	510	41	0.71	U	0.18	U	0.21	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	mg/kg	430	41	0.18	U	0.18	U	0.21	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	mg/kg	27	41	0.21	U	0.18	U	0.21	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3,3'-Dichlorobenzidine	mg/kg	1.4	NS	0.18	U	0.18	U	0.21	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dichlorophenol	mg/kg	30	NS	0.16	U	0.16	U	0.19	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Diethylphthalate	mg/kg	340	NS	0.18	U	0.18	U	0.21	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dimethylphenol	mg/kg	1,400	NS	0.18	U	0.18	U	0.21	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dimethylphthalate	mg/kg	1,900	NS	0.18	U	0.18	U	0.21	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,6-Dinitro-2-Methylphenol	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,6-Dinitro-o-cresol	mg/kg	NS	NS	0.46	U	0.46	U	0.55																	

TABLE 5 - SUMMARY OF SOIL ANALYTICAL DATA (ESS)

PARAMOUNT APARTMENTS, LLC  
5 MAIN STREET  
SCITUATE, RHODE ISLAND

Parameter	Reporting Units	RIDE M		ESSTP-19		ESSTP-21		ESSTP-22		ESS-57A			ESS-57B			ESS-57C			ESS-57D			ESS-27	ESS-28	FW-1	
		RDEC	GALC	Sample ID		Sample Collection Date		Sample Interval (feet)		PID (ppmV)		Area of Concern <sup>1</sup>		Results		Results		Results		Results		Results		Results	
				ESSTP-19	ESSTP-21	ESSTP-22	ESS-57A	ESS-57B	ESS-57C	ESS-57D	ESS-27	ESS-28	FW-1												
		Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q
SEMIVOLATILE ORGANIC COMPOUNDS (SVOCs) - CONTINUED																									
P-Chloro-M-Cresol	mg/kg	NS	NS	0.18	U	0.18	U	0.21	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Naphthalene	mg/kg	54	0.8	0.18	U	0.18	U	0.21	U	-	-	-	-	-	-	-	-	-	-	-	-	0.17	U	0.22	
2-Nitroaniline	mg/kg	NS	NS	0.18	U	0.18	U	0.21	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
3-Nitroaniline	mg/kg	NS	NS	0.18	U	0.18	U	0.21	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4-Nitroaniline	mg/kg	NS	NS	0.18	U	0.18	U	0.21	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Nitrobenzene	mg/kg	NS	NS	0.16	U	0.16	U	0.19	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2-Nitrophenol	mg/kg	NS	NS	0.38	U	0.38	U	0.46	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4-Nitrophenol	mg/kg	NS	NS	0.25	U	0.25	U	0.3	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
N-Nitrosodimethylamine	mg/kg	NS	NS	0.14	U	0.14	U	0.17	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
N-nitrosodiphenylamine	mg/kg	NS	NS	0.18	U	0.18	U	0.21	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
N-Nitroso-Di-n-Propylamine	mg/kg	NS	NS	0.36	U	0.35	U	0.43	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Pentachlorophenol	mg/kg	5.3	7.1	0.14	U	0.14	U	0.17	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Phenanthrene	mg/kg	40	NS	0.11	U	0.1	U	0.13	U	-	-	-	-	-	-	-	-	-	-	-	-	0.1	U	3.1	
Phenol	mg/kg	6,000	NS	0.18	U	0.18	U	0.21	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Pyrene	mg/kg	13	NS	0.11	U	0.14	U	0.13	U	-	-	-	-	-	-	-	-	-	-	-	-	0.1	U	3.4	
Pyridine	mg/kg	NS	NS	0.71	U	0.71	U	0.85	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2,3,4,6-Tetrachlorophenol	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1,2,4-Trichlorobenzene	mg/kg	96	140	0.18	U	0.18	U	0.21	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2,4,5-Trichlorophenol	mg/kg	330	NS	0.18	U	0.18	U	0.21	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2,4,6-Trichlorophenol	mg/kg	58	NS	0.11	U	0.1	U	0.13	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TOTAL PETROLEUM HYDROCARBONS (TPH)																									
TPH	mg/kg	500	500	437		66.4		62.2		181		-	-	-	-	-	-	-	-	-	-	-	-	-	
TOTAL METALS																									
Antimony	mg/kg	10	NS	2.1	U	2.1	U	2.6	U	-	-	-	-	-	-	-	-	-	-	-	-	2.1	U	2.3	U
Arsenic	mg/kg	7	NS	1.6		1.8		2.9		-	-	-	-	-	-	-	-	-	-	-	-	1.8		5.8	
Barium	mg/kg	5,500	NS	20		17		13		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Beryllium	mg/kg	1.5	NS	0.38		0.46		0.69		-	-	-	-	-	-	-	-	-	-	-	-	0.25		0.43	
Cadmium	mg/kg	39	NS	0.42	U	0.43	U	0.51	U	-	-	-	-	-	-	-	-	-	-	-	-	0.42	U	0.46	U
Chromium	mg/kg	390	NS	4.8		2.8		3.8		-	-	-	-	-	-	-	-	-	-	-	-	2.7		3	
Chromium (III)	mg/kg	1,400	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Hexavalent Chromium	mg/kg	390	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Copper	mg/kg	3,100	NS	10		2.6		2.3		-	-	-	-	-	-	-	-	-	-	-	-	9.9		14	
Cyanide	mg/kg	200	2.4	1	U	1	U	1.3	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Lead	mg/kg	150	NS	20		19		5.8		-	-	-	-	-	-	-	-	-	-	-	-	56		94	
Manganese	mg/kg	390	NS	56		88		100		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Mercury	mg/kg	23	NS	0.17		0.1		0.09	U	-	-	-	-	-	-	-	-	-	-	-	-	0.07	U	0.13	
Nickel	mg/kg	1,000	NS	1.5		1.1	U	1.7		-	-	-	-	-	-	-	-	-	-	-	-	1	U	2.3	
Selenium	mg/kg	390	NS	0.84	U	0.86	U	1	U	-	-	-	-	-	-	-	-	-	-	-	-	0.84	U	0.93	U
Silver	mg/kg	200	NS	0.42	U	0.43	U	0.51	U	-	-	-	-	-	-	-	-	-	-	-	-	0.42	U	0.46	U
Thallium	mg/kg	6	NS	0.84	U	0.86	U	1	U	-	-	-	-	-	-	-	-	-	-	-	-	0.84	U	0.93	U
Vanadium	mg/kg	550	NS	5.6		3.6		6.9		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Zinc	mg/kg	6,000	NS	160		65		36		-	-	-	-	-	-	-	-	-	-	-	-	11		41	
SYNTHETIC PRECIPITATION LEACHING PROCEDURE (SPLP)																									
Beryllium	mg/L	NS	0.03	-	-	0.005	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Lead	mg/L	NS	0.04	0.01	U	0.01	U	0.01	U	-	-	-	-	-	-	-	-	-	-	-	-	0.01	U	0.0127	
Nickel	mg/L	NS	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
PESTICIDES																									
4,4'-DDD	mg/kg	NS	NS	0.00822	U	0.00836	U	0.0102	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4,4'-DDE	mg/kg	NS	NS	0.00822	U	0.00836	U	0.0102	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4,4'-DDT	mg/kg	NS	NS	0.0154	U	0.0157	U	0.0191	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Aldrin	mg/kg	NS	NS	0.00822	U	0.00836	U	0.0102	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
alpha-BHC	mg/kg	NS	NS	0.00342	U	0.00348	U	0.00424	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
alpha-Chlordane	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
beta-BHC	mg/kg	NS	NS	0.00822	U	0.00836	U	0.0102	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Chlordane (Total)	mg/kg	0.5	1.4	0.0668	U	0.0679	U	0.511		0.021	U	0.019	U	0.021	U	0.10	U	0.020	U	0.021	U	0.022	U	0.020	U
cis-Chlordane	mg/kg	NS	NS	0.0103	U	0.0104	U	0.0686		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
delta-BHC	mg/kg	NS	NS	0.00822	U	0.00836	U	0.0102	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Dieldrin	mg/kg	0.04	NS	0.00514	U	0.00522	U	0.00635	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Endosulfan I	mg/kg	NS	NS	0.00822	U	0.00836	U	0.0102	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Endosulfan II	mg/kg	NS	NS	0.00822	U	0.00836	U	0.0102	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Endosulfan Sulfate	mg/kg	NS	NS	0.00342	U	0.00348	U	0.00424	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Endrin	mg/kg	NS	NS	0.00342	U	0.00348	U	0.00424	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Endrin Aldehyde	mg/kg	NS	NS	0.0103	U	0.0104	U	0.0127	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

TABLE 5 - SUMMARY OF SOIL ANALYTICAL DATA (ESS)

PARAMOUNT APARTMENTS, LLC  
5 MAIN STREET  
SCITUATE, RHODE ISLAND

Sample ID	ESSTP-19		ESSTP-21		ESSTP-22				ESS-57A			ESS-57B			ESS-57C			ESS-57D			ESS-27		ESS-28		FW-1				
	Sample Collection Date	1/14/2016	1/14/2016	1/14/2016	1/14/2016	0 - 3.0	3.0-5.0	5.0-9.0	0 - 3.0	3.0-5.0	5.0-8.0	0 - 3.0	3.0-5.0	5.0-8.0	0 - 3.0	3.0-5.0	5.0-9.0	0 - 3.0	3.0-5.0	5.0-9.0	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5				
Sample Interval (feet)	3.0 - 5.0	3.0 - 4.0	3.0 - 5.0	9.0	0 - 3.0	3.0-5.0	5.0-9.0	0 - 3.0	3.0-5.0	5.0-8.0	0 - 3.0	3.0-5.0	5.0-8.0	0 - 3.0	3.0-5.0	5.0-9.0	0 - 3.0	3.0-5.0	5.0-9.0	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5					
PID (ppmV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Area of Concern <sup>1</sup>	1 & 5	1 & 5	1 & 5	1 & 5	1 & 5	1 & 5	1 & 5	1 & 5	1 & 5	1 & 5	1 & 5	1 & 5	1 & 5	1 & 5	1 & 5	1 & 5	1 & 5	1 & 5	1 & 5	2	2	3 & 5	3 & 5	3 & 5					
Parameter	Reporting Units	RIDEM		Results		Results		Results		Results		Results		Results		Results		Results		Results		Results		Results		Results			
		RDEC	GALC	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q		
PESTICIDES - CONTINUED																													
Endrin Ketone	mg/kg	NS	NS	0.00822	U	0.00836	U	0.0102	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
gamma-BHC (Lindane)	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
gamma-Chlordane	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Heptachlor	mg/kg	NS	NS	0.00411	U	0.00418	U	0.00508	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Heptachlor Epoxide	mg/kg	NS	NS	0.0154	U	0.0157	U	0.0191	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Hexachlorobenzene	mg/kg	0.4	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Lindane	mg/kg	NS	NS	0.00342	U	0.00348	U	0.00424	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Methoxychlor	mg/kg	NS	NS	0.0154	U	0.0157	U	0.0191	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Toxaphene	mg/kg	NS	NS	0.154	U	0.157	U	0.191	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
trans-Chlordane	mg/kg	NS	NS	0.0103	U	0.0104	U	<b>0.0773</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
POLYCHLORINATED BIPHENYLS (PCBs)																													
Aroclor 1016	mg/kg	10	10	0.035	U	0.0353	U	0.0432	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor 1221	mg/kg	10	10	0.035	U	0.0353	U	0.0432	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor 1232	mg/kg	10	10	0.035	U	0.0353	U	0.0432	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor 1242	mg/kg	10	10	0.035	U	0.0353	U	0.0432	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor 1248	mg/kg	10	10	0.035	U	0.0353	U	0.0432	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor 1254	mg/kg	10	10	0.035	U	0.0353	U	0.0432	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor 1260	mg/kg	10	10	0.035	U	0.0353	U	0.0432	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor 1262	mg/kg	10	10	0.035	U	0.0353	U	0.0432	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor 1268	mg/kg	10	10	0.035	U	0.0353	U	0.0432	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCBs, Total	mg/kg	10	10	0.035	U	0.0353	U	0.0432	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PERCHLORATE																													
Perchlorate	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00053	U
GENERAL CHEMISTRY																													
Solids, Total	%	NS	NS	<b>92.2</b>		<b>92.6</b>		<b>76.2</b>		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
pH (H)	SU	NS	NS	<b>5.4</b>		<b>5.2</b>		<b>5.4</b>		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyanide, Reactive	mg/kg	NS	NS	10	U	10	U	10	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulfide, Reactive	mg/kg	NS	NS	10	U	10	U	10	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ignitability	N/A	NS	NS	NI	NI	NI	NI	NI	NI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

**Notes:**  
 (1) Areas of Concern (AOCs) identified by ESS include:  
 AOC 1 = Potential Former Liquid Lagoons  
 AOC 2 = Former Railroad Bridge Abutments  
 AOC 3 = Annual Fireworks Display Area  
 AOC 4 = Pervious Pavement/Sub-Drain Area  
 AOC 5 = On-Site Wastewater Treatment System (OWTS)  
 AOC 6 = Former UST #2  
 AOC 7 = Fill Area  
 AOC 8 = West of Building 2

RIDEM = Rhode Island Department of Environmental Management  
 RDEC = Residential Direct Exposure Criteria  
 I/CDEC = Industrial/Commercial Direct Exposure Criteria  
 GALC = GA Leachability Criteria  
 OWTS = On-Site Waste Water Treatment System  
 ppmV = parts per million by volume  
 mg/kg = milligrams per kilogram  
 mg/l = milligrams per liter.  
 Q = Qualifier  
 NS = No Standard Promulgated  
 NI = Not Ignitable  
 N/A = Not applicable  
 - = Not Tested  
 U = Undetected above the laboratory Reporting Limit.  
 U\* = The concentration is undetected but the reporting limit exceeds the standard.  
 D = Diluted  
**Bold** concentrations exceed the laboratory reporting limit.  
**Bold Red** concentrations exceed applicable RIDEM Remediation Regulation Residential Direct Exposure Criteria.  
**Bold Blue** concentrations exceed applicable RIDEM Remediation Regulation GA Leachability Criteria (mg/L).

TABLE 5 - SUMMARY OF SOIL ANALYTICAL DATA (ESS)

PARAMOUNT APARTMENTS, LLC  
 5 MAIN STREET  
 SCITUATE, RHODE ISLAND

Sample ID	FW-2	FW-3	FW-4	FW-5	FW-6	FW-7	FW-8	ESS-30	ESS-30A	ESS-31A		ESS-31	ESS-31B		ESS-31C		ESS-31D		ESS-32A				
	Sample Collection Date	1/14/2016	1/14/2016	1/14/2016	1/14/2016	1/14/2016	1/14/2016	09/07/2016	4/1/2020	4/1/2020		09/07/2016	4/1/2020		4/1/2020		4/1/2020		4/1/2020				
Sample Interval (feet)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	3.0 - 8.0	0.0 - 3.0	0 - 3.0	3.0-4.75	3.0 - 8.0	0 - 3.0	3.0 - 4.5	0 - 3.0	3.0 - 4.25	0 - 3.0	3.0 - 4.5	0 - 3.0				
PID (ppmV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Area of Concern <sup>1</sup>	3 & 5	3 & 5	3 & 5	3 & 5	3 & 5	3 & 5	3 & 5	4	4	4		4	4		4		4		4				
Parameter	Reporting Units	RIDEM		Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q
		RDEC	GALC																				
VOLATILE ORGANIC COMPOUNDS (VOCs)																							
Acetone	mg/kg	7,800	NS	-	-	-	-	-	-	-	-	0.0404	U	-	-	-	-	-	-	-	-	-	-
Acrylonitrile	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tertiary-aryl methyl ether	mg/kg	NS	NS	-	-	-	-	-	-	-	-	0.004	U	-	-	-	-	-	-	-	-	-	-
Benzene	mg/kg	2.5	0.2	-	-	-	-	-	-	-	-	0.004	U	-	-	-	-	-	-	-	-	-	-
Bromobenzene	mg/kg	NS	NS	-	-	-	-	-	-	-	-	0.004	U	-	-	-	-	-	-	-	-	-	-
Bromochloromethane	mg/kg	NS	NS	-	-	-	-	-	-	-	-	0.004	U	-	-	-	-	-	-	-	-	-	-
Bromodichloromethane	mg/kg	10	NS	-	-	-	-	-	-	-	-	0.004	U	-	-	-	-	-	-	-	-	-	-
Bromoform	mg/kg	81	NS	-	-	-	-	-	-	-	-	0.004	U	-	-	-	-	-	-	-	-	-	-
Bromomethane	mg/kg	0.8	NS	-	-	-	-	-	-	-	-	0.0081	U	-	-	-	-	-	-	-	-	-	-
2-Butanone	mg/kg	10,000	NS	-	-	-	-	-	-	-	-	0.0404	U	-	-	-	-	-	-	-	-	-	-
Tert-butyl alcohol	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
n-Butylbenzene	mg/kg	NS	NS	-	-	-	-	-	-	-	-	0.004	U	-	-	-	-	-	-	-	-	-	-
sec-Butylbenzene	mg/kg	NS	NS	-	-	-	-	-	-	-	-	0.004	U	-	-	-	-	-	-	-	-	-	-
tert-Butylbenzene	mg/kg	NS	NS	-	-	-	-	-	-	-	-	0.004	U	-	-	-	-	-	-	-	-	-	-
Ethyl tertiary-butyl ether	mg/kg	NS	NS	-	-	-	-	-	-	-	-	0.004	U	-	-	-	-	-	-	-	-	-	-
Carbon Disulfide	mg/kg	NS	NS	-	-	-	-	-	-	-	-	0.004	U	-	-	-	-	-	-	-	-	-	-
Carbon Tetrachloride	mg/kg	1.5	0.4	-	-	-	-	-	-	-	-	0.004	U	-	-	-	-	-	-	-	-	-	-
Chlorobenzene	mg/kg	210	3.2	-	-	-	-	-	-	-	-	0.004	U	-	-	-	-	-	-	-	-	-	-
Dibromochloromethane	mg/kg	7.6	NS	-	-	-	-	-	-	-	-	0.004	U	-	-	-	-	-	-	-	-	-	-
Chloroethane	mg/kg	NS	NS	-	-	-	-	-	-	-	-	0.0081	U	-	-	-	-	-	-	-	-	-	-
Chloroform	mg/kg	1.2	NS	-	-	-	-	-	-	-	-	0.004	U	-	-	-	-	-	-	-	-	-	-
1-Chlorohexane	mg/kg	NS	NS	-	-	-	-	-	-	-	-	0.004	U	-	-	-	-	-	-	-	-	-	-
Chloromethane	mg/kg	NS	NS	-	-	-	-	-	-	-	-	0.0081	U	-	-	-	-	-	-	-	-	-	-
2-Chlorotoluene	mg/kg	NS	NS	-	-	-	-	-	-	-	-	0.004	U	-	-	-	-	-	-	-	-	-	-
4-Chlorotoluene	mg/kg	NS	NS	-	-	-	-	-	-	-	-	0.004	U	-	-	-	-	-	-	-	-	-	-
1,2-Dibromo-3-Chloropropane	mg/kg	0.5	NS	-	-	-	-	-	-	-	-	0.004	U	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane	mg/kg	0.01	0.0005	-	-	-	-	-	-	-	-	0.004	U*	-	-	-	-	-	-	-	-	-	-
Dibromomethane	mg/kg	NS	NS	-	-	-	-	-	-	-	-	0.004	U	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	mg/kg	510	41	-	-	-	-	-	-	-	-	0.004	U	-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	mg/kg	430	41	-	-	-	-	-	-	-	-	0.004	U	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	mg/kg	27	41	-	-	-	-	-	-	-	-	0.004	U	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobutane	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,4-Dichloro-2-butene	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichlorodifluoromethane	mg/kg	NS	NS	-	-	-	-	-	-	-	-	0.0081	U	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethane	mg/kg	920	NS	-	-	-	-	-	-	-	-	0.004	U	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	mg/kg	0.9	0.1	-	-	-	-	-	-	-	-	0.004	U	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	mg/kg	0.2	0.7	-	-	-	-	-	-	-	-	0.004	U	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	mg/kg	630	1.7	-	-	-	-	-	-	-	-	0.004	U	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	mg/kg	1,100	3.3	-	-	-	-	-	-	-	-	0.004	U	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethene, Total	mg/kg	0.9	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	mg/kg	1.9	0.1	-	-	-	-	-	-	-	-	0.004	U	-	-	-	-	-	-	-	-	-	-
1,3-Dichloropropane	mg/kg	NS	NS	-	-	-	-	-	-	-	-	0.004	U	-	-	-	-	-	-	-	-	-	-
2,2-Dichloropropane	mg/kg	NS	NS	-	-	-	-	-	-	-	-	0.004	U	-	-	-	-	-	-	-	-	-	-
1,1-Dichloropropene	mg/kg	NS	NS	-	-	-	-	-	-	-	-	0.004	U	-	-	-	-	-	-	-	-	-	-
cis-1,3-Dichloropropene	mg/kg	NS	NS	-	-	-	-	-	-	-	-	0.004	U	-	-	-	-	-	-	-	-	-	-
trans-1,3-Dichloropropene	mg/kg	NS	NS	-	-	-	-	-	-	-	-	0.004	U	-	-	-	-	-	-	-	-	-	-
1,3-Dichloropropene, Total	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Diethyl Ether	mg/kg	NS	NS	-	-	-	-	-	-	-	-	0.004	U	-	-	-	-	-	-	-	-	-	-
Di-isopropyl ether	mg/kg	NS	NS	-	-	-	-	-	-	-	-	0.004	U	-	-	-	-	-	-	-	-	-	-
1,4-Dioxane	mg/kg	NS	NS	-	-	-	-	-	-	-	-	0.0809	U	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	mg/kg	71	27	-	-	-	-	-	-	-	-	0.004	U	-	-	-	-	-	-	-	-	-	-
Ethyl methacrylate	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexachlorobutadiene	mg/kg	8.2	NS	-	-	-	-	-	-	-	-	0.004	U	-	-	-	-	-	-	-	-	-	-
2-Hexanone	mg/kg	NS	NS	-	-	-	-	-	-	-	-	0.0404	U	-	-	-	-	-	-	-	-	-	-
Isopropylbenzene	mg/kg	27	NS	-	-	-	-	-	-	-	-	0.004	U	-	-	-	-	-	-	-	-	-	-
p-Isopropyltoluene	mg/kg	NS	NS	-	-	-	-	-	-	-	-	0.004	U	-	-	-	-	-	-	-	-	-	-
Methyl Acetate	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl tert-Butyl Ether	mg/kg	390	0.9	-	-	-	-	-	-	-	-	0.004	U	-	-	-	-	-	-	-	-	-	-
Methyl Cyclohexane	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methylene Chloride	mg/kg	45	NS	-	-	-	-	-	-	-	-	0.0202	U	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene	mg/kg	12	0.1	-	-	-	-	-	-	-	-	0.004	U	-	-	-	-	-	-	-	-	-	-
Tetrahydrofuran	mg/kg	NS	NS	-	-	-	-	-	-	-	-	0.004	U	-	-	-	-	-	-	-	-	-	-
Toluene	mg/kg	190	32	-	-	-	-	-	-	-	-	0.004	U	-	-	-	-	-	-	-	-	-	-

TABLE 5 - SUMMARY OF SOIL ANALYTICAL DATA (ESS)

PARAMOUNT APARTMENTS, LLC  
5 MAIN STREET  
SCITUATE, RHODE ISLAND

Sample ID	FW-2	FW-3	FW-4	FW-5	FW-6	FW-7	FW-8	ESS-30	ESS-30A	ESS-31A		ESS-31	ESS-31B		ESS-31C		ESS-31D		ESS-32A					
	Sample Collection Date	1/14/2016	1/14/2016	1/14/2016	1/14/2016	1/14/2016	1/14/2016	09/07/2016	4/1/2020	4/1/2020		09/07/2016	4/1/2020		4/1/2020		4/1/2020		4/1/2020					
Sample Interval (feet)	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	3.0 - 8.0	0.0 - 3.0	0 - 3.0	3.0-4.75	3.0 - 8.0	0 - 3.0	3.0 - 4.5	0 - 3.0	3.0 - 4.25	0 - 3.0	3.0 - 4.5	0 - 3.0					
PID (ppmV)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Area of Concern	3 & 5	3 & 5	3 & 5	3 & 5	3 & 5	3 & 5	3 & 5	4	4	4		4	4		4		4		4					
Parameter	Reporting Units	RIDE M		Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	
		RDEC	GALC																					
VOLATILE ORGANIC COMPOUNDS (VOCs) - CONTINUED																								
1,2,3-Trichlorobenzene	mg/kg	NS	NS	-		-		-		-		-		-		-		-		-		-		-
1,2,4-Trichlorobenzene	mg/kg	96	NS	-		-		-		-		-		-		-		-		-		-		-
1,3,5-Trichlorobenzene	mg/kg	NS	NS	-		-		-		-		-		-		-		-		-		-		-
1,1,1-Trichloroethane	mg/kg	540	11	-		-		-		-		-		-		-		-		-		-		-
1,1,2-Trichloroethane	mg/kg	3.6	0.1	-		-		-		-		-		-		-		-		-		-		-
Trichloroethene	mg/kg	13	0.2	-		-		-		-		-		-		-		-		-		-		-
Trichlorofluoromethane	mg/kg	NS	NS	-		-		-		-		-		-		-		-		-		-		-
1,2,3-Trichloropropane	mg/kg	NS	NS	-		-		-		-		-		-		-		-		-		-		-
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/kg	NS	NS	-		-		-		-		-		-		-		-		-		-		-
1,2,4-Trimethylbenzene	mg/kg	NS	NS	-		-		-		-		-		-		-		-		-		-		-
1,3,5-Trimethylbenzene	mg/kg	NS	NS	-		-		-		-		-		-		-		-		-		-		-
Vinyl Acetate	mg/kg	NS	NS	-		-		-		-		-		-		-		-		-		-		-
Vinyl Chloride	mg/kg	0.02	0.3	-		-		-		-		-		-		-		-		-		-		-
Xylene P,M	mg/kg	110	540	-		-		-		-		-		-		-		-		-		-		-
Xylene O	mg/kg	110	540	-		-		-		-		-		-		-		-		-		-		-
Xylenes (Total)	mg/kg	110	540	-		-		-		-		-		-		-		-		-		-		-
SEMIVOLATILE ORGANIC COMPOUNDS (SVOCs)																								
Acenaphthene	mg/kg	43	NS	-		-		-		-		-		-		-		-		-		-		-
Acenaphthylene	mg/kg	23	NS	-		-		-		-		-		-		-		-		-		-		-
Acetophenone	mg/kg	NS	NS	-		-		-		-		-		-		-		-		-		-		-
Aniline	mg/kg	NS	NS	-		-		-		-		-		-		-		-		-		-		-
Anthracene	mg/kg	35	NS	-		-		-		-		-		-		-		-		-		-		-
Benidine	mg/kg	NS	NS	-		-		-		-		-		-		-		-		-		-		-
Benzoic Acid	mg/kg	NS	NS	-		-		-		-		-		-		-		-		-		-		-
Benzo(a)anthracene	mg/kg	0.9	NS	-		-		-		-		-		-		-		-		-		-		-
Benzo(a)pyrene	mg/kg	0.4	240	-		-		-		-		-		-		-		-		-		-		-
Benzo(b)fluoranthene	mg/kg	0.9	NS	-		-		-		-		-		-		-		-		-		-		-
Benzo(g,h,i)perylene	mg/kg	0.8	NS	-		-		-		-		-		-		-		-		-		-		-
Benzo(k)fluoranthene	mg/kg	0.9	NS	-		-		-		-		-		-		-		-		-		-		-
Benzyl Alcohol	mg/kg	NS	NS	-		-		-		-		-		-		-		-		-		-		-
Biphenyl	mg/kg	NS	NS	-		-		-		-		-		-		-		-		-		-		-
1,1-Biphenyl	mg/kg	0.8	NS	-		-		-		-		-		-		-		-		-		-		-
bis(2-Chloroethoxy)methane	mg/kg	NS	NS	-		-		-		-		-		-		-		-		-		-		-
bis(2-Chloroethyl)ether	mg/kg	0.6	NS	-		-		-		-		-		-		-		-		-		-		-
bis(2-chloroisopropyl)Ether	mg/kg	9.1	NS	-		-		-		-		-		-		-		-		-		-		-
bis(2-Ethylhexyl)phthalate	mg/kg	46	120	-		-		-		-		-		-		-		-		-		-		-
4-Bromophenyl-phenylether	mg/kg	NS	NS	-		-		-		-		-		-		-		-		-		-		-
Butylbenzylphthalate	mg/kg	NS	NS	-		-		-		-		-		-		-		-		-		-		-
Carbazole	mg/kg	NS	NS	-		-		-		-		-		-		-		-		-		-		-
4-Chloroaniline	mg/kg	310	NS	-		-		-		-		-		-		-		-		-		-		-
2-Chloronaphthalene	mg/kg	NS	NS	-		-		-		-		-		-		-		-		-		-		-
4-Chloro-3-Methylphenol	mg/kg	NS	NS	-		-		-		-		-		-		-		-		-		-		-
2-Chlorophenol	mg/kg	50	NS	-		-		-		-		-		-		-		-		-		-		-
4-Chloro-phenyl-phenyl ether	mg/kg	NS	NS	-		-		-		-		-		-		-		-		-		-		-
Chrysene	mg/kg	0.4	NS	-		-		-		-		-		-		-		-		-		-		-
Dibenzo(a,h)Anthracene	mg/kg	0.4	NS	-		-		-		-		-		-		-		-		-		-		-
Dibenzofuran	mg/kg	NS	NS	-		-		-		-		-		-		-		-		-		-		-
Di-n-butylphthalate	mg/kg	NS	NS	-		-		-		-		-		-		-		-		-		-		-
1,2-Dichlorobenzene	mg/kg	510	41	-		-		-		-		-		-		-		-		-		-		-
1,3-Dichlorobenzene	mg/kg	430	41	-		-		-		-		-		-		-		-		-		-		-
1,4-Dichlorobenzene	mg/kg	27	41	-		-		-		-		-		-		-		-		-		-		-
3,3'-Dichlorobenzidine	mg/kg	1.4	NS	-		-		-		-		-		-		-		-		-		-		-
2,4-Dichlorophenol	mg/kg	30	NS	-		-		-		-		-		-		-		-		-		-		-
Diethylphthalate	mg/kg	340	NS	-		-		-		-		-		-		-		-		-		-		-
2,4-Dimethylphenol	mg/kg	1,400	NS	-		-		-		-		-		-		-		-		-		-		-
Dimethylphthalate	mg/kg	1,900	NS	-		-		-		-		-		-		-		-		-		-		-
4,6-Dinitro-2-Methylphenol	mg/kg	NS	NS	-		-		-		-		-		-		-		-		-		-		-
4,6-Dinitro-o-cresol	mg/kg	NS	NS	-		-		-		-		-		-		-		-		-		-		-
Isophorone	mg/kg	NS	NS	-		-		-		-		-		-		-		-		-		-		-
1-Methylnaphthalene	mg/kg	NS	NS	-		-		-		-		-		-		-		-		-		-		-
2-Methylnaphthalene	mg/kg	123	NS	-		-		-		-		-		-		-		-		-		-		-
2-Methylphenol	mg/kg	NS	NS	-		-		-		-		-		-		-		-		-		-		-
3+4-Methylphenol	mg/kg	NS	NS	-		-		-		-		-		-		-		-		-		-		-



TABLE 5 - SUMMARY OF SOIL ANALYTICAL DATA (ESS)

PARAMOUNT APARTMENTS, LLC  
5 MAIN STREET  
SCITUATE, RHODE ISLAND

Sample ID	FW-2	FW-3	FW-4	FW-5	FW-6	FW-7	FW-8	ESS-30	ESS-30A	ESS-31A		ESS-31	ESS-31B		ESS-31C		ESS-31D		ESS-32A				
	1/14/2016	1/14/2016	1/14/2016	1/14/2016	1/14/2016	1/14/2016	1/14/2016	09/07/2016	4/1/2020	4/1/2020		09/07/2016	4/1/2020		4/1/2020		4/1/2020		4/1/2020				
Sample Collection Date	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	3.0 - 8.0	0.0 - 3.0	0 - 3.0	3.0-4.75	3.0 - 8.0	0 - 3.0	3.0 - 4.5	0 - 3.0	3.0 - 4.25	0 - 3.0	3.0 - 4.5	0 - 3.0				
Sample Interval (feet)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
PID (ppmV)	3 & 5		3 & 5		3 & 5		3 & 5		3 & 5		3 & 5		4		4		4		4				
Area of Concern <sup>1</sup>	Reporting Units	RIDEM		Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q
Parameter		RDEC	GALC																				
PESTICIDES - CONTINUED																							
Endrin Ketone	mg/kg	NS	NS	-		-		-		-		-		-		-		-		-		-	
gamma-BHC (Lindane)	mg/kg	NS	NS	-		-		-		-		-		-		-		-		-		-	
gamma-Chlordane	mg/kg	NS	NS	-		-		-		-		-		-		-		-		-		-	
Heptachlor	mg/kg	NS	NS	-		-		-		-		-		-		-		-		-		-	
Heptachlor Epoxide	mg/kg	NS	NS	-		-		-		-		-		-		-		-		-		-	
Hexachlorobenzene	mg/kg	0.4	NS	-		-		-		-		-		-		-		-		-		-	
Lindane	mg/kg	NS	NS	-		-		-		-		-		-		-		-		-		-	
Methoxychlor	mg/kg	NS	NS	-		-		-		-		-		-		-		-		-		-	
Toxaphene	mg/kg	NS	NS	-		-		-		-		-		-		-		-		-		-	
trans-Chlordane	mg/kg	NS	NS	-		-		-		-		-		-		-		-		-		-	
POLYCHLORINATED BIPHENYLS (PCBs)																							
Aroclor 1016	mg/kg	10	10	-		-		-		-		0.0581 U		-		-		0.0552 U		-		-	
Aroclor 1221	mg/kg	10	10	-		-		-		-		0.0581 U		-		-		0.0552 U		-		-	
Aroclor 1232	mg/kg	10	10	-		-		-		-		0.0581 U		-		-		0.0552 U		-		-	
Aroclor 1242	mg/kg	10	10	-		-		-		-		0.0581 U		-		-		0.0552 U		-		-	
Aroclor 1248	mg/kg	10	10	-		-		-		-		0.0581 U		-		-		0.0552 U		-		-	
Aroclor 1254	mg/kg	10	10	-		-		-		-		0.0581 U		-		-		0.0552 U		-		-	
Aroclor 1260	mg/kg	10	10	-		-		-		-		0.0581 U		-		-		0.0552 U		-		-	
Aroclor 1262	mg/kg	10	10	-		-		-		-		0.0581 U		-		-		0.0552 U		-		-	
Aroclor 1268	mg/kg	10	10	-		-		-		-		0.0581 U		-		-		0.0552 U		-		-	
PCBs, Total	mg/kg	10	10	-		-		-		-		-		-		-		-		-		-	
PERCHLORATE																							
Perchlorate	mg/kg	NS	NS	0.00056 U		0.00051 U		0.00057 U		0.0005 U		0.00045 U		0.00043 U		0.00054 U		-		-		-	
GENERAL CHEMISTRY																							
Solids, Total	%	NS	NS	-		-		-		-		-		-		-		-		-		-	
pH (H)	SU	NS	NS	-		-		-		-		-		-		-		-		-		-	
Cyanide, Reactive	mg/kg	NS	NS	-		-		-		-		-		-		-		-		-		-	
Sulfide, Reactive	mg/kg	NS	NS	-		-		-		-		-		-		-		-		-		-	
Ignitability	N/A	NS	NS	-		-		-		-		-		-		-		-		-		-	

**Notes:**  
 (1) Areas of Concern (AOCs) identified by ESS include:  
 AOC 1 = Potential Former Liquid Lagoons  
 AOC 2 = Former Railroad Bridge Abutments  
 AOC 3 = Annual Fireworks Display Area  
 AOC 4 = Pervious Pavement/Sub-Drain Area  
 AOC 5 = On-Site Wastewater Treatment System (OWTS)  
 AOC 6 = Former UST #2  
 AOC 7 = Fill Area  
 AOC 8 = West of Building 2

RIDEM = Rhode Island Department of Environmental Management  
 RDEC = Residential Direct Exposure Criteria  
 I/CDEC = Industrial/Commercial Direct Exposure Criteria  
 GALC = GA Leachability Criteria  
 OWTS = On-Site Waste Water Treatment System  
 ppmV = parts per million by volume  
 mg/kg = milligrams per kilogram  
 mg/l = milligrams per liter.  
 Q = Qualifier  
 NS = No Standard Promulgated  
 NI = Not Ignitable  
 N/A = Not applicable  
 - = Not Tested  
 U = Undetected above the laboratory Reporting Limit.  
 U\* = The concentration is undetected but the reporting limit exceeds the standard.  
 D = Diluted  
**Bold** concentrations exceed the laboratory reporting limit.  
**Bold Red** concentrations exceed applicable RIDEM Remediation Regulation Residential Direct Exposure Criteria.  
**Bold Blue** concentrations exceed applicable RIDEM Remediation Regulation GA Leachability Criteria (mg/L).



TABLE 5 - SUMMARY OF SOIL ANALYTICAL DATA (ESS)

PARAMOUNT APARTMENTS, LLC  
5 MAIN STREET  
SCITUATE, RHODE ISLAND

Parameter	Reporting Units	RIDE M		ESS-32		ESS-33A		ESS-33		ESS-34A		ESS-34		ESS-35A		ESS-35		ESS-36		ESS-37		ESS-38		COMP-1		COMP-2		COMP-3		ESS-43		ESS-44		ESS-45		COMP-7	
		RDEC	GALC	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q
VOLATILE ORGANIC COMPOUNDS (VOCs)																																					
Acetone	mg/kg	7,800	NS	0.0389	U	-	-	0.0404	U	-	-	0.0492	U	-	-	0.0402	U	0.0398	U	0.0416	U	0.042	U	0.0418	U	0.0425	U	0.0418	U	0.0355	U	0.0349	U	0.0421	U	0.0459	U
Acrylonitrile	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tertiary-aryl methyl ether	mg/kg	NS	NS	0.0039	U	-	-	0.004	U	-	-	0.0049	U	-	-	0.004	U	0.004	U	0.0042	U	0.0042	U	0.0042	U	0.0043	U	0.0042	U	0.0036	U	0.0035	U	0.0042	U	0.0046	U
Benzene	mg/kg	2.5	0.2	0.0039	U	-	-	0.004	U	-	-	0.0049	U	-	-	0.004	U	0.004	U	0.0042	U	0.0042	U	0.0042	U	0.0043	U	0.0042	U	0.0036	U	0.0035	U	0.0042	U	0.0046	U
Bromobenzene	mg/kg	NS	NS	0.0039	U	-	-	0.004	U	-	-	0.0049	U	-	-	0.004	U	0.004	U	0.0042	U	0.0042	U	0.0042	U	0.0043	U	0.0042	U	0.0036	U	0.0035	U	0.0042	U	0.0046	U
Bromochloromethane	mg/kg	NS	NS	0.0039	U	-	-	0.004	U	-	-	0.0049	U	-	-	0.004	U	0.004	U	0.0042	U	0.0042	U	0.0042	U	0.0043	U	0.0042	U	0.0036	U	0.0035	U	0.0042	U	0.0046	U
Bromodichloromethane	mg/kg	10	NS	0.0039	U	-	-	0.004	U	-	-	0.0049	U	-	-	0.004	U	0.004	U	0.0042	U	0.0042	U	0.0042	U	0.0043	U	0.0042	U	0.0036	U	0.0035	U	0.0042	U	0.0046	U
Bromoform	mg/kg	81	NS	0.0039	U	-	-	0.004	U	-	-	0.0049	U	-	-	0.004	U	0.004	U	0.0042	U	0.0042	U	0.0042	U	0.0043	U	0.0042	U	0.0036	U	0.0035	U	0.0042	U	0.0046	U
Bromomethane	mg/kg	0.8	NS	0.0078	U	-	-	0.0081	U	-	-	0.0098	U	-	-	0.008	U	0.008	U	0.0083	U	0.0084	U	0.0084	U	0.0085	U	0.0084	U	0.0071	U	0.007	U	0.0084	U	0.0092	U
2-Butanone	mg/kg	10,000	NS	0.0389	U	-	-	0.0404	U	-	-	0.0492	U	-	-	0.0402	U	0.0398	U	0.0416	U	0.042	U	0.0418	U	0.0425	U	0.0418	U	0.0355	U	0.0349	U	0.0421	U	0.0459	U
Tert-butyl alcohol	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
n-Butylbenzene	mg/kg	NS	NS	0.0039	U	-	-	0.004	U	-	-	0.0049	U	-	-	0.004	U	0.004	U	0.0042	U	0.0042	U	0.0042	U	0.0043	U	0.0042	U	0.0036	U	0.0035	U	0.0042	U	0.0046	U
sec-Butylbenzene	mg/kg	NS	NS	0.0039	U	-	-	0.004	U	-	-	0.0049	U	-	-	0.004	U	0.004	U	0.0042	U	0.0042	U	0.0042	U	0.0043	U	0.0042	U	0.0036	U	0.0035	U	0.0042	U	0.0046	U
tert-Butylbenzene	mg/kg	NS	NS	0.0039	U	-	-	0.004	U	-	-	0.0049	U	-	-	0.004	U	0.004	U	0.0042	U	0.0042	U	0.0042	U	0.0043	U	0.0042	U	0.0036	U	0.0035	U	0.0042	U	0.0046	U
Ethyl tertiary-butyl ether	mg/kg	NS	NS	0.0039	U	-	-	0.004	U	-	-	0.0049	U	-	-	0.004	U	0.004	U	0.0042	U	0.0042	U	0.0042	U	0.0043	U	0.0042	U	0.0036	U	0.0035	U	0.0042	U	0.0046	U
Carbon Disulfide	mg/kg	NS	NS	0.0039	U	-	-	0.004	U	-	-	0.0049	U	-	-	0.004	U	0.004	U	0.0042	U	0.0042	U	0.0042	U	0.0043	U	0.0042	U	0.0036	U	0.0035	U	0.0042	U	0.0046	U
Carbon Tetrachloride	mg/kg	1.5	0.4	0.0039	U	-	-	0.004	U	-	-	0.0049	U	-	-	0.004	U	0.004	U	0.0042	U	0.0042	U	0.0042	U	0.0043	U	0.0042	U	0.0036	U	0.0035	U	0.0042	U	0.0046	U
Chlorobenzene	mg/kg	210	3.2	0.0039	U	-	-	0.004	U	-	-	0.0049	U	-	-	0.004	U	0.004	U	0.0042	U	0.0042	U	0.0042	U	0.0043	U	0.0042	U	0.0036	U	0.0035	U	0.0042	U	0.0046	U
Dibromochloromethane	mg/kg	7.6	NS	0.0039	U	-	-	0.004	U	-	-	0.0049	U	-	-	0.004	U	0.004	U	0.0042	U	0.0042	U	0.0042	U	0.0043	U	0.0042	U	0.0036	U	0.0035	U	0.0042	U	0.0046	U
Chloroethane	mg/kg	NS	NS	0.0078	U	-	-	0.0081	U	-	-	0.0098	U	-	-	0.008	U	0.008	U	0.0083	U	0.0084	U	0.0084	U	0.0085	U	0.0084	U	0.0071	U	0.007	U	0.0084	U	0.0092	U
Chloroform	mg/kg	1.2	NS	0.0039	U	-	-	0.004	U	-	-	0.0049	U	-	-	0.004	U	0.004	U	0.0042	U	0.0042	U	0.0042	U	0.0043	U	0.0042	U	0.0036	U	0.0035	U	0.0042	U	0.0046	U
1-Chlorohexane	mg/kg	NS	NS	0.0039	U	-	-	0.004	U	-	-	0.0049	U	-	-	0.004	U	0.004	U	0.0042	U	0.0042	U	0.0042	U	0.0043	U	0.0042	U	0.0036	U	0.0035	U	0.0042	U	0.0046	U
Chloromethane	mg/kg	NS	NS	0.0078	U	-	-	0.0081	U	-	-	0.0098	U	-	-	0.008	U	0.008	U	0.0083	U	0.0084	U	0.0084	U	0.0085	U	0.0084	U	0.0071	U	0.007	U	0.0084	U	0.0092	U
2-Chlorotoluene	mg/kg	NS	NS	0.0039	U	-	-	0.004	U	-	-	0.0049	U	-	-	0.004	U	0.004	U	0.0042	U	0.0042	U	0.0042	U	0.0043	U	0.0042	U	0.0036	U	0.0035	U	0.0042	U	0.0046	U
4-Chlorotoluene	mg/kg	NS	NS	0.0039	U	-	-	0.004	U	-	-	0.0049	U	-	-	0.004	U	0.004	U	0.0042	U	0.0042	U	0.0042	U	0.0043	U	0.0042	U	0.0036	U	0.0035	U	0.0042	U	0.0046	U
1,2-Dibromo-3-Chloropropane	mg/kg	0.5	NS	0.0039	U	-	-	0.004	U	-	-	0.0049	U	-	-	0.004	U	0.004	U	0.0042	U	0.0042	U	0.0042	U	0.0043	U	0.0042	U	0.0036	U	0.0035	U	0.0042	U	0.0046	U
1,2-Dibromoethane	mg/kg	0.01	0.0005	0.0039	U*	-	-	0.004	U*	-	-	0.0049	U*	-	-	0.004	U*	0.004	U*	0.0042	U*	0.0042	U*	0.0042	U*	0.0043	U*	0.0042	U*	0.0036	U*	0.0035	U*	0.0042	U*	0.0046	U*
Dibromomethane	mg/kg	NS	NS	0.0039	U	-	-	0.004	U	-	-	0.0049	U	-	-	0.004	U	0.004	U	0.0042	U	0.0042	U	0.0042	U	0.0043	U	0.0042	U	0.0036	U	0.0035	U	0.0042	U	0.0046	U
1,2-Dichlorobenzene	mg/kg	510	41	0.0039	U	-	-	0.004	U	-	-	0.0049	U	-	-	0.004	U	0.004	U	0.0042	U	0.0042	U	0.0042	U	0.0043	U	0.0042	U	0.0036	U	0.0035	U	0.0042	U	0.0046	U
1,3-Dichlorobenzene	mg/kg	430	41	0.0039	U	-	-	0.004	U	-	-	0.0049	U	-	-	0.004	U	0.004	U	0.0042	U	0.0042	U	0.0042	U	0.0043	U	0.0042	U	0.0036	U	0.0035	U	0.0042	U	0.0046	U
1,4-Dichlorobenzene	mg/kg	27	41	0.0039	U	-	-	0.004	U	-	-	0.0049	U	-	-	0.004	U	0.004	U	0.0042	U	0.0042	U	0.0042	U	0.0043	U	0.0042	U	0.0036	U	0.0035	U	0.0042	U	0.0046	U
1,4-Dichlorobutane	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
trans-1,4-Dichloro-2-butene	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Dichlorodifluoromethane	mg/kg	NS	NS	0.0078	U	-	-	0.0081	U	-	-	0.0098	U	-	-	0.008	U	0.008	U	0.0083	U	0.0084	U	0.0084	U	0.0085	U	0.0084	U	0.0071	U	0.007	U	0.0084	U	0.0092	U
1,1-Dichloroethane	mg/kg	920	NS	0.0039	U	-	-	0.004	U	-	-	0.0049	U	-	-	0.004	U	0.004	U	0.0042	U	0.0042	U	0.0042	U	0.0043	U	0.0042	U	0.0036	U	0.0035	U	0.0042	U	0.0046	U
1,2-Dichloroethane	mg/kg	0.9	0.1	0.0039	U	-	-	0.004	U	-	-	0.0049	U	-	-																						

TABLE 5 - SUMMARY OF SOIL ANALYTICAL DATA (ESS)

PARAMOUNT APARTMENTS, LLC  
5 MAIN STREET  
SCITUATE, RHODE ISLAND

Sample ID	ESS-32	ESS-33A	ESS-33	ESS-34A	ESS-34	ESS-35A	ESS-35	ESS-36	ESS-37	ESS-38	COMP-1	COMP-2	COMP-3	ESS-43	ESS-44	ESS-45	COMP-7																		
	Sample Collection Date	9/7/2016	4/1/2020	09/07/2016	4/1/2020	09/07/2016	4/1/2020	09/07/2016	09/07/2016	09/07/2016	09/07/2016	09/07/2016	09/07/2016	09/07/2016	09/08/2016	09/08/2016	09/08/2016	09/08/2016																	
Sample Interval (feet)	3.0 - 8.0	0 - 3.0	3.0 - 8.0	0 - 3.0	3.0 - 8.0	0 - 3.0	3.0 - 8.0	3.0 - 8.0	3.0 - 8.0	3.0 - 8.0	0 - 3.0	0 - 3.0	0 - 3.0	2.0 - 8.0	2.0 - 8.0	2.0 - 8.0	0 - 2.0																		
PID (ppmV)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0																		
Area of Concern <sup>1</sup>	4	4	4	4	4	4	4	4	4	4	4	4	4	5	5	5	5																		
Reporting Units	RIDE M		Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q													
	RDEC	GALC																																	
VOLATILE ORGANIC COMPOUNDS (VOCs) - CONTINUED																																			
1,2,3-Trichlorobenzene	mg/kg	NS	NS	0.0039	U	-	0.004	U	-	0.0049	U	-	0.004	U	0.004	U	0.0042	U	0.0042	U	0.0042	U	0.0043	U	0.0042	U	0.0036	U	0.0035	U	0.0042	U	0.0046	U	
1,2,4-Trichlorobenzene	mg/kg	96	NS	0.0039	U	-	0.004	U	-	0.0049	U	-	0.004	U	0.004	U	0.0042	U	0.0042	U	0.0042	U	0.0043	U	0.0042	U	0.0036	U	0.0035	U	0.0042	U	0.0046	U	
1,3,5-Trichlorobenzene	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
1,1,1-Trichloroethane	mg/kg	540	11	0.0039	U	-	0.004	U	-	0.0049	U	-	0.004	U	0.004	U	0.0042	U	0.0042	U	0.0042	U	0.0043	U	0.0042	U	0.0036	U	0.0035	U	0.0042	U	0.0046	U	
1,1,2-Trichloroethane	mg/kg	3.6	0.1	0.0039	U	-	0.004	U	-	0.0049	U	-	0.004	U	0.004	U	0.0042	U	0.0042	U	0.0042	U	0.0043	U	0.0042	U	0.0036	U	0.0035	U	0.0042	U	0.0046	U	
Trichloroethene	mg/kg	13	0.2	0.0039	U	-	0.004	U	-	0.0049	U	-	0.004	U	0.004	U	0.0042	U	0.0042	U	0.0042	U	0.0043	U	0.0042	U	0.0036	U	0.0035	U	0.0042	U	0.0046	U	
Trichlorofluoromethane	mg/kg	NS	NS	0.0039	U	-	0.004	U	-	0.0049	U	-	0.004	U	0.004	U	0.0042	U	0.0042	U	0.0042	U	0.0043	U	0.0042	U	0.0036	U	0.0035	U	0.0042	U	0.0046	U	
1,2,3-Trichloropropane	mg/kg	NS	NS	0.0039	U	-	0.004	U	-	0.0049	U	-	0.004	U	0.004	U	0.0042	U	0.0042	U	0.0042	U	0.0043	U	0.0042	U	0.0036	U	0.0035	U	0.0042	U	0.0046	U	
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
1,2,4-Trimethylbenzene	mg/kg	NS	NS	0.0039	U	-	0.004	U	-	0.0049	U	-	0.004	U	0.004	U	0.0042	U	0.0042	U	0.0042	U	0.0043	U	0.0042	U	0.0036	U	0.0035	U	0.0042	U	0.0046	U	
1,3,5-Trimethylbenzene	mg/kg	NS	NS	0.0039	U	-	0.004	U	-	0.0049	U	-	0.004	U	0.004	U	0.0042	U	0.0042	U	0.0042	U	0.0043	U	0.0042	U	0.0036	U	0.0035	U	0.0042	U	0.0046	U	
Vinyl Acetate	mg/kg	NS	NS	0.0039	U	-	0.004	U	-	0.0049	U	-	0.004	U	0.004	U	0.0042	U	0.0042	U	0.0042	U	0.0043	U	0.0042	U	0.0036	U	0.0035	U	0.0042	U	0.0046	U	
Vinyl Chloride	mg/kg	0.02	0.3	0.0078	U	-	0.0081	U	-	0.0098	U	-	0.008	U	0.008	U	0.0083	U	0.0084	U	0.0084	U	0.0085	U	0.0084	U	0.0071	U	0.007	U	0.0084	U	0.0092	U	
Xylene P,M	mg/kg	110	540	0.0078	U	-	0.0081	U	-	0.0098	U	-	0.008	U	0.008	U	0.0083	U	0.0084	U	0.0084	U	0.0085	U	0.0084	U	0.0071	U	0.007	U	0.0084	U	0.0092	U	
Xylene O	mg/kg	110	540	0.0039	U	-	0.004	U	-	0.0049	U	-	0.004	U	0.004	U	0.0042	U	0.0042	U	0.0042	U	0.0043	U	0.0042	U	0.0036	U	0.0035	U	0.0042	U	0.0046	U	
Xylenes (Total)	mg/kg	110	540	0.0078	U	-	0.0081	U	-	0.0098	U	-	0.008	U	0.008	U	0.0083	U	0.0084	U	0.0084	U	0.0085	U	0.0084	U	0.0071	U	0.007	U	0.0084	U	0.0092	U	
SEMIVOLATILE ORGANIC COMPOUNDS (SVOCs)																																			
Acenaphthene	mg/kg	43	NS	0.357	U	0.19	U	0.361	U	0.93	U	0.399	U	0.2	0.361	U	0.372	U	0.339	U	0.366	U	0.373	U	0.401	0.385	U	0.336	U	0.361	U	0.357	U	0.378	U
Acenaphthylene	mg/kg	23	NS	0.357	U	0.19	U	0.361	U	0.93	U	0.399	U	0.2	0.361	U	0.372	U	0.339	U	0.366	U	0.373	U	0.401	0.385	U	0.336	U	0.361	U	0.357	U	0.378	U
Acetophenone	mg/kg	NS	NS	0.716	U	-	0.724	U	-	0.799	U	-	0.723	U	0.745	U	0.679	U	0.732	U	0.747	U	0.762	U	0.772	U	0.673	U	0.723	U	0.714	U	0.758	U	
Aniline	mg/kg	NS	NS	0.716	U	-	0.724	U	-	0.799	U	-	0.723	U	0.745	U	0.679	U	0.732	U	0.747	U	0.762	U	0.772	U	0.673	U	0.723	U	0.714	U	0.758	U	
Anthracene	mg/kg	35	NS	0.357	U	0.33	0.361	U	2.1	0.399	U	0.51	0.361	U	0.372	U	0.339	U	0.366	U	0.533	0.871	0.385	U	0.336	U	0.361	U	0.357	U	0.378	U			
Benzidine	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Benzoic Acid	mg/kg	NS	NS	1.79	U	-	1.81	U	-	2	U	-	1.81	U	1.86	U	1.7	U	1.83	U	1.87	U	1.91	U	1.93	U	1.69	U	1.81	U	1.79	U	1.9	U	
Benzo(a)anthracene	mg/kg	0.9	NS	0.357	U	1	0.361	U	5	0.399	U	1.2	0.361	U	0.372	U	0.339	U	0.366	U	3.68	2.33	0.385	U	0.336	U	0.361	U	0.357	U	0.378	U			
Benzo(a)pyrene	mg/kg	0.4	240	0.179	U	0.99	0.181	U	4.6	0.297	U	1	0.225	0.186	U	0.17	U	0.183	U	3.42	2.03	0.205	-	0.169	U	0.181	U	0.179	U	0.19	U				
Benzo(b)fluoranthene	mg/kg	0.9	NS	0.357	U	1.3	0.361	U	5.5	0.399	U	1.4	0.361	U	0.372	U	0.339	U	0.366	U	5.09	3.28	0.385	U	0.336	U	0.361	U	0.357	U	0.378	U			
Benzo(g,h,i)perylene	mg/kg	0.8	NS	0.357	U	0.55	0.361	U	2	0.399	U	0.5	0.361	U	0.372	U	0.339	U	0.366	U	1.8	0.883	0.385	U	0.336	U	0.361	U	0.357	U	0.378	U			
Benzo(k)fluoranthene	mg/kg	0.9	NS	0.357	U	0.5	0.361	U	2	0.399	U	0.53	0.361	U	0.372	U	0.339	U	0.366	U	1.77	0.98	0.385	U	0.336	U	0.361	U	0.357	U	0.378	U			
Benzyl Alcohol	mg/kg	NS	NS	0.357	U	-	0.361	U	-	0.399	U	-	0.361	U	0.372	U	0.339	U	0.366	U	0.373	U	0.38	U	0.385	U	0.336	U	0.361	U	0.357	U	0.378	U	
Biphenyl	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
1,1-Biphenyl	mg/kg	0.8	NS	0.357	U	-	0.361	U	-	0.399	U	-	0.361	U	0.372	U	0.339	U	0.366	U	0.373	U	0.38	U	0.385	U	0.336	U	0.361	U	0.357	U	0.378	U	
bis(2-Chloroethoxy)methane	mg/kg	NS	NS	0.357	U	-	0.361	U	-	0.399	U	-	0.361	U	0.372	U	0.339	U	0.366	U	0.373	U	0.38	U	0.385	U	0.336	U	0.361	U	0.357	U	0.378	U	
bis(2-Chloroethyl)ether	mg/kg	0.6	NS	0.357	U	-	0.361	U	-	0.399	U	-	0.361	U	0.372	U	0.339	U	0.366	U	0.373	U	0.38	U	0.385	U	0.336	U	0.361	U	0.357	U	0.378	U	
bis(2-chloroisopropyl)Ether	mg/kg	9.1	NS	0.357	U	-	0.361	U	-	0.399	U	-	0.361	U	0.372	U	0.339	U	0.366	U	0.373	U	0.38	U	0.385	U	0.336	U	0.361	U	0.357	U	0.378	U	
bis(2-Ethylhexyl)phthalate	mg/kg	46	120	0.357	U	-	0.361	U	-	0.399	U	-	0.361	U	0.372	U	0.339	U	0.366	U	0.373	U	0.38	U	0.385	U	0.336	U	0.361	U	0.357	U	0.378	U	
4-Bromophenyl-phenylether	mg/kg	NS	NS	0.357	U	-	0.361	U	-	0.399	U	-	0.361	U	0.372	U	0.339																		

TABLE 5 - SUMMARY OF SOIL ANALYTICAL DATA (ESS)

PARAMOUNT APARTMENTS, LLC  
5 MAIN STREET  
SCITUATE, RHODE ISLAND

Sample ID	ESS-32	ESS-33A	ESS-33	ESS-34A	ESS-34	ESS-35A	ESS-35	ESS-36	ESS-37	ESS-38	COMP-1	COMP-2	COMP-3	ESS-43	ESS-44	ESS-45	COMP-7				
	Sample Collection Date	9/7/2016	4/1/2020	09/07/2016	4/1/2020	09/07/2016	4/1/2020	09/07/2016	09/07/2016	09/07/2016	09/07/2016	09/07/2016	09/07/2016	09/07/2016	09/08/2016	09/08/2016	09/08/2016	09/08/2016			
Sample Interval (feet)	3.0 - 8.0	0 - 3.0	3.0 - 8.0	0 - 3.0	3.0 - 8.0	0 - 3.0	3.0 - 8.0	3.0 - 8.0	3.0 - 8.0	3.0 - 8.0	0 - 3.0	0 - 3.0	0 - 3.0	2.0 - 8.0	2.0 - 8.0	2.0 - 8.0	0 - 2.0				
PID (ppmV)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
Area of Concern <sup>1</sup>	4	4	4	4	4	4	4	4	4	4	4	4	4	5	5	5	5				
Parameter	Reporting Units	RIDEEM		Results		Results		Results		Results		Results		Results		Results		Results		Results	
		RDEC	GALC	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
SEMIVOLATILE ORGANIC COMPOUNDS (SVOCs) - CONTINUED																					
P-Chloro-M-Cresol	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	mg/kg	54	0.8	0.357 U	0.19 U	0.361 U	0.93 U	0.399 U	0.2 U	0.361 U	0.372 U	0.339 U	0.366 U	0.373 U	0.38 U	0.385 U	0.336 U	0.361 U	0.357 U	0.378 U	
2-Nitroaniline	mg/kg	NS	NS	0.357 U	-	0.361 U	-	0.399 U	-	0.361 U	0.372 U	0.339 U	0.366 U	0.373 U	0.38 U	0.385 U	0.336 U	0.361 U	0.357 U	0.378 U	
3-Nitroaniline	mg/kg	NS	NS	0.357 U	-	0.361 U	-	0.399 U	-	0.361 U	0.372 U	0.339 U	0.366 U	0.373 U	0.38 U	0.385 U	0.336 U	0.361 U	0.357 U	0.378 U	
4-Nitroaniline	mg/kg	NS	NS	0.357 U	-	0.361 U	-	0.399 U	-	0.361 U	0.372 U	0.339 U	0.366 U	0.373 U	0.38 U	0.385 U	0.336 U	0.361 U	0.357 U	0.378 U	
Nitrobenzene	mg/kg	NS	NS	0.357 U	-	0.361 U	-	0.399 U	-	0.361 U	0.372 U	0.339 U	0.366 U	0.373 U	0.38 U	0.385 U	0.336 U	0.361 U	0.357 U	0.378 U	
2-Nitrophenol	mg/kg	NS	NS	0.357 U	-	0.361 U	-	0.399 U	-	0.361 U	0.372 U	0.339 U	0.366 U	0.373 U	0.38 U	0.385 U	0.336 U	0.361 U	0.357 U	0.378 U	
4-Nitrophenol	mg/kg	NS	NS	1.79 U	-	1.81 U	-	2 U	-	1.81 U	1.86 U	1.7 U	1.83 U	1.87 U	1.91 U	1.93 U	1.69 U	1.81 U	1.79 U	1.9 U	
N-Nitrosodimethylamine	mg/kg	NS	NS	0.357 U	-	0.361 U	-	0.399 U	-	0.361 U	0.372 U	0.339 U	0.366 U	0.373 U	0.38 U	0.385 U	0.336 U	0.361 U	0.357 U	0.378 U	
N-nitrosodiphenylamine	mg/kg	NS	NS	0.357 U	-	0.361 U	-	0.399 U	-	0.361 U	0.372 U	0.339 U	0.366 U	0.373 U	0.38 U	0.385 U	0.336 U	0.361 U	0.357 U	0.378 U	
N-Nitroso-Di-n-Propylamine	mg/kg	NS	NS	0.357 U	-	0.361 U	-	0.399 U	-	0.361 U	0.372 U	0.339 U	0.366 U	0.373 U	0.38 U	0.385 U	0.336 U	0.361 U	0.357 U	0.378 U	
Pentachlorophenol	mg/kg	5.3	7.1	1.79 U	-	1.81 U	-	2 U	-	1.81 U	1.86 U	1.7 U	1.83 U	1.87 U	1.91 U	1.93 U	1.69 U	1.81 U	1.79 U	1.9 U	
Phenanthrene	mg/kg	40	NS	0.357 U	1.7	0.361 U	10	0.64	2.6	0.361 U	0.372 U	0.339 U	0.366 U	2.36	3.64	0.385 U	0.336 U	0.361 U	0.357 U	0.378 U	
Phenol	mg/kg	6,000	NS	0.357 U	-	0.361 U	-	0.399 U	-	0.361 U	0.372 U	0.339 U	0.366 U	0.373 U	0.38 U	0.385 U	0.336 U	0.361 U	0.357 U	0.378 U	
Pyrene	mg/kg	13	NS	0.357 U	2.2	0.361 U	11	0.64	3	0.361 U	0.372 U	0.339 U	0.366 U	5.49	3.86	0.385 U	0.336 U	0.361 U	0.357 U	0.378 U	
Pyridine	mg/kg	NS	NS	1.79 U	-	1.81 U	-	2 U	-	1.81 U	1.86 U	1.7 U	1.83 U	1.87 U	1.91 U	1.93 U	1.69 U	1.81 U	1.79 U	1.9 U	
2,3,4,6-Tetrachlorophenol	mg/kg	NS	NS	1.79 U	-	1.81 U	-	2 U	-	1.81 U	1.86 U	1.7 U	1.83 U	1.87 U	1.91 U	1.93 U	1.69 U	1.81 U	1.79 U	1.9 U	
1,2,4-Trichlorobenzene	mg/kg	96	140	0.357 U	-	0.361 U	-	0.399 U	-	0.361 U	0.372 U	0.339 U	0.366 U	0.373 U	0.38 U	0.385 U	0.336 U	0.361 U	0.357 U	0.378 U	
2,4,5-Trichlorophenol	mg/kg	330	NS	0.357 U	-	0.361 U	-	0.399 U	-	0.361 U	0.372 U	0.339 U	0.366 U	0.373 U	0.38 U	0.385 U	0.336 U	0.361 U	0.357 U	0.378 U	
2,4,6-Trichlorophenol	mg/kg	58	NS	0.357 U	-	0.361 U	-	0.399 U	-	0.361 U	0.372 U	0.339 U	0.366 U	0.373 U	0.38 U	0.385 U	0.336 U	0.361 U	0.357 U	0.378 U	
TOTAL PETROLEUM HYDROCARBONS (TPH)																					
TPH	mg/kg	500	500	39.5 U	-	38 U	-	43 U	-	47.5	40 U	41.9 U	40.3 U	266 -	112 -	42.9 U	39.7 U	39.4 U	37.2 U	41.6 U	
TOTAL METALS																					
Antimony	mg/kg	10	NS	0.47 UD	-	0.43 UD	-	0.47 UD	-	0.5 UD	0.4 UD	0.42 UD	0.37 UD	0.44 UD	0.43 UD	0.48 UD	0.39 UD	0.37 UD	0.41 UD	0.41 UD	
Arsenic	mg/kg	7	NS	2.48	3.6 U	6.49 UD	3.6 U	2.37 U	4.1	2.5 U	1.98 U	2.11 U	3.75 UD	6.68	2.5	2.39 U	3.00	2.31	4.13 UD	2.07 U	
Barium	mg/kg	5,500	NS	14.4	-	17.2 D	-	28.1	-	24	22.6	8.72	30.8 D	35.9	32.6	17.3	11.2	14.9	16.2 D	15.8	
Beryllium	mg/kg	1.5	NS	0.59	-	0.89 D	-	0.36	-	0.47	0.64	0.39	0.74 D	0.52	0.48	0.53	0.45	0.4	0.54 D	0.48	
Cadmium	mg/kg	39	NS	0.47 U	-	1.3 UD	-	0.47 U	-	0.5 U	0.4 U	0.42 U	0.75 UD	0.44 U	0.43 U	0.48 U	0.39 U	0.37 U	0.83 UD	0.41 U	
Chromium	mg/kg	390	NS	0.95 U	-	2.6 UD	-	1.75	-	1 U	7.58	1.03	2.34 D	1.5	1.79	1.73	0.79 U	0.73 U	1.65 UD	0.83 U	
Chromium (III)	mg/kg	1,400	NS	0.95 U	-	2.6 UD	-	1.75	-	1 U	7.58	1.03	2.34 D	1.5	1.79	1.73	0.8 U	0.7 U	1.6 UD	0.8 U	
Hexavalent Chromium	mg/kg	390	NS	0.4 U	-	0.4 U	-	0.5 U	-	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	
Copper	mg/kg	3,100	NS	2.36 U	-	6.49 UD	-	5.48	-	5.35	10.1	2.11 U	3.75 UD	20.8	8.93	12.8	1.97 U	1.83 U	4.13 UD	3.09	
Cyanide	mg/kg	200	2.4	1.01 U	-	1.04 U	-	1.06 U	-	1.07 U	1.06 U	1.07 U	1.06 U	1.07 U	1.07 U	1.06 U	0.93 U	1.01 U	0.99 U	1.03 U	
Lead	mg/kg	150	NS	4.9	41	13 UD	52	26.5	59	19.8	3.96 U	4.23 U	8.21 D	77.5	46.7	44	3.93 U	3.66 U	8.26 UD	17.1	
Manganese	mg/kg	390	NS	156	-	184 D	-	51.8	-	87.6	351	77.4	198 D	130	93.6	83.8	128	125	187 D	113	
Mercury	mg/kg	23	NS	0.032	-	0.029 U	-	0.036 U	-	0.054	0.033 U	0.031 U	0.029 U	0.066	0.091	0.05	0.03 U	0.03 U	0.03 U	0.051	
Nickel	mg/kg	1,000	NS	2.36 U	-	6.49 UD	-	39.7	-	2.56	19.3	2.11 U	3.75 UD	3.63	9.77	3.22	1.97 U	1.83 U	4.13 UD	2.12	
Selenium	mg/kg	390	NS	0.47 UD	-	0.51 D	-	0.98 D	-	0.5 UD	0.4 UD	0.42 UD	0.43 D	0.55 D	0.49 D	0.57 D	0.39 UD	0.37 UD	0.41 UD	0.53 D	
Silver	mg/kg	200	NS	0.47 U	-	1.3 UD	-	2.37 UD	-	0.5 U	0.4 U	0.42 U	0.75 UD	0.44 U	0.43 U	0.48 U	0.39 U	0.37 U	0.83 UD	0.41 U	
Thallium	mg/kg	6	NS	0.47 UD	-	0.43 UD	-	0.47 UD	-	0.5 UD	0.4 UD	0.42 UD	0.37 UD	0.44 UD	0.43 UD	0.48 UD	0.39 UD	0.37 UD	0.41 UD	0.41 UD	
Vanadium	mg/kg	550	NS	2.8	-	2.6 UD	-	187	-	3.56	13.8	4.46	6.6 D	5	31.4	7.33	1.56	1.72	1.65 U, D	4.04	
Zinc	mg/kg	6,000	NS	31.9	-	59.2 D	-	13.3	-	51.6	32	40.7	54.6 D	52.8	42.7	30	32.7	27.6	51.5 D	29.7	
SYNTHETIC PRECIPITATION LEACHING PROCEDURE (SPLP)																					
Beryllium	mg/L	NS	0.03	-	-	0.0005 U	-	-	-	0.0005 U	-	0.0005 U	-	-	-	-	-	-	-	-	
Lead	mg/L	NS	0.04	0.010 U	0.0025 U	-	0.0025 U	0.010 U	0.031	0.010 U	-	-	0.010 U	0.076	0.019	0.010 U	-	-	-	0.01 U	
Nickel	mg/L	NS	1	-	-	-	-	0.025 U	-	-	-	-	-	-	-	-	-	-	-	-	
PESTICIDES																					
4,4'-DDD	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	0.0029 U	0.0028 U	0.0028 U	-	-	-	0.0028 U	
4,4'-DDE	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	0.0068	0.0028 U	0.0028 U	-	-	-	0.0028 U	
4,4'-DDT	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	0.0081	0.0028 U	0.0028 U	-	-	-	0.0028 U	
Aldrin	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	0.0029 U	0.0028 U	0.0028 U	-	-	-	0.0028 U	
alpha-BHC	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	0.0029 U	0.0028 U	0.0028 U	-	-	-	0.0028 U	
alpha-Chlordane	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	0.0029 U	0.0028 U	0.0028 U	-	-	-	0.0028 U	
beta-BHC	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	0.0029 U	0.0028 U	0.0028 U	-	-	-	0.0028 U	
Chlordane (Total)	mg/kg	0.5	1.4	0.0304 U	-	0.0317 U	-	0.0339 U	-	0.0314 U	0.0307 U	0.0323 U	0.0326 U	0.0347 U	0.0332 U	0.0336 U	0.0311 U	0.0312 U	0.0304 U	0.0335 U	
cis-Chlordane	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
delta-BHC	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	0.0029 U	0.0028 U	0.0028 U	-	-	-	0.0028 U	
Dieldrin	mg/kg	0.04	NS	0.00																	

TABLE 5 - SUMMARY OF SOIL ANALYTICAL DATA (ESS)

PARAMOUNT APARTMENTS, LLC  
5 MAIN STREET  
SCITUATE, RHODE ISLAND

Sample ID	ESS-32	ESS-33A	ESS-33	ESS-34A	ESS-34	ESS-35A	ESS-35	ESS-36	ESS-37	ESS-38	COMP-1	COMP-2	COMP-3	ESS-43	ESS-44	ESS-45	COMP-7																	
	9/7/2016	4/1/2020	09/07/2016	4/1/2020	09/07/2016	4/1/2020	09/07/2016	09/07/2016	09/07/2016	09/07/2016	09/07/2016	09/07/2016	09/07/2016	09/08/2016	09/08/2016	09/08/2016	09/08/2016																	
Sample Collection Date																																		
Sample Interval (feet)	3.0 - 8.0	0 - 3.0	3.0 - 8.0	0 - 3.0	3.0 - 8.0	0 - 3.0	3.0 - 8.0	3.0 - 8.0	3.0 - 8.0	3.0 - 8.0	0 - 3.0	0 - 3.0	0 - 3.0	2.0 - 8.0	2.0 - 8.0	2.0 - 8.0	0 - 2.0																	
PID (ppmV)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0																	
Area of Concern <sup>1</sup>	4	4	4	4	4	4	4	4	4	4	4	4	4	5	5	5	5																	
Parameter	Reporting Units	RIDEM		Results		Results		Results		Results		Results		Results		Results		Results		Results														
		RDEC	GALC	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q													
PESTICIDES - CONTINUED																																		
Endrin Ketone	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	0.0029	U	0.0028	U	0.0028	U	-	-	0.0028	U											
gamma-BHC (Lindane)	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	0.0017	U	0.0017	U	0.0017	U	-	-	0.0017	U											
gamma-Chlordane	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	0.0029	U	0.0028	U	0.0028	U	-	-	0.0028	U											
Heptachlor	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	0.0029	U	0.0028	U	0.0028	U	-	-	0.0028	U											
Heptachlor Epoxide	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	0.0029	U	0.0028	U	0.0028	U	-	-	0.0028	U											
Hexachlorobenzene	mg/kg	0.4	NS	-	-	-	-	-	-	-	-	-	-	0.0029	U	0.0028	U	0.0028	U	-	-	0.0028	U											
Lindane	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-												
Methoxychlor	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	0.0029	U	0.0028	U	0.0028	U	-	-	0.0028	U											
Toxaphene	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	0.144	U	0.138	U	0.14	U	-	-	0.14	U											
trans-Chlordane	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-												
POLYCHLORINATED BIPHENYLS (PCBs)																																		
Aroclor 1016	mg/kg	10	10	0.0546	U	-	0.0533	U	-	0.0591	U	-	0.0552	U	0.0535	U	0.0544	U	0.0549	U	0.0572	U	0.0547	U	0.0568	U	0.0527	U	0.0514	U	0.053	U	0.0561	U
Aroclor 1221	mg/kg	10	10	0.0546	U	-	0.0533	U	-	0.0591	U	-	0.0552	U	0.0535	U	0.0544	U	0.0549	U	0.0572	U	0.0547	U	0.0568	U	0.0527	U	0.0514	U	0.053	U	0.0561	U
Aroclor 1232	mg/kg	10	10	0.0546	U	-	0.0533	U	-	0.0591	U	-	0.0552	U	0.0535	U	0.0544	U	0.0549	U	0.0572	U	0.0547	U	0.0568	U	0.0527	U	0.0514	U	0.053	U	0.0561	U
Aroclor 1242	mg/kg	10	10	0.0546	U	-	0.0533	U	-	0.0591	U	-	0.0552	U	0.0535	U	0.0544	U	0.0549	U	0.0572	U	0.0547	U	0.0568	U	0.0527	U	0.0514	U	0.053	U	0.0561	U
Aroclor 1248	mg/kg	10	10	0.0546	U	-	0.0533	U	-	0.0591	U	-	0.0552	U	0.0535	U	0.0544	U	0.0549	U	0.0572	U	0.0547	U	0.0568	U	0.0527	U	0.0514	U	0.053	U	0.0561	U
Aroclor 1254	mg/kg	10	10	0.0546	U	-	0.0533	U	-	0.0591	U	-	0.0552	U	0.0535	U	0.0544	U	0.0549	U	0.0572	U	0.0547	U	<b>0.406</b>	0.0527	U	0.0514	U	0.053	U	0.0561	U	
Aroclor 1260	mg/kg	10	10	0.0546	U	-	0.0533	U	-	0.0591	U	-	0.0552	U	0.0535	U	0.0544	U	0.0549	U	0.0572	U	0.0547	U	0.0568	U	0.0527	U	0.0514	U	0.053	U	0.0561	U
Aroclor 1262	mg/kg	10	10	0.0546	U	-	0.0533	U	-	0.0591	U	-	0.0552	U	0.0535	U	0.0544	U	0.0549	U	0.0572	U	0.0547	U	0.0568	U	0.0527	U	0.0514	U	0.053	U	0.0561	U
Aroclor 1268	mg/kg	10	10	0.0546	U	-	0.0533	U	-	0.0591	U	-	0.0552	U	0.0535	U	0.0544	U	0.0549	U	0.0572	U	0.0547	U	0.0568	U	0.0527	U	0.0514	U	0.053	U	0.0561	U
PCBs, Total	mg/kg	10	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
PERCHLORATE																																		
Perchlorate	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
GENERAL CHEMISTRY																																		
Solids, Total	%	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
pH (H)	SU	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Cyanide, Reactive	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Sulfide, Reactive	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Ignitability	N/A	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

Notes:  
 (1) Areas of Concern (AOCs) identified by ESS include:  
 AOC 1 = Potential Former Liquid Lagoons  
 AOC 2 = Former Railroad Bridge Abutments  
 AOC 3 = Annual Fireworks Display Area  
 AOC 4 = Pervious Pavement/Sub-Drain Area  
 AOC 5 = On-Site Wastewater Treatment System (OWTS)  
 AOC 6 = Former UST #2  
 AOC 7 = Fill Area  
 AOC 8 = West of Building 2

RIDEM = Rhode Island Department of Environmental Management  
 RDEC = Residential Direct Exposure Criteria  
 I/CDEC = Industrial/Commercial Direct Exposure Criteria  
 GALC = GA Leachability Criteria  
 OWTS = On-Site Waste Water Treatment System  
 ppmV = parts per million by volume  
 mg/kg = milligrams per kilogram  
 mg/l - milligrams per liter.  
 Q = Qualifier  
 NS = No Standard Promulgated  
 NI = Not Ignitable  
 N/A = Not applicable  
 - = Not Tested  
 U = Undetected above the laboratory Reporting Limit.  
 U\* = The concentration is undetected but the reporting limit exceeds the standard.  
 D = Diluted  
**Bold** concentrations exceed the laboratory reporting limit.  
**Bold Red** concentrations exceed applicable RIDEM Remediation Regulation Residential Direct Exposure Criteria.  
**Bold Blue** concentrations exceed applicable RIDEM Remediation Regulation GA Leachability Criteria (mg/L).

TABLE 5 - SUMMARY OF SOIL ANALYTICAL DATA (ESS)

PARAMOUNT APARTMENTS, LLC  
 5 MAIN STREET  
 SCITUATE, RHODE ISLAND

Parameter	Reporting Units	RIDEM		ESS-46		ESS-47		ESS-61		ESS-62		ESS-65		ESS-48		ESS-50		ESS-60		ESS-58		ESS-58		ESS-59			
		RDEC	GALC	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q
VOLATILE ORGANIC COMPOUNDS (VOCs)																											
Acetone	mg/kg	7,800	NS	0.0374	U	0.0381	U	0.076	U	0.07	U	0.093	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acrylonitrile	mg/kg	NS	NS	-	-	0.0045	U	0.0042	U	0.0056	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tertiary-aryl methyl ether	mg/kg	NS	NS	0.0037	U	0.0038	U	0.00076	U	0.0007	U	0.00093	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene	mg/kg	2.5	0.2	0.0037	U	0.0038	U	0.0015	U	0.0014	U	0.0019	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromobenzene	mg/kg	NS	NS	0.0037	U	0.0038	U	0.0015	U	0.0014	U	0.0019	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromochloromethane	mg/kg	NS	NS	0.0037	U	0.0038	U	0.0015	U	0.0014	U	0.0019	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromodichloromethane	mg/kg	10	NS	0.0037	U	0.0038	U	0.0015	U	0.0014	U	0.0019	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromoform	mg/kg	81	NS	0.0037	U	0.0038	U	0.0015	U	0.0014	U	0.0019	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromomethane	mg/kg	0.8	NS	0.0075	U	0.0076	U	0.0076	U	0.007	U	0.0093	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Butanone	mg/kg	10,000	NS	0.0374	U	0.0381	U	0.03	U	0.028	U	0.037	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tert-butyl alcohol	mg/kg	NS	NS	-	-	0.03	U	0.028	U	0.037	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
n-Butylbenzene	mg/kg	NS	NS	0.0081	U	0.0038	U	0.0015	U	0.0014	U	0.0019	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
sec-Butylbenzene	mg/kg	NS	NS	0.0059	U	0.0038	U	0.0015	U	0.0014	U	0.0019	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
tert-Butylbenzene	mg/kg	NS	NS	0.0037	U	0.0038	U	0.0015	U	0.0014	U	0.0019	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethyl tertiary-butyl ether	mg/kg	NS	NS	0.0037	U	0.0038	U	0.00076	U	0.0007	U	0.00093	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbon Disulfide	mg/kg	NS	NS	0.0037	U	0.0038	U	0.0045	U	0.0042	U	0.0056	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbon Tetrachloride	mg/kg	1.5	0.4	0.0037	U	0.0038	U	0.0015	U	0.0014	U	0.0019	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chlorobenzene	mg/kg	210	3.2	0.0037	U	0.0038	U	0.0015	U	0.0014	U	0.0019	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibromochloromethane	mg/kg	7.6	NS	0.0037	U	0.0038	U	0.00076	U	0.0007	U	0.00093	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroethane	mg/kg	NS	NS	0.0075	U	0.0076	U	0.015	U	0.014	U	0.019	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroform	mg/kg	1.2	NS	0.0037	U	0.0038	U	0.003	U	0.0028	U	0.0037	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1-Chlorohexane	mg/kg	NS	NS	0.0037	U	0.0038	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloromethane	mg/kg	NS	NS	0.0075	U	0.0076	U	0.0076	U	0.007	U	0.0093	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Chlorotoluene	mg/kg	NS	NS	0.0037	U	0.0038	U	0.0015	U	0.0014	U	0.0019	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Chlorotoluene	mg/kg	NS	NS	0.0037	U	0.0038	U	0.0015	U	0.0014	U	0.0019	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromo-3-Chloropropane	mg/kg	0.5	NS	0.0037	U	0.0038	U	0.0015	U	0.0014	U	0.0019	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane	mg/kg	0.01	0.0005	0.0037	U*	0.0038	U*	0.00076	U*	0.0007	U*	0.00093	U*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibromomethane	mg/kg	NS	NS	0.0037	U	0.0038	U	0.0015	U	0.0014	U	0.0019	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	mg/kg	510	41	0.0037	U	0.0038	U	0.0015	U	0.0014	U	0.0019	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	mg/kg	430	41	0.0037	U	0.0038	U	0.0015	U	0.0014	U	0.0019	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	mg/kg	27	41	0.0037	U	0.0038	U	0.0015	U	0.0014	U	0.0019	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobutane	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,4-Dichloro-2-butene	mg/kg	NS	NS	-	-	0.003	U	0.0028	U	0.0037	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichlorodifluoromethane	mg/kg	NS	NS	0.0075	U	0.0076	U	0.015	U	0.014	U	0.019	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethane	mg/kg	920	NS	0.0037	U	0.0038	U	0.0015	U	0.0014	U	0.0019	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	mg/kg	0.9	0.1	0.0037	U	0.0038	U	0.0015	U	0.0014	U	0.0019	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	mg/kg	0.2	0.7	0.0037	U	0.0038	U	0.003	U	0.0028	U	0.0037	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	mg/kg	630	1.7	0.0037	U	0.0038	U	0.0015	U	0.0014	U	0.0019	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	mg/kg	1,100	3.3	0.0037	U	0.0038	U	0.0015	U	0.0014	U	0.0019	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethene, Total	mg/kg	0.9	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	mg/kg	1.9	0.1	0.0037	U	0.0038	U	0.0015	U	0.0014	U	0.0019	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichloropropane	mg/kg	NS	NS	0.0037	U	0.0038	U	0.00076	U	0.0007	U	0.00093	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,2-Dichloropropane	mg/kg	NS	NS	0.0037	U	0.0038	U	0.0015	U	0.0014	U	0.0019	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloropropene	mg/kg	NS	NS	0.0037	U	0.0038	U	0.0015	U	0.0014	U	0.0019	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,3-Dichloropropene	mg/kg	NS	NS	0.0037	U	0.0038	U	0.00076	U	0.0007	U	0.00093	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,3-Dichloropropene	mg/kg	NS	NS	0.0037	U	0.0038	U	0.00076	U	0.0007	U	0.00093	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichloropropene, Total	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Diethyl Ether	mg/kg	NS	NS	0.0037	U	0.0038	U	0.015	U	0.014	U	0.019	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Di-isopropyl ether	mg/kg	NS	NS	0.0037	U	0.0038	U	0.00076	U	0.0007	U	0.00093	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dioxane	mg/kg	NS	NS	0.0748	U	0.0762	U	0.076	U	0.07	U	0.093	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	mg/kg	71	27	0.0037	U	0.0038	U	0.0015	U	0.0014	U	0.0019	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethyl methacrylate	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexachlorobutadiene	mg/kg	8.2	NS	0.0037	U	0.0038	U	0.0015	U	0.0014	U	0.0019	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Hexanone	mg/kg	NS	NS	0.0374	U	0.0381	U	0.015	U	0.014	U	0.019	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Isopropylbenzene	mg/kg	27	NS	0.																							

TABLE 5 - SUMMARY OF SOIL ANALYTICAL DATA (ESS)

PARAMOUNT APARTMENTS, LLC  
 5 MAIN STREET  
 SCITUATE, RHODE ISLAND

Sample ID	ESS-46	ESS-47	ESS-61	ESS-62	ESS-65	ESS-48	ESS-50		ESS-60	ESS-58	ESS-58	ESS-59					
	09/07/2016	09/07/2016	6/3/2020	6/3/2020	6/3/2020	4/1/2020	4/1/2020		4/2/2020	4/2/2020	4/2/2020	4/2/2020					
Sample Collection Date	09/07/2016	09/07/2016	6/3/2020	6/3/2020	6/3/2020	4/1/2020	4/1/2020		4/2/2020	4/2/2020	4/2/2020	4/2/2020					
Sample Interval (feet)	8.0	8.5	7.0-8.0	1.1-1.8	11.3-12.5	0 - 4.0	0 - 4.0	4.0-8.0	0 - 4.0	0 - 3.0	3.0-7.5	0 - 3.0					
PID (ppmV)	37.5	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
Area of Concern <sup>1</sup>	6	6	6	6	6	7	7		7	8	8	8					
Parameter	Reporting Units	RIDEM		Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q
		RDEC	GALC														
VOLATILE ORGANIC COMPOUNDS (VOCs) - CONTINUED																	
1,2,3-Trichlorobenzene	mg/kg	NS	NS	0.0037	U	0.0038	U	0.0015	U	0.0014	U	0.0019	U	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	96	NS	0.0037	U	0.0038	U	0.0015	U	0.0014	U	0.0019	U	-	-	-	-
1,3,5-Trichlorobenzene	mg/kg	NS	NS	-	-	-	-	0.0015	U	0.0014	U	0.0019	U	-	-	-	-
1,1,1-Trichloroethane	mg/kg	540	11	0.0037	U	0.0038	U	0.0015	U	0.0014	U	0.0019	U	-	-	-	-
1,1,2-Trichloroethane	mg/kg	3.6	0.1	0.0037	U	0.0038	U	0.0015	U	0.0014	U	0.0019	U	-	-	-	-
Trichloroethene	mg/kg	13	0.2	0.0037	U	0.0038	U	0.0015	U	0.0014	U	0.0019	U	-	-	-	-
Trichlorofluoromethane	mg/kg	NS	NS	0.0037	U	0.0038	U	0.0076	U	0.007	U	0.0093	U	-	-	-	-
1,2,3-Trichloropropane	mg/kg	NS	NS	0.0037	U	0.0038	U	0.0015	U	0.0014	U	0.0019	U	-	-	-	-
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/kg	NS	NS	-	-	-	-	0.0076	U	0.007	U	0.0093	U	-	-	-	-
1,2,4-Trimethylbenzene	mg/kg	NS	NS	0.0050	U	0.0038	U	0.0015	U	0.0014	U	0.0019	U	-	-	-	-
1,3,5-Trimethylbenzene	mg/kg	NS	NS	0.0037	U	0.0038	U	0.0015	U	0.0014	U	0.0019	U	-	-	-	-
Vinyl Acetate	mg/kg	NS	NS	0.0037	U	0.0038	U	-	-	-	-	-	-	-	-	-	-
Vinyl Chloride	mg/kg	0.02	0.3	0.0075	U	0.0076	U	0.0076	U	0.007	U	0.0093	U	-	-	-	-
Xylene P,M	mg/kg	110	540	0.0075	U	0.0076	U	0.003	U	0.0028	U	0.0037	U	-	-	-	-
Xylene O	mg/kg	110	540	0.0037	U	0.0038	U	0.0015	U	0.0014	U	0.0019	U	-	-	-	-
Xylenes (Total)	mg/kg	110	540	0.0075	U	0.0076	U	-	-	-	-	-	-	-	-	-	-
SEMIVOLATILE ORGANIC COMPOUNDS (SVOCs)																	
Acenaphthene	mg/kg	43	NS	-	-	-	-	-	-	0.19	U	0.19	U	0.19	U	0.19	U
Acenaphthylene	mg/kg	23	NS	-	-	-	-	-	-	0.19	U	0.19	U	0.19	U	0.21	U
Acetophenone	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aniline	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Anthracene	mg/kg	35	NS	-	-	-	-	-	-	0.2	U	0.19	U	0.19	U	0.21	U
Benzidine	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzoic Acid	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)anthracene	mg/kg	0.9	NS	-	-	-	-	-	-	0.41	U	0.53	U	0.19	U	0.19	U
Benzo(a)pyrene	mg/kg	0.4	240	-	-	-	-	-	-	0.34	U	0.52	U	0.19	U	0.19	U
Benzo(b)fluoranthene	mg/kg	0.9	NS	-	-	-	-	-	-	0.41	U	0.59	U	0.19	U	0.19	U
Benzo(g,h,i)perylene	mg/kg	0.8	NS	-	-	-	-	-	-	0.19	U	0.31	U	0.19	U	0.19	U
Benzo(k)fluoranthene	mg/kg	0.9	NS	-	-	-	-	-	-	0.19	U	0.24	U	0.19	U	0.19	U
Benzyl Alcohol	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Biphenyl	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Biphenyl	mg/kg	0.8	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
bis(2-Chloroethyl)ether	mg/kg	0.6	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
bis(2-chloroisopropyl)Ether	mg/kg	9.1	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate	mg/kg	46	120	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Bromophenyl-phenylether	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Butylbenzylphthalate	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbazole	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Chloroaniline	mg/kg	310	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Chloronaphthalene	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Chloro-3-Methylphenol	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Chlorophenol	mg/kg	50	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Chloro-phenyl-phenyl ether	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	mg/kg	0.4	NS	-	-	-	-	-	-	0.35	U	0.55	U	0.19	U	0.19	U
Dibenzo(a,h)Anthracene	mg/kg	0.4	NS	-	-	-	-	-	-	0.19	U	0.19	U	0.19	U	0.21	U
Dibenzofuran	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Di-n-butylphthalate	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	mg/kg	510	41	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	mg/kg	430	41	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	mg/kg	27	41	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3,3'-Dichlorobenzidine	mg/kg	1.4	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dichlorophenol	mg/kg	30	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Diethylphthalate	mg/kg	340	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dimethylphenol	mg/kg	1,400	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dimethylphthalate	mg/kg	1,900	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,6-Dinitro-2-Methylphenol	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,6-Dinitro-o-cresol	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Isophorone	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1-Methylnaphthalene	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylnaphthalene	mg/kg	123	NS	-	-	-	-	-	-	0.19	U	0.19	U	0.19	U	0.21	U
2-Methylphenol	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3+4-Methylphenol	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE 5 - SUMMARY OF SOIL ANALYTICAL DATA (ESS)

PARAMOUNT APARTMENTS, LLC  
 5 MAIN STREET  
 SCITUATE, RHODE ISLAND

Sample ID	ESS-46	ESS-47	ESS-61	ESS-62	ESS-65	ESS-48	ESS-50		ESS-60	ESS-58	ESS-58	ESS-59					
	09/07/2016	09/07/2016	6/3/2020	6/3/2020	6/3/2020	4/1/2020	4/1/2020		4/2/2020	4/2/2020	4/2/2020	4/2/2020					
Sample Collection Date	09/07/2016	09/07/2016	6/3/2020	6/3/2020	6/3/2020	4/1/2020	4/1/2020		4/2/2020	4/2/2020	4/2/2020	4/2/2020					
Sample Interval (feet)	8.0	8.5	7.0-8.0	1.1-1.8	11.3-12.5	0 - 4.0	0 - 4.0	4.0-8.0	0 - 4.0	0 - 3.0	3.0-7.5	0 - 3.0					
PID (ppmV)	37.5	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
Area of Concern <sup>1</sup>	6	6	6	6	6	7	7		7	8	8	8					
Reporting Units	RIDEM		Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	
	RDEC	GALC															
<b>SEMIVOLATILE ORGANIC COMPOUNDS (SVOCs) - CONTINUED</b>																	
P-Chloro-M-Cresol	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	
Naphthalene	mg/kg	54	0.8	-	-	-	-	0.19	U	0.19	U	0.19	U	0.19	U	0.19	U
2-Nitroaniline	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	
3-Nitroaniline	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	
4-Nitroaniline	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	
Nitrobenzene	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	
2-Nitrophenol	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	
4-Nitrophenol	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	
N-Nitrosodimethylamine	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	
N-nitrosodiphenylamine	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	
N-Nitroso-Di-n-Propylamine	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	
Pentachlorophenol	mg/kg	5.3	7.1	-	-	-	-	-	-	-	-	-	-	-	-	-	
Phenanthrene	mg/kg	40	NS	-	-	-	-	0.82		0.74		0.39		0.19	U	0.41	
Phenol	mg/kg	6,000	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pyrene	mg/kg	13	NS	-	-	-	-	0.86		1.4		0.33		0.19	U	0.41	
Pyridine	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,3,4,6-Tetrachlorophenol	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	96	140	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	330	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	58	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>TOTAL PETROLEUM HYDROCARBONS (TPH)</b>																	
TPH	mg/kg	500	500	-	-	8.8	U	12		54		-	-	-	-	-	-
<b>TOTAL METALS</b>																	
Antimony	mg/kg	10	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic	mg/kg	7	NS	-	-	-	-	3.6	U	3.7	U	-	-	3.7	U	7.8	U
Barium	mg/kg	5,500	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Beryllium	mg/kg	1.5	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	mg/kg	39	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	mg/kg	390	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium (III)	mg/kg	1,400	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexavalent Chromium	mg/kg	390	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper	mg/kg	3,100	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyanide	mg/kg	200	2.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	mg/kg	150	NS	-	-	-	-	13		32		10		54		12	
Manganese	mg/kg	390	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	mg/kg	23	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel	mg/kg	1,000	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	mg/kg	390	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	mg/kg	200	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thallium	mg/kg	6	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vanadium	mg/kg	550	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc	mg/kg	6,000	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>SYNTHETIC PRECIPITATION LEACHING PROCEDURE (SPLP)</b>																	
Beryllium	mg/L	NS	0.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	mg/L	NS	0.04	-	-	-	-	0.021		0.0025	U	-	-	0.0025	U	0.0078	
Nickel	mg/L	NS	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>PESTICIDES</b>																	
4,4'-DDD	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,4'-DDE	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,4'-DDT	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aldrin	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
alpha-BHC	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
alpha-Chlordane	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
beta-BHC	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chlordane (Total)	mg/kg	0.5	1.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-Chlordane	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
delta-BHC	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dieldrin	mg/kg	0.04	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Endosulfan I	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Endosulfan II	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Endosulfan Sulfate	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Endrin	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Endrin Aldehyde	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-



TABLE 5 - SUMMARY OF SOIL ANALYTICAL DATA (ESS)

PARAMOUNT APARTMENTS, LLC  
 5 MAIN STREET  
 SCITUATE, RHODE ISLAND

Sample ID	ESS-46	ESS-47	ESS-61	ESS-62	ESS-65	ESS-48	ESS-50		ESS-60	ESS-58	ESS-58	ESS-59		
	09/07/2016	09/07/2016	6/3/2020	6/3/2020	6/3/2020	4/1/2020	4/1/2020		4/2/2020	4/2/2020	4/2/2020	4/2/2020		
Sample Collection Date														
Sample Interval (feet)	8.0	8.5	7.0-8.0	1.1-1.8	11.3-12.5	0 - 4.0	0 - 4.0	4.0-8.0	0 - 4.0	0 - 3.0	3.0-7.5	0 - 3.0		
PID (ppmV)	37.5	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Area of Concern <sup>1</sup>	6	6	6	6	6	7	7		7	8	8	8		
Reporting Units	RIDEM		Results		Results		Results		Results		Results		Results	
	RDEC	GALC	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
PESTICIDES - CONTINUED														
Endrin Ketone	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-
gamma-BHC (Lindane)	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-
gamma-Chlordane	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-
Heptachlor	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-
Heptachlor Epoxide	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-
Hexachlorobenzene	mg/kg	0.4	NS	-	-	-	-	-	-	-	-	-	-	-
Lindane	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-
Methoxychlor	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-
Toxaphene	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-
trans-Chlordane	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-
POLYCHLORINATED BIPHENYLS (PCBs)														
Aroclor 1016	mg/kg	10	10	-	-	-	-	-	-	-	-	-	-	-
Aroclor 1221	mg/kg	10	10	-	-	-	-	-	-	-	-	-	-	-
Aroclor 1232	mg/kg	10	10	-	-	-	-	-	-	-	-	-	-	-
Aroclor 1242	mg/kg	10	10	-	-	-	-	-	-	-	-	-	-	-
Aroclor 1248	mg/kg	10	10	-	-	-	-	-	-	-	-	-	-	-
Aroclor 1254	mg/kg	10	10	-	-	-	-	-	-	-	-	-	-	-
Aroclor 1260	mg/kg	10	10	-	-	-	-	-	-	-	-	-	-	-
Aroclor 1262	mg/kg	10	10	-	-	-	-	-	-	-	-	-	-	-
Aroclor 1268	mg/kg	10	10	-	-	-	-	-	-	-	-	-	-	-
PCBs, Total	mg/kg	10	10	-	-	-	-	-	-	-	-	-	-	-
PERCHLORATE														
Perchlorate	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-
GENERAL CHEMISTRY														
Solids, Total	%	NS	NS	-	-	-	-	-	-	-	-	-	-	-
pH (H)	SU	NS	NS	-	-	-	-	-	-	-	-	-	-	-
Cyanide, Reactive	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-
Sulfide, Reactive	mg/kg	NS	NS	-	-	-	-	-	-	-	-	-	-	-
Ignitability	N/A	NS	NS	-	-	-	-	-	-	-	-	-	-	-

- Notes:**  
 (1) Areas of Concern (AOCs) identified by ESS include:  
 AOC 1 = Potential Former Liquid Lagoons  
 AOC 2 = Former Railroad Bridge Abutments  
 AOC 3 = Annual Fireworks Display Area  
 AOC 4 = Pervious Pavement/Sub-Drain Area  
 AOC 5 = On-Site Wastewater Treatment System (OWTS)  
 AOC 6 = Former UST #2  
 AOC 7 = Fill Area  
 AOC 8 = West of Building 2

RIDEM = Rhode Island Department of Environmental Management  
 RDEC = Residential Direct Exposure Criteria  
 I/CDEC = Industrial/Commercial Direct Exposure Criteria  
 GALC = GA Leachability Criteria  
 OWTS = On-Site Waste Water Treatment System  
 ppmV = parts per million by volume  
 mg/kg = milligrams per kilogram  
 mg/l = milligrams per liter.  
 Q = Qualifier  
 NS = No Standard Promulgated  
 NI = Not Ignitable  
 N/A = Not applicable  
 - = Not Tested

U = Undetected above the laboratory Reporting Limit.  
 U\* = The concentration is undetected but the reporting limit exceeds the standard.  
 D = Diluted

**Bold** concentrations exceed the laboratory reporting limit.

**Bold Red** concentrations exceed applicable RIDEM Remediation Regulation Residential Direct Exposure Criteria.

**Bold Blue** concentrations exceed applicable RIDEM Remediation Regulation GA Leachability Criteria (mg/L).





TABLE 6 - SUMMARY OF GROUNDWATER ANALYTICAL DATA (ESS)

PARAMOUNT APARTMENTS, LLC  
 5 MAIN STREET  
 SCITUATE, RHODE ISLAND

Parameter	Reporting Units	Sample ID Sample Collection Date Area of Concern <sup>1</sup>	SSP-7 1/15/2016 3		SSP-8 1/15/2016 3		MW-7 4/17/2020 4		MW-8 4/17/2020 4		MW-9 4/16/2020 4		MW-11 4/17/2020 6		MW-12 4/16/2020 7		MW-13 4/16/2020 5			
			Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q	Results	Q
SEMIVOLATILE ORGANIC COMPOUNDS (SVOCS) - CONTINUED																				
Di-n-octylphthalate	mg/l	NS	0.005	U	0.005	U	--	--	--	--	--	--	--	--	--	--	--	--	--	
Diethyl phthalate	mg/l	NS	0.005	U	0.005	U	--	--	--	--	--	--	--	--	--	--	--	--	--	
Dimethyl phthalate	mg/l	NS	0.005	U	0.005	U	--	--	--	--	--	--	--	--	--	--	--	--	--	
Aniline	mg/l	NS	0.002	U	0.002	U	--	--	--	--	--	--	--	--	--	--	--	--	--	
4-Chloroaniline	mg/l	NS	0.005	U	0.005	U	--	--	--	--	--	--	--	--	--	--	--	--	--	
2-Nitroaniline	mg/l	NS	0.005	U	0.005	U	--	--	--	--	--	--	--	--	--	--	--	--	--	
3-Nitroaniline	mg/l	NS	0.005	U	0.005	U	--	--	--	--	--	--	--	--	--	--	--	--	--	
4-Nitroaniline	mg/l	NS	0.005	U	0.005	U	--	--	--	--	--	--	--	--	--	--	--	--	--	
Dibenzofuran	mg/l	NS	0.002	U	0.002	U	--	--	--	--	--	--	--	--	--	--	--	--	--	
n-Nitrosodimethylamine	mg/l	NS	0.002	U	0.002	U	--	--	--	--	--	--	--	--	--	--	--	--	--	
2,4,6-Trichlorophenol	mg/l	NS	0.005	U	0.005	U	--	--	--	--	--	--	--	--	--	--	--	--	--	
p-Chloro-m-cresol	mg/l	NS	0.002	U	0.002	U	--	--	--	--	--	--	--	--	--	--	--	--	--	
2-Chlorophenol	mg/l	NS	0.002	U	0.002	U	--	--	--	--	--	--	--	--	--	--	--	--	--	
2,4-Dichlorophenol	mg/l	NS	0.005	U	0.005	U	--	--	--	--	--	--	--	--	--	--	--	--	--	
2-Nitrophenol	mg/l	NS	0.01	U	0.01	U	--	--	--	--	--	--	--	--	--	--	--	--	--	
4-Nitrophenol	mg/l	NS	0.01	U	0.01	U	--	--	--	--	--	--	--	--	--	--	--	--	--	
2,4-Dinitrophenol	mg/l	NS	0.02	U	0.02	U	--	--	--	--	--	--	--	--	--	--	--	--	--	
4,6-Dinitro-o-cresol	mg/l	NS	0.01	U	0.01	U	--	--	--	--	--	--	--	--	--	--	--	--	--	
Phenol	mg/l	NS	0.005	U	0.005	U	--	--	--	--	--	--	--	--	--	--	--	--	--	
2-Methylphenol	mg/l	NS	0.005	U	0.005	U	--	--	--	--	--	--	--	--	--	--	--	--	--	
3-Methylphenol/4-Methylphenol	mg/l	NS	0.005	U	0.005	U	--	--	--	--	--	--	--	--	--	--	--	--	--	
2,4,5-Trichlorophenol	mg/l	NS	0.005	U	0.005	U	--	--	--	--	--	--	--	--	--	--	--	--	--	
Benzoic Acid	mg/l	NS	0.05	U	0.05	U	--	--	--	--	--	--	--	--	--	--	--	--	--	
Benzyl Alcohol	mg/l	NS	0.002	U	0.002	U	--	--	--	--	--	--	--	--	--	--	--	--	--	
Carbazole	mg/l	NS	0.002	U	0.002	U	--	--	--	--	--	--	--	--	--	--	--	--	--	
Pyridine	mg/l	NS	0.005	U	0.005	U	--	--	--	--	--	--	--	--	--	--	--	--	--	
Acenaphthene	mg/l	NS	0.0001	U	0.0001	U	--	0.00031 U	0.00029 U	--	--	0.0003 U	--	--	--	--	--	--	--	
2-Chloronaphthalene	mg/l	NS	0.0002	U	0.0002	U	--	--	--	--	--	--	--	--	--	--	--	--	--	
Fluoranthene	mg/l	NS	0.0002	U	0.0002	U	--	0.00052 U	0.00049 U	--	--	0.0005 U	--	--	--	--	--	--	--	
Hexachlorobutadiene	mg/l	NS	0.0005	U	0.0005	U	--	--	--	--	--	--	--	--	--	--	--	--	--	
Naphthalene	mg/l	0.10	0.0002	U	0.0002	U	--	0.001 U	0.00098 U	--	--	0.00099 U	--	--	--	--	--	--	--	
Benzo(a)anthracene	mg/l	NS	0.0002	U	0.0002	U	--	0.000052 U	0.000049 U	--	--	0.00005 U	--	--	--	--	--	--	--	
Benzo(a)pyrene	mg/l	0.0002	0.0002	U*	0.0002	U*	--	0.0001 U	0.000098 U	--	--	0.000099 U	--	--	--	--	--	--	--	
Benzo(b)fluoranthene	mg/l	NS	0.0002	U	0.0002	U	--	0.000052 U	0.000049 U	--	--	0.00005 U	--	--	--	--	--	--	--	
Benzo(k)fluoranthene	mg/l	NS	0.0002	U	0.0002	U	--	0.00021 U	0.0002 U	--	--	0.0002 U	--	--	--	--	--	--	--	
Chrysene	mg/l	NS	0.0002	U	0.0002	U	--	0.00021 U	0.0002 U	--	--	0.0002 U	--	--	--	--	--	--	--	
Acenaphthylene	mg/l	NS	0.0002	U	0.0002	U	--	0.00021 U	0.0002 U	--	--	0.0002 U	--	--	--	--	--	--	--	
Anthracene	mg/l	NS	0.0002	U	0.0002	U	--	0.00021 U	0.0002 U	--	--	0.0002 U	--	--	--	--	--	--	--	
Benzo(ghi)perylene	mg/l	NS	0.0002	U	0.0002	U	--	0.00052 U	0.00049 U	--	--	0.0005 U	--	--	--	--	--	--	--	
Fluorene	mg/l	NS	0.0002	U	0.0002	U	--	0.001 U	0.00098 U	--	--	0.00099 U	--	--	--	--	--	--	--	
Phenanthrene	mg/l	NS	0.0002	U	0.0002	U	--	0.000052 U	0.000049 U	--	--	0.00005 U	--	--	--	--	--	--	--	
Dibenzo(a,h)anthracene	mg/l	NS	0.0002	U	0.0002	U	--	0.0001 U	0.000098 U	--	--	0.000099 U	--	--	--	--	--	--	--	
Indeno(1,2,3-cd)Pyrene	mg/l	NS	0.0002	U	0.0002	U	--	0.0001 U	0.000098 U	--	--	0.000099 U	--	--	--	--	--	--	--	
Pyrene	mg/l	NS	0.0002	U	0.0002	U	--	0.001 U	0.00098 U	--	--	0.00099 U	--	--	--	--	--	--	--	
1-Methylnaphthalene	mg/l	NS	0.0002	U	0.0002	U	--	--	--	--	--	--	--	--	--	--	--	--	--	
2-Methylnaphthalene	mg/l	NS	0.0002	U	0.0002	U	--	0.001 U	0.00098 U	--	--	0.00099 U	--	--	--	--	--	--	--	
Pentachlorophenol	mg/l	0.001	0.0008	U	0.0008	U	--	--	--	--	--	--	--	--	--	--	--	--	--	
Hexachlorobenzene	mg/l	0.001	0.0008	U	0.0008	U	--	--	--	--	--	--	--	--	--	--	--	--	--	
Hexachloroethane	mg/l	NS	0.0008	U	0.0008	U	--	--	--	--	--	--	--	--	--	--	--	--	--	
TOTAL METALS																				
Antimony, Total	mg/l	0.006	0.002	U	0.002	U	--	--	--	--	--	--	--	--	--	--	--	--	--	
Arsenic, Total	mg/l	0.01	<b>0.001</b>		0.0005	U	0.0008	U	0.0008	U	0.0008	U	0.0008	U	0.0008	U	0.0008	U	0.0008	U
Barium, Total	mg/l	2	<b>0.025</b>		<b>0.0088</b>		--	--	--	--	--	--	--	--	--	--	--	--	--	
Beryllium, Total	mg/l	0.004	0.0005	U	0.0005	U	--	--	--	--	--	--	--	--	--	--	--	--	--	
Cadmium, Total	mg/l	0.005	<b>0.0002</b>		0.0002	U	--	--	--	--	--	--	--	--	--	--	--	--	--	
Chromium, Total	mg/l	0.1	0.001	U	0.001	U	--	--	--	--	--	--	--	--	--	--	--	--	--	
Copper, Total	mg/l	NS	0.001	U	0.001	U	--	--	--	--	--	--	--	--	--	--	--	--	--	
Cyanide, Total	mg/l	0.2	0.005	U	0.005	U	--	--	--	--	--	--	--	--	--	--	--	--	--	
Lead, Total	mg/l	0.015	<b>0.0015</b>		0.0005	U	0.0005	U	0.0005	U	<b>0.00052</b>	0.0005	U	0.0005	U	0.0005	U	0.0005	U	
Manganese, Total	mg/l	NS	<b>0.2429</b>		<b>0.2563</b>		--	--	--	--	--	--	--	--	--	--	--	--	--	
Mercury, Total	mg/l	0.002	0.0002	U	0.0002	U	--	--	--	--	--	--	--	--	--	--	--	--	--	
Nickel, Total	mg/l	0.1	0.002	U	<b>0.0022</b>		--	--	--	--	--	--	--	--	--	--	--	--	--	
Selenium, Total	mg/l	0.05	0.005	U	0.005	U	--	--	--	--	--	--	--	--	--	--	--	--	--	
Silver, Total	mg/l	NS	0.0004	U	0.0004	U	--	--	--	--	--	--	--	--	--	--	--	--	--	
Thallium, Total	mg/l	0.002	0.0004	U	0.0005	U	--	--	--	--	--	--	--	--	--	--	--	--	--	
Vanadium, Total	mg/l	NS	0.005	U	0.005	U	--	--	--	--	--	--	--	--	--	--	--	--	--	
Zinc, Total	mg/l	NS	0.01	U	<b>0.1555</b>		--	--	--	--	--	--	--	--	--	--	--	--	--	
PERCHLORATE																				
Perchlorate	mg/l	NS	<b>0.000455</b>		<b>0.000335</b>		--	--	--	--	--	--	--	--	--	--	--	--	--	
PESTICIDES																				
Chlordane	mg/l	0.002	--		--		--	--	--	--	--	--	--	--	--	--	--	0.0002	U	

Notes:  
 (1) Areas of Concern (AOCs) identified by ESS include:  
 AOC 1 = Potential Former Liquid Lagoons  
 AOC 2 = Former Railroad Bridge Abutments  
 AOC 3 = Annual Fireworks Display Area  
 AOC 4 = Pervious Pavement/Sub-Drain Area  
 AOC 5 = On-Site Wastewater Treatment System (OWTS)  
 AOC 6 = Former UST #2  
 AOC 7 = Fill Area  
 AOC 8 = West of Building 2

RIDEM = Rhode Island Department of Environmental Management  
 SSP = Septic System Pipe (Wells installed by Diprete as part of OWTS investigations)  
 mg/l = milligrams per liter.  
 Q = Qualifier  
 NS = No Standard Promulgated  
 -- = Not Tested  
 U = Undetected above the laboratory Reporting Limit.  
 U\* = The concentration is undetected but the reporting limit exceeds the standard.  
 - = Not Tested  
**Bold** concentrations exceed the laboratory reporting limit.  
**Blue** concentrations exceed applicable RIDEM Remediation Regulation GA Groundwater Objectives.

TABLE 6 - SUMMARY OF GROUNDWATER ANALYTICAL DATA (ESS)

PARAMOUNT APARTMENTS, LLC  
 5 MAIN STREET  
 SCITUATE, RHODE ISLAND

Parameter	Reporting Units	Sample ID Sample Collection Date Area of Concern <sup>1</sup>	MW-14 6/30/2020 6		MW-15 6/30/2020 6		MW-16 6/30/2020 6		MW-17 6/30/2020 6	
			Results	Q	Results	Q	Results	Q	Results	Q
<b>TOTAL PETROLEUM HYDROCARBONS (TPH)</b>										
TPH	mg/l	NS	--		--		--		--	
<b>VOLATILE ORGANIC COMPOUNDS (VOCs)</b>										
Acetone	mg/l	NS	0.05	U	0.05	U	0.05	U	0.05	U
Acrylonitrile	mg/l	NS	0.005	U	0.005	U	0.005	U	0.005	U
Tert-amyl methyl ether	mg/l	NS	0.0005	U	0.0005	U	0.0005	U	0.0005	U
Benzene	mg/l	0.005	0.001	U	0.001	U	0.001	U	0.001	U
Bromobenzene	mg/l	NS	0.001	U	0.001	U	0.001	U	0.001	U
Bromochloromethane	mg/l	NS	0.001	U	0.001	U	0.001	U	0.001	U
Bromodichloromethane	mg/l	0.08	0.0005	U	0.0005	U	0.0005	U	0.0005	U
Bromoform	mg/l	0.08	0.001	U	0.001	U	0.001	U	0.001	U
Bromomethane	mg/l	NS	0.002	U	0.002	U	0.002	U	0.002	U
2-Butanone (Methyl ethyl ketone)	mg/l	NS	0.02	U	0.02	U	0.02	U	0.02	U
Tert-butyl alcohol	mg/l	NS	0.02	U	0.02	U	0.02	U	0.02	U
n-Butylbenzene	mg/l	NS	0.001	U	0.001	U	0.001	U	0.001	U
sec-Butylbenzene	mg/l	NS	0.001	U	0.001	U	0.001	U	0.001	U
tert-Butylbenzene	mg/l	NS	0.001	U	0.001	U	0.001	U	0.001	U
Tert-Butylethyl Ether	mg/l	NS	0.0005	U	0.0005	U	0.0005	U	0.0005	U
Carbon disulfide	mg/l	NS	0.005	U	0.005	U	0.005	U	0.005	U
Carbon tetrachloride	mg/l	0.005	0.005	U	0.005	U	0.005	U	0.005	U
Chlorobenzene	mg/l	0.1	0.001	U	0.001	U	0.001	U	0.001	U
Chlorodibromomethane	mg/l	0.08	0.0005	U	0.0005	U	0.0005	U	0.0005	U
Chloroethane	mg/l	NS	0.002	U	0.002	U	0.002	U	0.002	U
Chloroform	mg/l	0.08	0.002	U	0.002	U	0.002	U	0.002	U
Chloromethane	mg/l	NS	0.002	U	0.002	U	0.002	U	0.002	U
o-Chlorotoluene	mg/l	NS	0.001	U	0.001	U	0.001	U	0.001	U
p-Chlorotoluene	mg/l	NS	0.001	U	0.001	U	0.001	U	0.001	U
1,2-Dibromo-3-chloropropane	mg/l	0.0002	0.005	U*	0.005	U*	0.005	U*	0.005	U*
1,2-Dibromoethane (EDB)	mg/l	0.00005	0.0005	U*	0.0005	U*	0.0005	U*	0.0005	U*
Dibromomethane	mg/l	NS	0.001	U	0.001	U	0.001	U	0.001	U
1,2-Dichlorobenzene	mg/l	NS	0.001	U	0.001	U	0.001	U	0.001	U
1,3-Dichlorobenzene	mg/l	NS	0.001	U	0.001	U	0.001	U	0.001	U
1,4-Dichlorobenzene	mg/l	NS	0.001	U	0.001	U	0.001	U	0.001	U
trans-1,4-Dichloro-2-butene	mg/l	NS	0.002	U	0.002	U	0.002	U	0.002	U
Dichlorodifluoromethane (Freon 12)	mg/l	NS	0.002	U	0.002	U	0.002	U	0.002	U
1,1-Dichloroethane	mg/l	NS	0.001	U	0.001	U	0.001	U	0.001	U
1,2-Dichloroethane	mg/l	0.005	0.001	U	0.001	U	0.001	U	0.001	U
1,1-Dichloroethene	mg/l	0.007	0.001	U	0.001	U	0.001	U	0.001	U
cis-1,2-Dichloroethene	mg/l	0.07	0.001	U	0.001	U	0.001	U	0.001	U
trans-1,2-Dichloroethene	mg/l	0.1	0.001	U	0.001	U	0.001	U	0.001	U
1,2-Dichloropropane	mg/l	0.005	0.001	U	0.001	U	0.001	U	0.001	U
1,3-Dichloropropane	mg/l	NS	0.0005	U	0.0005	U	0.0005	U	0.0005	U
2,2-Dichloropropane	mg/l	NS	0.001	U	0.001	U	0.001	U	0.001	U
1,1-Dichloropropene	mg/l	NS	0.002	U	0.002	U	0.002	U	0.002	U
cis-1,3-Dichloropropene	mg/l	NS	0.0005	U	0.0005	U	0.0005	U	0.0005	U
trans-1,3-Dichloropropene	mg/l	NS	0.0005	U	0.0005	U	0.0005	U	0.0005	U
1,4-Dioxane	mg/l	NS	0.05	U	0.05	U	0.05	U	0.05	U
Ethylbenzene	mg/l	0.7	0.001	U	0.001	U	0.001	U	0.001	U
Ethyl ether	mg/l	NS	0.002	U	0.002	U	0.002	U	0.002	U
Hexachlorobutadiene	mg/l	NS	0.0006	U	0.0006	U	0.0006	U	0.0006	U
2-Hexanone	mg/l	NS	0.01	U	0.01	U	0.01	U	0.01	U
Isopropylbenzene	mg/l	NS	0.001	U	0.001	U	0.001	U	0.001	U
Di-isopropyl ether	mg/l	NS	0.0005	U	0.0005	U	0.0005	U	0.0005	U
p-Isopropyltoluene	mg/l	NS	0.001	U	0.001	U	0.001	U	0.001	U
Methyl Acetate	mg/l	NS	0.001	U	0.001	U	0.001	U	0.001	U
Methylene chloride	mg/l	0.005	0.005	U	0.005	U	0.005	U	0.005	U
4-Methyl-2-pentanone	mg/l	NS	0.01	U	0.01	U	0.01	U	0.01	U
Methyl tert butyl ether (MTBE)	mg/l	0.04	0.001	U	0.001	U	0.001	U	0.001	U
Methyl Cyclohexane	mg/l	NS	0.001	U	0.001	U	0.001	U	0.001	U
Naphthalene	mg/l	NS	0.002	U	0.002	U	0.002	U	0.002	U
n-Propylbenzene	mg/l	NS	0.001	U	0.001	U	0.001	U	0.001	U
Styrene	mg/l	0.1	0.001	U	0.001	U	0.001	U	0.001	U
1,1,1,2-Tetrachloroethane	mg/l	NS	0.001	U	0.001	U	0.001	U	0.001	U
1,1,2,2-Tetrachloroethane	mg/l	NS	0.0005	U	0.0005	U	0.0005	U	0.0005	U
Tetrachloroethene	mg/l	0.005	0.001	U	0.001	U	0.001	U	0.001	U
Tetrahydrofuran	mg/l	NS	0.01	U	0.01	U	0.01	U	0.01	U
Toluene	mg/l	1	0.001	U	0.001	U	0.001	U	0.001	U
1,2,3-Trichlorobenzene	mg/l	NS	0.005	U	0.005	U	0.005	U	0.005	U
1,2,4-Trichlorobenzene	mg/l	NS	0.001	U	0.001	U	0.001	U	0.001	U
1,3,5-Trichlorobenzene	mg/l	NS	0.001	U	0.001	U	0.001	U	0.001	U
1,1,1-Trichloroethane	mg/l	0.2	0.001	U	0.001	U	0.001	U	0.001	U
1,1,2-Trichloroethane	mg/l	0.005	0.001	U	0.001	U	0.001	U	0.001	U
Trichloroethene (TCE)	mg/l	0.005	0.001	U	0.001	U	0.001	U	0.001	U
Trichlorofluoromethane (Freon 11)	mg/l	NS	0.002	U	0.002	U	0.002	U	0.002	U
1,1,2-Trichlorotrifluoroethane (Freon 113)	mg/l	NS	0.001	U	0.001	U	0.001	U	0.001	U
1,2,3-Trichloropropane	mg/l	NS	0.002	U	0.002	U	0.002	U	0.002	U
1,2,4-Trimethylbenzene	mg/l	NS	0.001	U	0.001	U	0.001	U	0.001	U
1,3,5-Trimethylbenzene	mg/l	NS	0.001	U	0.001	U	0.001	U	0.001	U
Vinyl chloride	mg/l	0.002	0.002	U	0.002	U	0.002	U	0.002	U
o-Xylene	mg/l	10	0.002	U	0.002	U	0.002	U	0.002	U
p/m-Xylene	mg/l	10	0.001	U	0.001	U	0.001	U	0.001	U
Xylenes, Total	mg/l	10	0.003	U	0.003	U	0.003	U	0.003	U
<b>SEMIVOLATILE ORGANIC COMPOUNDS (SVOCS)</b>										
Benzidine	mg/l	NS	--		--		--		--	
1,2,4-Trichlorobenzene	mg/l	0.07	--		--		--		--	
Bis(2-chloroethyl)ether	mg/l	NS	--		--		--		--	
1,2-Dichlorobenzene	mg/l	0.6	--		--		--		--	
1,3-Dichlorobenzene	mg/l	0.6	--		--		--		--	
1,4-Dichlorobenzene	mg/l	0.075	--		--		--		--	
3,3'-Dichlorobenzidine	mg/l	NS	--		--		--		--	
2,4-Dinitrotoluene	mg/l	NS	--		--		--		--	
2,6-Dinitrotoluene	mg/l	NS	--		--		--		--	
Azobenzene	mg/l	NS	--		--		--		--	
4-Chlorophenyl phenyl ether	mg/l	NS	--		--		--		--	
4-Bromophenyl phenyl ether	mg/l	NS	--		--		--		--	
Bis(2-chloroisopropyl)ether	mg/l	NS	--		--		--		--	
Bis(2-chloroethoxy)methane	mg/l	NS	--		--		--		--	
Hexachlorocyclopentadiene	mg/l	NS	--		--		--		--	
Isophorone	mg/l	NS	--		--		--		--	
Nitrobenzene	mg/l	NS	--		--		--		--	
NDPA/DPA	mg/l	NS	--		--		--		--	
Bis(2-ethylhexyl)phthalate	mg/l	0.006	--		--		--		--	
Butyl benzyl phthalate	mg/l	NS	--		--		--		--	
Di-n-butylphthalate	mg/l	NS	--		--		--		--	

TABLE 6 - SUMMARY OF GROUNDWATER ANALYTICAL DATA (ESS)

PARAMOUNT APARTMENTS, LLC  
 5 MAIN STREET  
 SCITUATE, RHODE ISLAND

Parameter	Reporting Units	Sample ID Sample Collection Date Area of Concern <sup>1</sup>	MW-14	MW-15	MW-16	MW-17
			6/30/2020 6	6/30/2020 6	6/30/2020 6	6/30/2020 6
		RIDEM GA Groundwater Objective	Results Q	Results Q	Results Q	Results Q
<b>SEMIVOLATILE ORGANIC COMPOUNDS (SVOCS) - CONTINUED</b>						
Di-n-octylphthalate	mg/l	NS	--	--	--	--
Diethyl phthalate	mg/l	NS	--	--	--	--
Dimethyl phthalate	mg/l	NS	--	--	--	--
Aniline	mg/l	NS	--	--	--	--
4-Chloroaniline	mg/l	NS	--	--	--	--
2-Nitroaniline	mg/l	NS	--	--	--	--
3-Nitroaniline	mg/l	NS	--	--	--	--
4-Nitroaniline	mg/l	NS	--	--	--	--
Dibenzofuran	mg/l	NS	--	--	--	--
n-Nitrosodimethylamine	mg/l	NS	--	--	--	--
2,4,6-Trichlorophenol	mg/l	NS	--	--	--	--
p-Chloro-m-cresol	mg/l	NS	--	--	--	--
2-Chlorophenol	mg/l	NS	--	--	--	--
2,4-Dichlorophenol	mg/l	NS	--	--	--	--
2-Nitrophenol	mg/l	NS	--	--	--	--
4-Nitrophenol	mg/l	NS	--	--	--	--
2,4-Dinitrophenol	mg/l	NS	--	--	--	--
4,6-Dinitro-o-cresol	mg/l	NS	--	--	--	--
Phenol	mg/l	NS	--	--	--	--
2-Methylphenol	mg/l	NS	--	--	--	--
3-Methylphenol/4-Methylphenol	mg/l	NS	--	--	--	--
2,4,5-Trichlorophenol	mg/l	NS	--	--	--	--
Benzoic Acid	mg/l	NS	--	--	--	--
Benzyl Alcohol	mg/l	NS	--	--	--	--
Carbazole	mg/l	NS	--	--	--	--
Pyridine	mg/l	NS	--	--	--	--
Acenaphthene	mg/l	NS	--	--	--	--
2-Chloronaphthalene	mg/l	NS	--	--	--	--
Fluoranthene	mg/l	NS	--	--	--	--
Hexachlorobutadiene	mg/l	NS	--	--	--	--
Naphthalene	mg/l	0.10	--	--	--	--
Benzo(a)anthracene	mg/l	NS	--	--	--	--
Benzo(a)pyrene	mg/l	0.0002	--	--	--	--
Benzo(b)fluoranthene	mg/l	NS	--	--	--	--
Benzo(k)fluoranthene	mg/l	NS	--	--	--	--
Chrysene	mg/l	NS	--	--	--	--
Acenaphthylene	mg/l	NS	--	--	--	--
Anthracene	mg/l	NS	--	--	--	--
Benzo(ghi)perylene	mg/l	NS	--	--	--	--
Fluorene	mg/l	NS	--	--	--	--
Phenanthrene	mg/l	NS	--	--	--	--
Dibenzo(a,h)anthracene	mg/l	NS	--	--	--	--
Indeno(1,2,3-cd)Pyrene	mg/l	NS	--	--	--	--
Pyrene	mg/l	NS	--	--	--	--
1-Methylnaphthalene	mg/l	NS	--	--	--	--
2-Methylnaphthalene	mg/l	NS	--	--	--	--
Pentachlorophenol	mg/l	0.001	--	--	--	--
Hexachlorobenzene	mg/l	0.001	--	--	--	--
Hexachloroethane	mg/l	NS	--	--	--	--
<b>TOTAL METALS</b>						
Antimony, Total	mg/l	0.006	--	--	--	--
Arsenic, Total	mg/l	0.01	--	--	--	--
Barium, Total	mg/l	2	--	--	--	--
Beryllium, Total	mg/l	0.004	--	--	--	--
Cadmium, Total	mg/l	0.005	--	--	--	--
Chromium, Total	mg/l	0.1	--	--	--	--
Copper, Total	mg/l	NS	--	--	--	--
Cyanide, Total	mg/l	0.2	--	--	--	--
Lead, Total	mg/l	0.015	--	--	--	--
Manganese, Total	mg/l	NS	--	--	--	--
Mercury, Total	mg/l	0.002	--	--	--	--
Nickel, Total	mg/l	0.1	--	--	--	--
Selenium, Total	mg/l	0.05	--	--	--	--
Silver, Total	mg/l	NS	--	--	--	--
Thallium, Total	mg/l	0.002	--	--	--	--
Vanadium, Total	mg/l	NS	--	--	--	--
Zinc, Total	mg/l	NS	--	--	--	--
<b>PERCHLORATE</b>						
Perchlorate	mg/l	NS	--	--	--	--
<b>PESTICIDES</b>						
Chlordane	mg/l	0.002	--	--	--	--

**Notes:**  
 (1) Areas of Concern (AOCs) identified by ESS include:  
 AOC 1 = Potential Former Liquid Lagoons  
 AOC 2 = Former Railroad Bridge Abutments  
 AOC 3 = Annual Fireworks Display Area  
 AOC 4 = Pervious Pavement/Sub-Drain Area  
 AOC 5 = On-Site Wastewater Treatment System (OWTS)  
 AOC 6 = Former UST #2  
 AOC 7 = Fill Area  
 AOC 8 = West of Building 2

RIDEM = Rhode Island Department of Environmental Management  
 SSP = Septic System Pipe (Wells installed by Diprete as part of OWTS investigations)  
 mg/l = milligrams per liter.  
 Q = Qualifier  
 NS = No Standard Promulgated  
 -- = Not Tested  
 U = Undetected above the laboratory Reporting Limit.  
 U\* = The concentration is undetected but the reporting limit exceeds the standard.  
 - = Not Tested  
**Bold** concentrations exceed the laboratory reporting limit.  
**Blue** concentrations exceed applicable RIDEM Remediation Regulation GA Groundwater Objectives.

TABLE 7 - SUMMARY OF DATA EVALUATION FOR ARSENIC COMPLIANCE DETERMINATION

PARAMOUNT APARTMENTS, LLC.  
 5 MAIN STREET  
 SCITUATE, RHODE ISLAND

Sample ID	Date	Sample Depth	Reporting Unit	Results (mg/kg)	Qualifier	RIDEM RDEC
<b>TOTAL ARSENIC</b>						
TP3/S1 *	--	0 - 2	mg/kg	<b>13.5</b>		7.0
TP3/S2 *	--	5 - 10	mg/kg	<b>12.7</b>		7.0
TP6/S1 *	--	0 - 2	mg/kg	<b>2.95</b>		7.0
TP8/S1 *	--	0 - 2	mg/kg	<b>2.56</b>		7.0
SS-1	5/22/2006	0 - 2	mg/kg	<b>3.86</b>		7.0
SS-2	5/22/2006	0 - 2	mg/kg	1.65	U	7.0
SS-3	5/22/2006	0 - 2	mg/kg	<b>1.75</b>		7.0
SS-4	5/22/2006	0 - 2	mg/kg	<b>3.25</b>		7.0
SS-5	5/22/2006	0 - 2	mg/kg	1.55	U	7.0
SS-6	5/22/2006	0 - 2	mg/kg	<b>2.30</b>		7.0
SS-7	5/22/2006	0 - 2	mg/kg	<b>11.9</b>		7.0
SS-8	5/22/2006	0 - 2	mg/kg	<b>3.84</b>		7.0
SS-9	5/22/2006	0 - 2	mg/kg	<b>5.41</b>		7.0
SS-10	5/22/2006	0 - 2	mg/kg	<b>3.40</b>		7.0
SS-11	5/22/2006	0 - 2	mg/kg	<b>11.9</b>		7.0
SS-12	5/22/2006	0 - 2	mg/kg	<b>5.07</b>		7.0
SS-13	5/22/2006	0 - 2	mg/kg	<b>2.79</b>		7.0
SS-14	5/22/2006	0 - 2	mg/kg	<b>3.15</b>		7.0
SS-15	5/22/2006	0 - 2	mg/kg	1.69	U	7.0
SS-16 *	--	0 - 2	mg/kg	<b>2.81</b>		7.0
SS-17 *	--	0 - 2	mg/kg	<b>3.34</b>		7.0
SS-18 *	--	0 - 2	mg/kg	<b>2.56</b>		7.0
SS-19 *	--	0 - 2	mg/kg	<b>2.61</b>		7.0
SS-20 *	--	0 - 2	mg/kg	<b>7.27</b>		7.0
SS-21 *	--	0 - 2	mg/kg	<b>4.43</b>		7.0
SS-22 *	--	0 - 2	mg/kg	<b>7.11</b>		7.0
SS-23 *	--	0 - 2	mg/kg	<b>5.18</b>		7.0
SS-24 *	--	0 - 2	mg/kg	<b>2.82</b>		7.0
SS-25 *	--	0 - 2	mg/kg	<b>2.98</b>		7.0
ESS-27	1/14/2016	0-0.5	mg/kg	<b>1.8</b>		7.0
ESS-28	1/14/2016	0-0.5	mg/kg	<b>5.8</b>		7.0
ESSTP-19	1/14/2016	3.0-5.0	mg/kg	<b>1.6</b>		7.0
ESSTP-21	1/14/2016	3.0-4.0	mg/kg	<b>1.8</b>		7.0
ESSTP-22	1/14/2016	3.0-5.0	mg/kg	<b>2.9</b>		7.0
ESS-30	9/7/2016	3.0-8.0	mg/kg	2.66	U	7.0
ESS-31A	4/1/2020	0-3	mg/kg	<b>9.8</b>		7.0
ESS-31A	4/1/2020	3-4.75	mg/kg	3.8	U	7.0
ESS-31	09/07/2016	3.0 - 8.0	mg/kg	<b>3.65</b>		7.0
ESS-31B	4/1/2020	0 - 3.0	mg/kg	<b>10</b>		7.0
ESS-31B	4/1/2020	3.0 - 4.5	mg/kg	<b>7.1</b>		7.0
ESS-31C	4/1/2020	0 - 3.0	mg/kg	<b>8.3</b>		7.0
ESS-31C	4/1/2020	3.0 - 4.25	mg/kg	<b>4.8</b>		7.0
ESS-31D	4/1/2020	0 - 3.0	mg/kg	<b>6</b>		7.0
ESS-31D	4/1/2020	3.0 - 4.5	mg/kg	3.7	U	7.0
ESS-32A	4/1/2020	0 - 3.0	mg/kg	3.5	U	7.0
ESS-32	9/7/2016	3.0 - 8.0	mg/kg	<b>2.48</b>		7.0
ESS-33A	4/1/2020	0 - 3.0	mg/kg	3.6	U	7.0
ESS-33	09/07/2016	3.0 - 8.0	mg/kg	6.49	U	7.0
ESS-34A	4/1/2020	0 - 3.0	mg/kg	3.6	U	7.0
ESS-34	09/07/2016	3.0 - 8.0	mg/kg	2.37	U	7.0
ESS-35A	4/1/2020	0 - 3.0	mg/kg	<b>4.1</b>		7.0
ESS-35	09/07/2016	3.0 - 8.0	mg/kg	2.5	U	7.0
ESS-36	09/07/2016	3.0 - 8.0	mg/kg	1.98	U	7.0
ESS-37	09/07/2016	3.0 - 8.0	mg/kg	2.11	U	7.0
ESS-38	09/07/2016	3.0 - 8.0	mg/kg	3.75	U	7.0
COMP-1	09/07/2016	0 - 3.0	mg/kg	<b>6.68</b>		7.0
COMP-2	09/07/2016	0 - 3.0	mg/kg	<b>2.5</b>		7.0
COMP-3	09/07/2016	0 - 3.0	mg/kg	2.39	U	7.0
ESS-43	09/08/2016	2.0 - 8.0	mg/kg	<b>3.00</b>		7.0
ESS-44	09/08/2016	2.0 - 8.0	mg/kg	<b>2.31</b>		7.0
ESS-45	09/08/2016	2.0 - 8.0	mg/kg	4.13	U	7.0
COMP-7	09/08/2016	0 - 2.0	mg/kg	2.07	U	7.0
ESS-48	4/1/2020	0 - 4.0	mg/kg	3.6	U	7.0
ESS-50	4/1/2020	0 - 4.0	mg/kg	3.7	U	7.0
ESS-60	4/2/2020	0 - 4.0	mg/kg	3.7	U	7.0
ESS-58	4/2/2020	0 - 3.0	mg/kg	<b>7.8</b>		7.0
ESS-58	4/2/2020	3.0-7.5	mg/kg	3.7	U	7.0
ESS-59	4/2/2020	0 - 3.0	mg/kg	3.7	U	7.0
Total Number of Samples				<b>68</b>		
Maximum Detected Concentration				<b>13.50</b>		
Number of Samples Above Standard				<b>11</b>		
Percent of Samples Above Standard				<b>16.2%</b>		
Arithmetic Average of All Sample Results <sup>(1)</sup>				<b>3.82</b>		

Notes:

(1) For undetected concentrations, half of the laboratory Reporting Limit was used to calculate the arithmetic average of all samples.

RIDEM = Rhode Island Department of Environmental Management

RDEC = Residential Direct Exposure Criteria

mg/kg = milligrams per kilogram

Qualifier = Laboratory Qualifier

\* = Historic data collected by Jacques Whitford Co. with no laboratory analytical report available.

U = Undetected above the laboratory Reporting Limit.

**Bold** concentration detected above the laboratory Reporting Limit.

**Bold Red** concentrations are equal to or above the RIDEM RDEC.

# Section 1.20 of the "Remediation Regulations"

## Site Investigation Report (SIR) Checklist

(The following information shall be completed and submitted with the SIR)

Contact Name: Richard J. Derosas  
Contact Address: 165 Hunt Road, Chelmsford, MA 01824  
Contact Telephone: (978) 256-2515

Site Name: Hope Mill Project  
Site Address: 5 Main Street, Scituate, RI 02831

### OFFICE USE ONLY

SITE INVESTIGATION REPORT (SIR) SITE:  
PROJECT CODE:  
SIR SUBMITTAL DATE:  
CHECKLIST SUBMITTAL DATE:

**DIRECTIONS:** *The box to the left of each item listed below is for the administrative review of the SIR submission and is for **RIDEM USE ONLY**. Under each item listed below, cross-reference the specific sections and pages in the SIR that provide detailed information that addresses each stated requirement. Failure to include cross-references may delay review and approval. If an item is not applicable, simply state that it is not applicable and provide an explanation in the SIR.*

- 1.8.3(A)(1) List specific objectives of the SIR related to characterization of the Release, impacts of the Release and remedy.  
**Section 1.1; Page 1**
- 1.8.3(A)(2) Include information reported in the Notification of Release. A copy of the Release notification form should be included in the SIR. Include information relating to short-term response, if applicable.  
**Section 1.2; Page 1**
- 1.8.3(A)(3) Include documentation of any past incidents or Releases.  
**Section 1.3; Page 3**
- 1.8.3(A)(4) Include list of prior property Owners and Operators, as well as sequencing of property transfers and time periods of occupancy.  
**Section 1.4; Page 4**
- 1.8.3(A)(5) Include previously existing environmental information which characterizes the Contaminated-Site and all information that led to the discovery of the Contaminated-Site.  
**Section 2.0; Page 5**
- 1.8.3(A)(6) Include current uses and zoning of the Contaminated-Site, including brief statements of operations, processes employed, waste generated, Hazardous Materials handled, and any residential activities on the site, if applicable. (This section should be linked to the specific objectives section demonstrating how the compounds of concern in the investigation are

those that are used or may have been used on the site or are those that may have impacted the site from an off-site source.)

Section 3.1, Page 7

- 1.8.3(A)(7) Include a locus map showing the location of the site using US Geological Survey 7.5-min quadrangle map or a copy of a section of that USGS map.

Figure 1

- 1.8.3(A)(8) Include a site plan, to scale, showing: Figures 2 through 4

- Buildings
- Activities
- Structures
- North Arrow
- Wells
- UIC Systems, septic tanks, UST, piping and other underground structures
- Outdoor Hazardous Materials storage and handling areas
- Extent of paved areas
- Location of environmental samples previously taken with analytical results
- Waste management and disposal areas
- Property Lines

- 1.8.3(A)(9) Include a general characterization of the property surrounding the area including, but not limited to:

- Location and distance to any surface water bodies within 500 ft of the site.  
Section 3.4, Page 8
- Location and distance to any Environmentally Sensitive Areas within 500 ft of the site.  
Section 3.5, Page 8
- Actual sources of potable water for all properties immediately abutting the site.  
Section 3.6, Page 8
- Location and distance to all public water supplies, which have been active within the previous 2 years and within one mile of the site.  
Section 3.7, Page 8



- Determination as to whether the Release impacts any off-site area utilized for residential or industrial/commercial property or both.  
[Section 5.4, Page 30](#)
- Determination of the underlying groundwater classification and if the classification is GB, the distance to the nearest GA area.  
[Section 3.8, Page 8](#)
- 1.8.3(A)(10) Include classifications of surface and ground water at and surrounding the site that could be impacted by a Release.  
[Section 3.9, Page 8](#)
- 1.8.3(A)(11) Include a description of the contamination from the Release, including:
  - Free liquids on the surface  
[N/A](#)
  - LNAPL and DNAPL  
[Section 3.11.2, Page](#)
  - Concentrations of Hazardous Substances which can be shown to present an actual or potential threat to human health and any concentrations in excess of any of the remedial objectives (reference Section 1.13)  
[Tables 1, 2, 5 and 6; Figures 3 & 4](#)
  - Impact to Environmentally Sensitive Areas  
[Section 5.3, Page 30; Section 5.4, Page 30 - 31; Section 5.5, Page 31; Section 6.0, Pages 31 - 32](#)
  - Contamination of man-made structures  
[N/A](#)
  - Odors or stained soil  
[Section 4.6.2, Page](#)
  - Stressed vegetation  
[N/A](#)
  - Presence of excavated or stockpiled material and an estimate of its total volume  
[N/A](#)
  - Environmental sampling locations, procedures and copies of the results of any analytical testing at the site  
[Section 4.0, Pages 10 - 27; Figures 2 - 4; Appendix E](#)
  - List of Hazardous Substances at the site  
[Section 5.1, Pages](#)
  - Discuss if the contamination falls outside of the jurisdiction of the Remediation Regulations, including but not limited to USTs, UICs, and wetlands.  
[Section 1.0](#)
- 1.8.3(A)(12) Include the concentration gradients of Hazardous Substances throughout the site for each media impacted by the Release.  
[Section 5.3, Page 30](#)

- 1.8.3(A)(13) Include the methodology and results of any investigation conducted to determine background concentrations of Hazardous Substances identified at the Contaminated-Site (see Section 1.13).  
Section 5.2, Page 29
- 1.8.3(A)(14) Include a listing and evaluation of the site specific hydrogeological properties which could influence the migration of Hazardous Substances throughout and away from the site, including but not limited to, where appropriate:
  - Depth to GW  
Section 3.11, Page 9
  - Presence and effects of both the natural and man-made barriers to and conduits for contaminant migration  
Section 6.0, Pages 31 - 32
  - Characterization of bedrock  
Section 3.10, Page 9
  - Groundwater contours, flow rates and gradients throughout the site  
Figure 5; Section 3.11, Page 9
- 1.8.3(A)(15) Include a characterization of the topography, surface water and run-off flow patterns, including the flooding potential, of the site.  
Section 3.12, Page 9
- 1.8.3(A)(16) Include the potential for Hazardous Substances from the site to volatilize and any and all potential impacts of the volatilization to structures within the site.  
Section 6.1, Page 31
- 1.8.3(A)(17) Include the potential for entrainment of Hazardous Substances from the site by wind or erosion actions.  
Section 6.2, Page 32
- 1.8.3(A)(18) Include detailed protocols for all fate and transport models used in the Site Investigation.  
Section 6.3, Page 32
- 1.8.3(A)(19) Include a complete list of all samples taken, the location of all samples, parameters tested for and analytical methods used during the Site Investigation. (Be sure to include the samples locations and analytical results on a site figure).  
Table 4; Section 4.0, Pages 10 - 27; Figures 2 through 4
- 1.8.3(A)(20) Include construction plans and development procedures for all monitoring wells. Well construction shall be consistent with the requirements of the Groundwater Quality Rules.  
Appendix F; Section 4.4.1.3, Page 17; Section 4.4.1.4, Page 18; Section 4.5.3, Page 23
- 1.8.3(A)(21) Include procedures for the handling, storage and disposal of wastes derived from and during the investigation.  
Section 4.8, Page 28; Section 4.5.4, Page 23; Section 4.6.3, Page 26

- 1.8.3(A)(22) Include a quality assurance and quality control evaluation summary report for sample handling and analytical procedures, including, but not limited to, chain-of-custody procedures and sample preservation techniques.

Section 4.7, Page 27

- 1.8.3(A)(23) Include any other site-specific factor, that the Director believes, is necessary to make an accurate decision as to the appropriate Remedial Action to be taken at the site.

Section 7.0, Pages 32 - 36

- 1.8.4 Include Remedial Alternatives. The Site Investigation Report shall contain a minimum of **TWO (2)** remedial alternatives other than no action/natural attenuation alternative, unless this requirement is waived by the Department. It should be clear which of these alternatives is most preferable. All alternatives shall be supported by relevant data contained in the Site Investigation Report and consistent with the current and reasonably foreseeable land usage, and documentation of the following:

- Compliance with Section 1.9 (RISK MANGEMENT);
- Technical feasibility of the preferred remedial alternative;
- Compliance with federal, state and local laws or other public concerns; and
- The ability of the Performing Party to perform the preferred remedial alternative.

Section 7.0, Pages 32 - 36

- 1.8.5 **Certification Requirements:** The Site Investigation Report and all associated progress reports shall include the following statements signed by an authorized representative of the party specified: Section 8.0, Page 37

A statement signed by an authorized representative of the Person who prepared the Site Investigation Report certifying the completeness and accuracy of the information contained in that report to the best of their knowledge; and

A statement signed by the Performing Party responsible for the submittal of the Site Investigation Report certifying that the report is a complete and accurate representation of the site and the Release and contains all known facts surrounding the Release to the best of their knowledge.

- 1.8.6 **Progress Reports:** If the Site Investigation is not complete, include a schedule for the submission of periodic progress reports on the status of the investigation and interim reports on any milestones achieved in the project.

N/A

- Public Involvement and Notice:** Be prepared to implement public notice requirements per Sections 1.8.7 and 1.8.9 of the Remediation Regulations when the Department deems the Site Investigation Report to be complete.

Indicate if the site falls within an Environmental Justice (EJ) area and, if applicable, include all EJ public notice documentation issued, and the list of recipients.

N/A



RHODE ISLAND

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

235 Promenade Street, Providence, RI 02908-5767

TDD 401-222-4462

**LETTER OF RESPONSIBILITY  
CASE 2007-010**

May 10, 2007

**CERTIFIED MAIL**

Mr. Vincent Coccoli  
Hope Mill Village Associates, LLC  
One Main Street  
Hope, RI 02831

RE: Hope Mill  
Main Street  
Scituate (Hope), RI

Dear Mr. Coccoli:

In February 2004, the Rhode Island Department of Environmental Management (the Department) enacted the amended Rules and Regulations for the Investigation and Remediation of Hazardous Materials Releases (the Remediation Regulations). The purpose of these regulations is to create an integrated program requiring reporting, investigation and remediation of contaminated sites in order to eliminate and/or control threats to human health and the environment in a timely and cost-effective manner. A Letter of Responsibility (LOR) is a preliminary document used by the Department to codify and define the relationship between the Department and a Responsible Party under the Remediation Regulations.

Please be advised of the following facts:

1. According to the Town of Scituate Tax Assessor's Office, Hope Mill Village Associates, LLC are listed as the current owners of the properties located on Map 5 Lots 1, 8, 58, 69, 107, 114 and 117. Also, AP 101/ Lot 5 in Coventry. These parcels collectively make up the property known as Hope Mill.
2. The Department is also in receipt of the following documents concerning property identified as the Hope Mill in Scituate, Rhode Island:
  - Phase II Environmental Site Assessment – Hope Mill , Scituate, RI preformed by Jacques Whitford, July 10, 2006
  - Conceptual Master Plan for Hope Mill Village, Scituate, RI, Drawing # CMP-1

3. A file (the File) exists at the Department that describes the environmental conditions concerning the Site.
4. The File identifies elevated concentrations of Poly Aromatic Hydrocarbons (PAHs) and metals including arsenic, beryllium and lead in soil samples at concentrations greater than the Rhode Island Residential Direct Exposure Criteria (RDCE), which may have significant adverse impact on human health and/or the environment.
5. The identification of **hazardous materials** as defined by Rule 3.28, specifically PAHs and metals, associated with on-site processes or activities in soil samples collected from the Site constitutes a **Release of hazardous materials** to the environment as outlined in Rule 3.54 of the Remediation Regulations.
6. Hope Mill Village Associates, LLC as the current owner of the property located on Map 5 Lots 1, 58, 69, 107, 114 and 117 at Main Street, Lot 8 on Mill Street in Scituate, Rhode Island and AP 101/ Lot 5 in Coventry, Rhode Island is a **Responsible Party** as defined by Rule 3.60 of the Remediation Regulations.

As a result of the information known and conditions observed at the site, the Department requests that you comply with the following:

- A. In accordance with Rule 5.0 of the Remediation Regulation, a formal Hazardous Material Release Notification form was to be submitted within fifteen (15) days of discovery of the release. The report indicating there has been a release at the Hope Mill site is dated July 2006; however, the Department has not received notification to date. Please submit the Hazardous Materials Release Notification Form within seven (7) days of receipt of this letter.
- B. In accordance with Rule 7 (Site Investigation) of the Remediation Regulations, conduct a full Site Investigation, and prepare and submit to the Office of Waste Management (OWM) a complete Site Investigation Report (SIR) within ninety (90) days of receipt of this letter. Given that certain environmental work has already been completed during previous investigations, you may wish to incorporate portions of the information gathered to address the requirements of Rule 7. The Department requests conclusive information regarding the following environmental issues and questions;
  - i. Determine the source and extent of soil and groundwater contamination at the site, to include but not be limited to those contaminants identified in the July 10, 2006 Phase II Environmental Site Assessment.
  - ii. Submit the complete SIR in accordance with Rule 7.08, to include at least two remedial alternatives other than no action, if necessary;
  - iii. Be prepared to bring the Site into compliance with the Remediation Regulations.

- B. Submit an SIR checklist (attached). The SIR checklist was created as a supplemental tool to expedite the reviewing and approval process by cross referencing specific sections and pages within the SIR that provide detailed information and addresses each stated requirement within Rule 7 of the Remediation Regulations.
- C. After submission of a complete SIR and approval by the Department be prepared to submit a Remedial Action Work Plan (RAWP), subject to Department review and approval, and implement the remedy, if necessary, that will bring the Site into compliance with the Remediation Regulations.
- D. Be advised that any remedial alternatives that propose to leave contaminated soils on-site at levels which exceed Department criteria, will at a minimum necessitate the recording of an institutional control in the form of an Environmental Land Usage Restriction (ELUR) on the deed for the Site, and will likely require implementation of additional engineered controls to restrict human exposure.

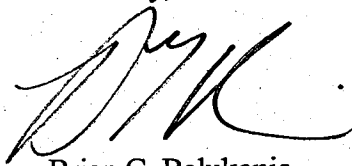
Please be advised that prior to the implementation of any field activities, all abutting property owners and tenants must be notified by the responsible party that further investigation and remediation is about to occur, in accordance with Rule 7.07 and 7.09 of the Remediation Regulations and the Industrial Properties Remediation and Reuse Act (Rhode Island General Law 23-19.14-5). The notice should briefly indicate the purpose of the investigation, the work to be performed and the approximate scheduled date(s) of planned activities. Failure to comply with any of the aforementioned laws and regulations may result in enforcement actions as specified in Rhode Island General Law 23-19.1-17 and 23-19.1-18.

Please notify this Office within seven (7) days of the receipt of this letter of your plans to address these items. All correspondence should be sent to the attention of:

Brian Balukonis  
Environmental Scientist  
Rhode Island DEM, OWM  
235 Promenade Street - Room 380  
Providence, RI 02908  
Tel. 401.222.2797 Ext. 7164  
Fax 401.222.3812  
Email: [brian.balukonis@dem.ri.gov](mailto:brian.balukonis@dem.ri.gov).

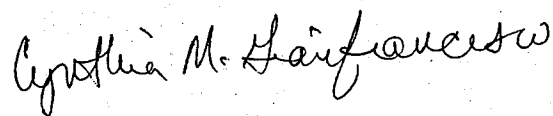
If you have any questions regarding this letter or would like the opportunity to meet with us, please feel free to contact me.

Sincerely,



Brian G. Balukonis  
Environmental Scientist  
Office of Waste Management  
Department of Environmental Management

Authorized by:



Cynthia M. Gianfrancesco  
Principal Environmental Scientist  
Office of Waste Management  
Department of Environmental Management

cc. Matthew DeStefano, OWM  
John Langlois, OLS  
James Ashton, OCI





Adjacent Groundwater Class: X GA/GAA  
(if different than site groundwater classification within 500 feet)

    GB

Nearest Surface Water or Wetland:

X Less Than 500 Feet

    Greater Than 500 Feet

Potential for adverse impact

No Yes/No

5. Potentially Responsible Parties

Name: Hope Mill Village Associates  
Address: One Main Street, Hope, RI 02831

Status: X Owner     Operator     Other: \_\_\_\_\_

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Status:     Owner     Operator     Other: \_\_\_\_\_

6. Measures Taken or Proposed to be Taken in Response to Release

Close USTs in accordance with RIDEM regs, close spetic system in accpordance with  
reges, cap all soils, ELUR, and soils management plan

7. Other Significant Remarks About Release (Will a background determination be made?)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Signature: 

Date 3/24/07

Title: managing member

State Of Rhode Island and Providence Plantations  
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT\  
Inter-Office Memo

DATE: November 3, 2014

TO: Dave Chopy, Chief Office of Compliance and Inspection

FROM: Michael Cote, Principal Scientist, Office of Waste Management, UST Section

*MC*

RE: Hope Mill Village, 1 Main Street, Scituate, RI (UST 4377, ST 3024)

This memo is in reference to the above-referenced site's Underground Storage Tank (UST) removal and compliance. A 20,000 gallon #6 fuel oil UST was removed and contaminated soils encountered. The contamination's source is explained as rainwater entering an opening of the UST, displacing the oil and causing spillage. This site was referred OC&I for significant non-compliance for deadlines on soil disposal and required reports.

Compliance dates:

UST removal Date: 11-1-11

Contaminated soils encountered, 134.2 Tons stockpiled, required disposal date on 12-1-12. Actual disposal date 4-6-12

Closure report required with a required due date on 12-1-12, actual submittal date 7-17-14

The UST report concluded that the contaminated soils were adequately removed; no significant contamination remains underground and made the recommendation that a No Further Action determination is warranted.

This site has ongoing legal issues with your office, including UST compliance issues. Please notify me when UST compliance issues are finalized. Our paperwork, such as closure certificates and a No Further Action determination, will not be issued until UST compliance issues are resolved.



**State of Rhode Island and Providence Plantations  
Department of Environmental Management  
EMERGENCY RESPONSE REPORT**

**GENERAL INFORMATION**

City/Town	SCITUATE	Month Received	July	Number 2011-	337
Complaint Type	Oil Spill	Contractor Hired By?	N/A	Unfounded?	No
Received By	Jill Eastman	Date Received	7/29/2011	Time Received	10:00:00 AM
Investigated By	Jill Eastman	Date Responded	7/29/2011	Time Responded	10:30 AM
Reinspection?	Yes (If Reinspection Please Enter Other Numbers)	2010-776		Time Returned	

**INCIDENT LOCATION**

Property Owner	Hope Mill				
Address/Pole#/Highway	1 Main Street				
City/Town	SCITUATE	LAT		LONG	
Residential?	No				

**COMPLAINANT**

**RESPONSIBLE PARTY**

Name	David Provenca- Fire dept		Name	Receiver- Peter Furness	
Address			Address	100 Midway Place, ste 1	
City/Town	SCITUATE	State	RI	Zip	
Phone	(401) 647-5901	Disclose Name?	No		
City/Town	CRANSTON	State	RI	Zip	
Phone	(401) 944-9690	Extension	0		

**NATURE OF COMPLAINT**

6 oil spill from UST

**MATERIAL AND AMOUNT**

Type Of Oil	#6 oil	Petroleum - Gal	0	Oily Debris - Lbs	0	or Tons	0
Propane Tanks - Each	0	Mercury - Oz	0	or Lbs	0	Oily Debris - CY	0
Other Hazardous Chemicals Description		Gal	0	or Lbs	0	or Tons	0
Solid Waste - Tons	0	Seaweed - Tons	0	Car Battery - Each	0	Asbestos - Lbs	0
Other Non-Hazardous Waste Description		Gal	0	or Lbs	0	or Tons	0

**OTHER AGENCIES NOTIFIED**

Agency Name		Contact		Phone	
Agency Name		Contact		Phone	
Agency Name		Contact		Phone	

**REMOVAL ACTION**

Is Removal Action Necessary?	YES	Oil/Water Gal	0	or Tons	0	Oily Debris Drums	0
Petroleum Gal	0	Type Of Oil	#6 oil	Oily Debris Lbs	0	or CY	0
Propane Each	0	or Lbs	0	Asbestos Lbs	0	Mercury Oz	0
Other Hazardous Waste Description		Gal	0	or Lbs	0	or Tons	0
Solid Waste Tons	0	Seaweed Tons	0	Car Battery	0		
Other Non-Hazardous Waste Description		Gal	0	or Lbs	0	or Tons	0

**AST INSPECTION**

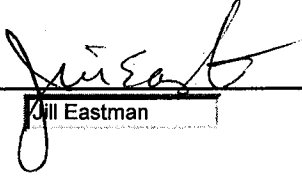
Number of tanks  Total Gallons

**FINDINGS**

Property is still in receivership. No funds available to clean up 6 oil release. I received a call from David stating the town manager believes that the 6 oil release is getting into the river. When I arrived I noted that the second UST area (right side when facing boiler room) now has formed a pool of oil. The area had not pooled up to the ground surface last time I was there. Oil is not moving towards the river at this time. I forwarded my ER report and pictures to Cindy in Waste Mngt and Nancy Langlois in the LUST program for follow up. Abandoned UST Fac ID #04377

Status of Case (choose one)

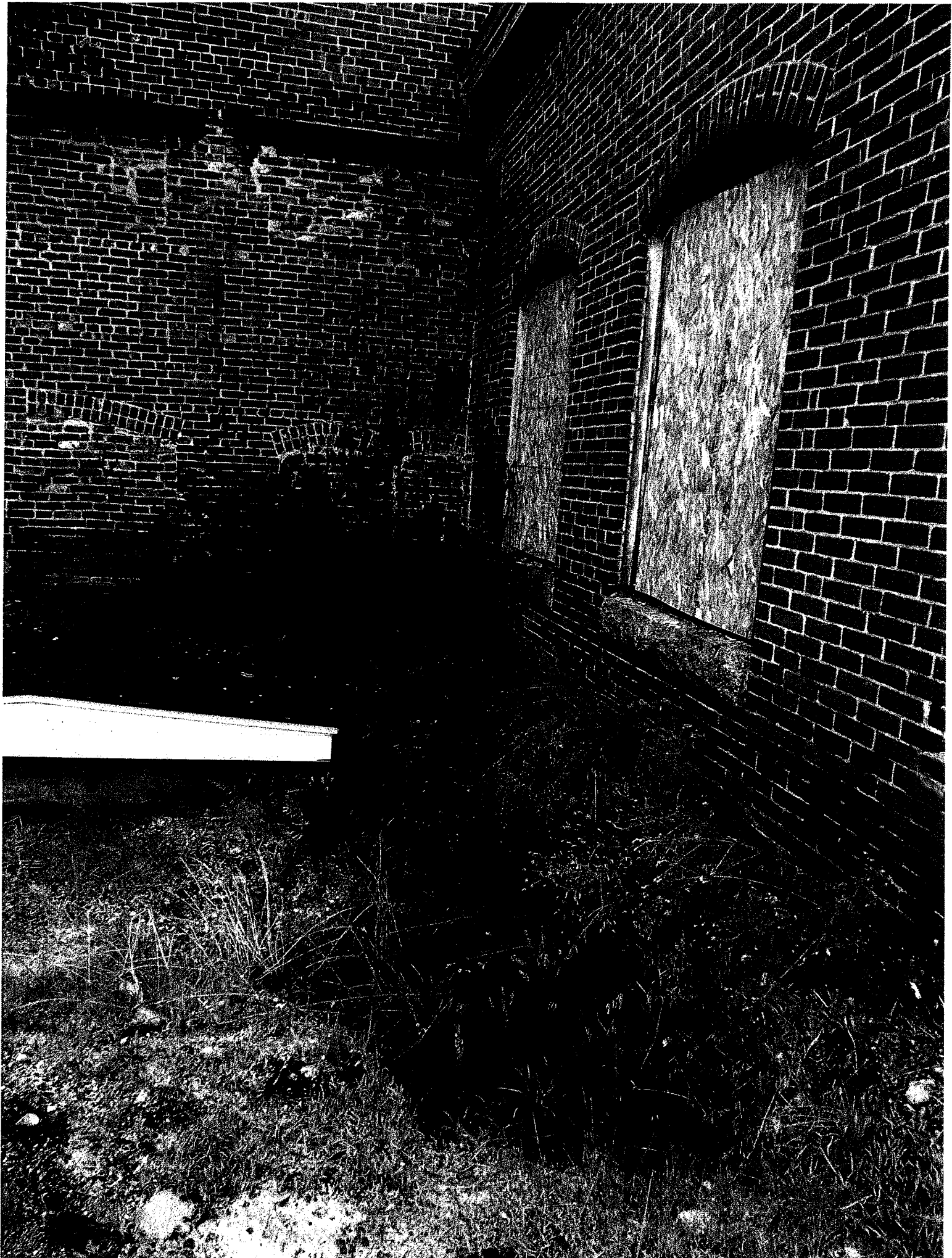
SIGNATURE

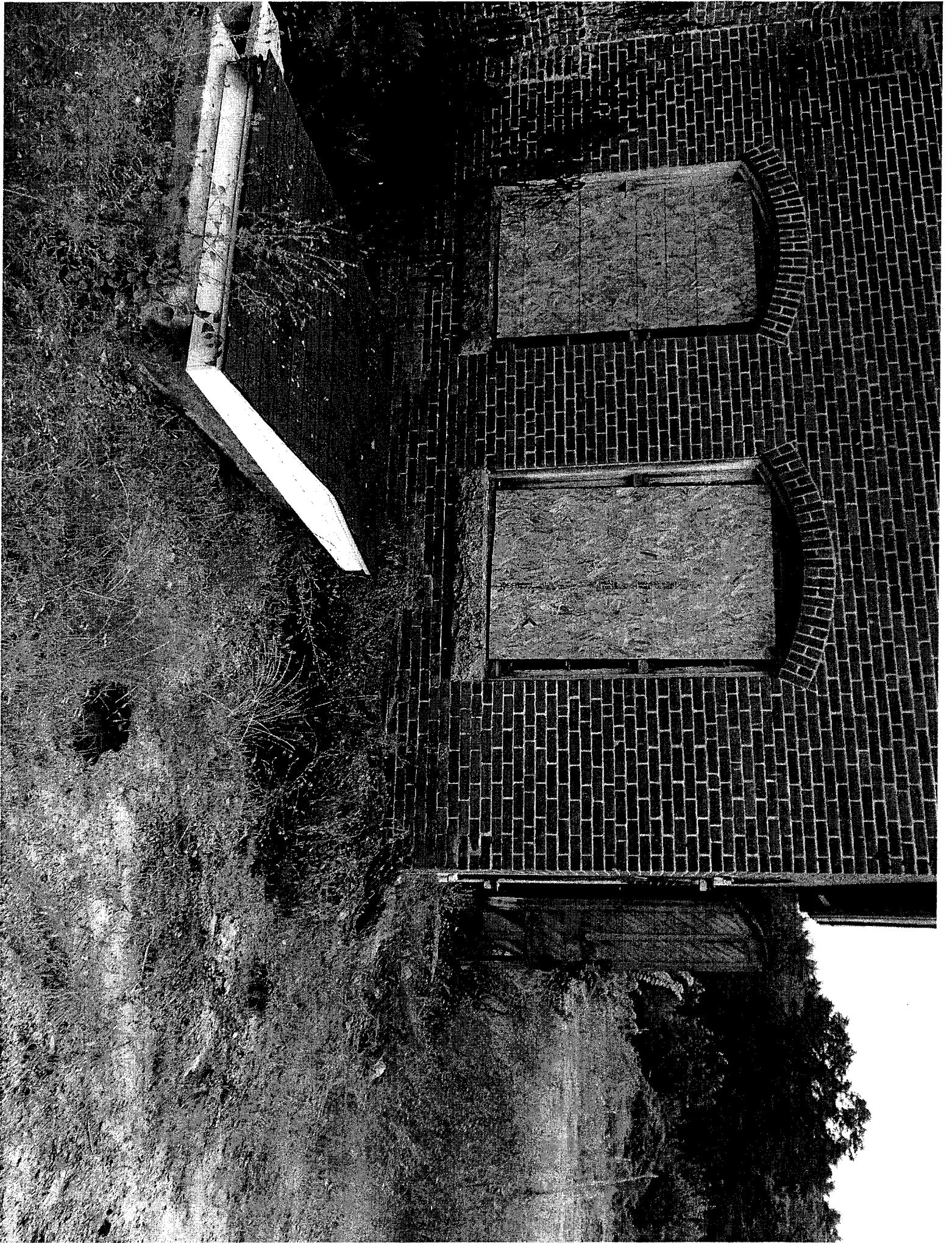


**DATE SIGNED**

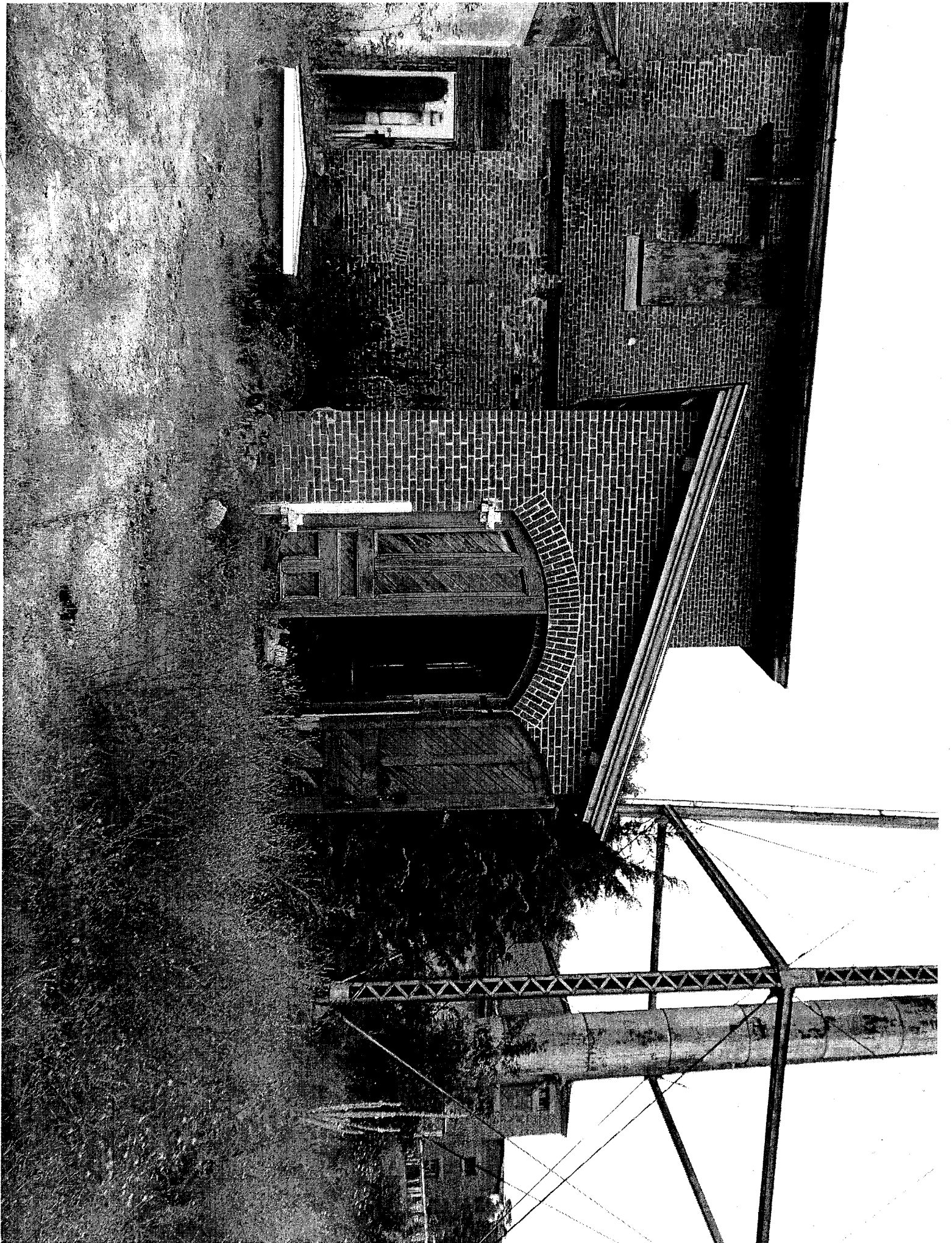
SIGNATURE

**DATE SIGNED**













**State of Rhode Island and Providence Plantations**  
**Department of Environmental Management**  
**EMERGENCY RESPONSE REPORT**

**GENERAL INFORMATION**

City/Town	SCITUATE	Month Received	August	Number 2011-	373
Complaint Type		Contractor Hired By?	RP	Unfounded?	No
Received By	James Ball	Date Received	8/19/2011	Time Received	
Investigated By	Jill Eastman	Date Responded	8/24/2011	Time Responded	1:00 PM
Reinspection?	No (If Reinspection Please Enter Other Numbers)			Time Returned	

**INCIDENT LOCATION**

Property Owner	Hope Mill				
Address/Pole#/Highway	1 Main Street				
City/Town	SCITUATE	LAT		LONG	
				Residential?	No

**COMPLAINANT**

**RESPONSIBLE PARTY**

Name			Name	Reivership & Vincent Coccoli	
Address			Address		
City/Town		State	RI	Zip	
Phone		Disclose Name?	No	Phone	(401) 678-0010
				Extension	0

**NATURE OF COMPLAINT**

6 oil leaking from UST

**MATERIAL AND AMOUNT**

Type Of Oil	#6 oil	Petroleum - Gal	0	Oily Debris - Lbs	0	or Tons	0
Propane Tanks - Each	0	Mercury - Oz	0	or Lbs	0	Oily Debris - CY	0
Other Hazardous Chemicals Description		Gal	0	or Lbs	0	or Tons	0
Solid Waste - Tons	0	Seaweed - Tons	0	Car Battery - Each	0	Asbestos - Lbs	0
Other Non-Hazardous Waste Description		Gal	0	or Lbs	0	or Tons	0

**OTHER AGENCIES NOTIFIED**

Agency Name	EPA	Contact	Karen Way	Phone	(857) 383-8688
Agency Name	Cyn Environmental	Contact	Kyle Rigazio	Phone	(781) 341-1777
Agency Name		Contact		Phone	

**REMOVAL ACTION**

Is Removal Action Necessary?	YES	Oil/Water Gal	20000	or Tons	0
Petroleum Gal	0	Type Of Oil	#6 oil	Oily Debris Lbs	0
				or CY	8
Propane Each	0	or Lbs	0	Asbestos Lbs	0
				Mercury Oz	0
				or Lbs	0
Other Hazardous Waste Description		Gal	0	or Lbs	0
				or Tons	0
Solid Waste Tons	0	Seaweed Tons	0		
Other Non-Hazardous Waste Description		Gal	0	or Lbs	0
				or Tons	0



**AST INSPECTION**

Number of tanks

Total Gallons

**FINDINGS**

I met with Tom Campbell, Karen Way and Dan (EPA). Clean Harbors was on scene trying to work up an estimate to clean up the oil before the impending hurricane this weekend. Heavy rain will move the product towards and potentially into the river. Property is in receivership; receiver does not have money to clean up the release. Property is going to be purchased by Vinnie Coccoi and Kevin Sullivan. According to Tom an arrangement has been made with the receivership for the buyers to pay for the clean up. EPA advised Mr Coccoi that he needed to have a contractor performing the clean up by Thurs at noon or EPA/DEM will perform the clean up and back bill him. Tom had a few estimates conducted for DEM in case we need to start Thurs. Mr Sullivan had Cyn Env (Kyle Rigazio) on scene to work on an estimate and later advised that Cyn will be on scene at 8am Thursday.

Karen, Dan and I met with Cyn personnel. 1 vactor truck for soil removal and 2 vacuum trucks to empty the tank on scene. The vacuum trucks were filled by noon sucking directly from the tank. 2 more vacuum trucks arrived later that day to finish emptying out the tank. Content of the tank was mostly water. Pools of product were removed with the vactor. A few laborers from Bilray Construction were brought in by Kevin to dig with shovels. I contacted the LUST dept at DEM and Paula Therrien arrived to assess the situation for her dept regarding closure of this tank in the near future. LUST is awaiting a start date from Coccoi to close the tank. This information was conveyed to Coccoi, Sullivan and Bilray during this initial emergency clean up. We told them the Emergency clean up was completely separate from closure. Sullivan stated that he was going to just fill it in with cement, but we advised that such action was not acceptable. Fill, vent, and other open piping will need to be covered/capped to prevent more water from entering the tank prior to closure.

Once the vac truck was filled with oily debris, a small backhoe was used to stockpile contaminated soil onto poly. Pile was covered for the night. Manways for the tank were also covered for the night. Crews left the scene around 9pm.

8/26/11 I arrived on scene and met with one Cyn personnel and one person from Bilray Construction. Cyn was there with a vac truck to remove the pile and fine clean the oily dirt at the edge of the building. I advised them to securely cover both manways before leaving. As I was leaving the site I met with Coccoi and advised of the progress and the next step with the LUST program. Immediate threat to the nearby body of water has been remediated. LUST program is once again the lead dept for this tank. No further action for ER.

Vincent R. Coccoi, Sr.  
P.O. Box 70  
Hope, RI 02831  
401-678-0010

**Status of Case (choose one)**

SIGNATURE

*Jill Eastman*

*9/8/11*

SIGNATURE



RHODE ISLAND  
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

235 Promenade Street, Providence, RI 02908-5767

TDD 401-222-4462

October 27, 2011

Peter J. Furness, Esq.  
100 Midway Place, Suite 1  
Cranston, RI 02920

Dear Attorney Furness:

RE: Underground Storage Tank Closure; Facility ID #4377  
Hope Mill Village, 1 Main Street, Scituate

The Office of Waste Management has reviewed the Permanent Closure Application For Underground Storage Tank(s) for the above referenced property. The following UST(s) are approved to be closed on Tuesday, November 1, 2011:

<u>UST ID #</u>	<u>VOLUME</u>	<u>STORED MATERIAL</u>	<u>METHOD OF CLOSURE</u>
002	10000-20000 Gallons	No. 6 Fuel Oil	Removal

All USTs are to be removed and handled as described in the closure application. This approval letter along with a copy of the UST Closure Application must accompany the tank(s) during transit to the proper disposal facility.

**IF ANY CONTAMINATION IS FOUND IN THE VICINITY OF OR AROUND THE SUBJECT UST(S), IMMEDIATE NOTIFICATION TO THIS OFFICE IS REQUIRED (401-222-2797).**

Your environmental consultant is required to be present during all soil excavation to properly conduct the closure assessment. Failure to have a consultant present as required by the UST regulations will result in the cancellation of this approval and rescheduling by this office.

The contractor performing the tank closure may collect samples from the subsurface. **However, please be aware that the samples must immediately be put on ice and stored in accordance with industry standards then transported to a certified lab under proper chain of custody within 24 hours of the time in which they were taken.**

You, or your representative, are required to contact the DEM inspector, Olivia French, on the day of the UST closure for verification. She can be reached at (401) 222-2797, extension 7522.

Sincerely,

Kevin Gillen, Supervising Engineer  
UST Management Program  
Office of Waste Management

KWG/NAL

cc: John Lavoie, Clean Environment  
David Santanelli, BilRay Demolition



**Clean Environment Inc.**

P.O. Box 40934 • Providence, RI 02940 • Tel: 401-295-0840 • Fax: 401-295-7968

*Working for a Cleaner Environment*

**UST Closure Assessment Report**  
**Hope Mill Village**  
**1 Main Street, Scituate, Rhode Island**

RECEIVED  
D.E.M. / O.W.M.  
2014 JUL 17 PM 2 02

Prepared For:  
**Mr. Vincent Coccoli**  
Hope Mill Village  
P. O. Box 903, Scituate, Rhode Island 02857

Prepared By:  
**Clean Environment Inc.**  
P.O. Box 40934  
Providence, Rhode Island 02940

July 2014



P.O. Box 40934 • Providence, RI 02940 • Tel: 401-295-0840 • Fax: 401-295-7968

**Clean Environment Inc.**  
Working for a Cleaner Environment

July 3, 2014

Mr. Vincent Coccoli  
P.O. Box 903  
Scituate, RI 02857

RECEIVED  
D.E.M. / O.W.M.  
2014 JUL 17 PM 2 02

**RE: Closure Assessment Report for One Underground Storage Tank  
The Hope Mill Village, 1 Main Street, Scituate, Rhode Island**

Dear Mr. Coccoli:

**Clean Environment Inc.** (CEI) is pleased to submit this Closure Assessment Report for one underground storage tank (UST) and associated piping from the property known as the Hope Mill Village located at 1 Main Street in Scituate, Rhode Island (herein referred to as "the Site"). The owner of the UST is listed as Peter J. Furness, Esq. in RI DEM records (Facility No. 4377). The closed UST included one-20,000 gallon No. 6 fuel oil UST. Following is a description of the UST which was closed, the condition of the UST and the environmental condition of the soil excavated from the UST location.

Visual observations indicated a release of No. 6 fuel oil had occurred around the two fill lines of the UST. It is suspected water infiltrated the UST causing No. 6 fuel oil to be displaced and was released around the fill lines of the UST. This release was basically a surface release and the No. 6 fuel oil contaminated soil was excavated and stockpiled on Site prior to disposal. Holes were not observed in this closed UST or its associated piping.

Approximately 134.72 tons of petroleum contaminated soil was excavated from around fill lines of the fuel oil UST and this petroleum contaminated soil was transported to the Aggregate Industries in Stoughton, Massachusetts for disposal.

Two confirmatory grab soil samples were collected following the petroleum contaminated soil excavation and these soil samples was submitted to the laboratory for total petroleum hydrocarbon (TPH) analysis via Method 8100 and volatile organic compounds (VOCs) via EPA Method 8260. The analysis of the two soil samples indicated TPH levels and VOC levels remaining in the petroleum contaminated soil excavation were below the RI DEM regulatory limits for a property located within a GA groundwater classification area.

The petroleum contaminated soil excavation was discontinued when all visual evidence of the No. 6 fuel oil had been excavated for disposal.

Based upon laboratory analysis of soil samples collected from the tank grave area and visual evidence where the petroleum contamination was discovered, no further environmental investigation of the Site is warranted at this time.

Please call me at (401) 295-0840 if you have any questions concerning this Report.

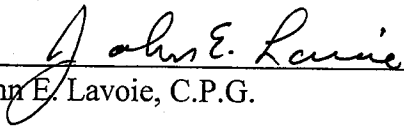
Sincerely,  
CLEAN ENVIRONMENT INC.

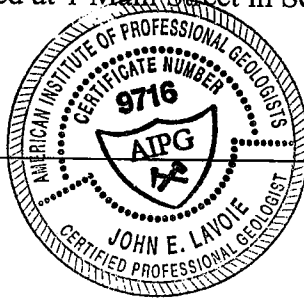
*John E. Lavoie*  
John E. Lavoie, C.P.G.  
President



ACCURACY STATEMENT

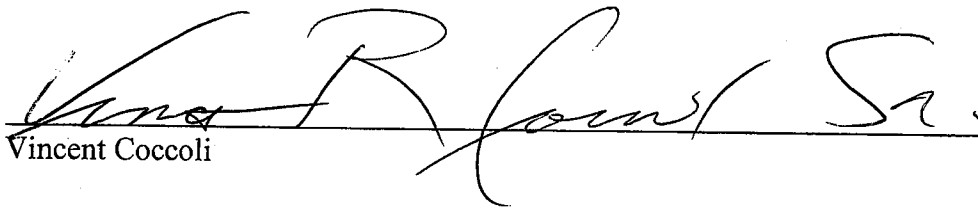
I, John E. Lavoie (CPG-9716) certify that the information contained in the UST Closure Assessment Report completed for the Hope Mill Village located at 1 Main Street in Scituate, Rhode Island is accurate.

  
John E. Lavoie, C.P.G.



7/6/14  
DATE

I, Vincent Coccoli certify that the information contained in the UST Closure Assessment Report for the Hope Mill Village located at 1 Main street in Scituate, Rhode Island is accurate and complete.

  
Vincent Coccoli

7/10/14  
DATE

RECEIVED  
D.E.M. / O.W.M.  
2014 JUL 17 PM 2 02

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### FIGURES:

- Figure I: Site Locus Plan
- Figure II: Site Location Plan

### TABLES:

- |                                       |   |
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### APPENDICES:

- Appendix A: Laboratory Certificates of Analysis
- Appendix B: Tank Disposal Documentation
- Appendix C: Petroleum Contaminated Soil Disposal Documentation
- Appendix D: RI DEM Approval Letter
- Appendix E: Sludge Disposal Documentation
- Appendix F: RI DEM UST Checklist
- Appendix G: Site Photographs

## 1.00 INTRODUCTION

The location of the Site is currently the commercial property known as the Hope Mill Village located at 1 Main Street in Scituate, Rhode Island. The UST closure was scheduled when the UST was no longer in service. The Site is an abandoned mill complex which was built in 1736 and the Site is in the process of being developed into residential apartments and condominiums.

Visual observations indicated a No. 6 fuel oil release had occurred in the area surrounding the fill lines of the UST. Holes were not observed in the closed fuel oil UST or its associated piping. The petroleum contamination appeared to be a surface spill which is suspected to have occurred when water infiltrated the UST displacing the fuel oil to the Site's ground surface. Since the petroleum consisted of No. 6 fuel oil, all VOC levels were below RI DEM regulatory limits for the soil located on top of the UST.

Soil samples were collected from the soil surrounding the UST location and were field screened for the presence of volatile organic compounds (VOC's) using an HNU Systems, Inc. P-101 photoionization meter equipped with a 10.2 ev lamp/probe. The soil samples were field screened for head space analysis according to the following protocols:

- \* One eight ounce clean glass jar was half-filled with the representative soil sample to be analyzed. Exposure of the sample to air is minimized during sample collection.
- \* The jar is quickly covered with aluminum foil and then capped. The head space is allowed to develop for at least ten minutes. The jar is vigorously shaken for 15 seconds at the beginning and the end of the development period.
- \* The cap is removed and the probe of the PID is poked through the aluminum foil to measure the concentration of volatile organic compounds in the air
- \* The highest reading obtained during the sample screening is recorded.
- \* The PID reading is converted to yield total organic vapors in parts per million.

**2.00 UST CLOSURES**

On Monday, November 1, 2011 CEI personnel, along with personnel from BilRay Demolition arrived at the Site at 7:30 AM to close the UST. The closed UST included one-20,000 gallon No. 6 fuel UST. A petroleum release had occurred from this UST resulting in RI DEM requiring this UST Closure Assessment Report. The UST was constructed of single wall steel.

An inspection of the fuel oil USTs external walls indicated minor surface pitting and corrosion and holes were not observed in this UST. A release of No. 6 oil was observed around the fill lines of the UST. The soil associated with this release was excavated from the ground surface area and was stockpiled on Site for later disposal and was placed on and covered with 6 mil polyethylene sheeting and the materials encountered during the UST excavation consisted of sand and gravel and appeared to be natural to the Site.

Following the evacuation of the interior of the UST via a Venture System, the UST was flushed with water. The rinse water was collected via a vac truck and the UST was cut and cleaned on the Site.. The UST was transported to Schnitzer Northeast in Johnston, Rhode Island for disposal. The tank cleaning included the cutting of inspection portals in each end of the USTs. The oil and rinse water remaining in the UST was removed by Cyn Oil. Groundwater was not encountered in the tank grave area.

Head space analysis of soil samples collected from the soil surrounding the closed UST ranged from 0 ppm to 25 ppm on the HNU. The head space analysis are displayed in Table I. Head space analysis was performed on soil samples collected from the soil being excavated from the beneath the former location of the UST tank grave area. The petroleum contaminated soil was excavated from the tank grave area until all visually contaminated soil had been excavated from the Site.

**Table I  
HNU Field Screening Results**

<i>One-20,000 Gallon Fuel Oil UST</i>	<i>Concentration-ppm</i>	
<b>Fill Pipes</b>	Grade-10-25 ppm	
<b>Side Walls</b>	North-ND	South-ND
<b>Tank Bottom</b>	East-15-25 ppm	West-5-5 ppm
	West End-15 ppm-20 ppm	East End-5 ppm-12 ppm
	Center-ND	

ND-Not Detected

### **3.00 SOIL SAMPLING AND ANALYSIS**

Since evidence of a petroleum release was observed during the fuel oil UST closure, soil sampling and analysis was required by the RI DEM. Two soil sample (SS-1) were collected from under the north end of the petroleum contaminated soil excavation and one soil sample (SS-2) was collected from the bottom of the south end of the petroleum contaminated soil excavation and these soil samples were submitted to the laboratory for TPH analysis via Method 8100 and VOC analysis via EPA Method 8260. The laboratory analysis results are displayed in the following table:

**Table II**

**Laboratory Analysis Results**

<b><i>Sample No.</i></b>	<b><i>TPH-Method 8100</i></b>	<b><i>RI DEM-GA TPH Limit</i></b>	<b><i>VOCs-Method 8260</i></b>
SS-1	49 mg/Kg	500 mg/Kg	ND
SS-2	ND	NA	NA

*NA-Not Applicable*

*ND-Non-Detected*

The elevated levels of TPH detected in the soil samples collected from the excavation grave area are all below the RI DEM regulatory limit for a commercial property located within a GA groundwater classification area.

### **4.00 TANK TESTING RECORDS**

The UST contained No. 6 fuel oil and tank testing records are not required.

### **5.00 GROUNDWATER CLASSIFICATION**

The groundwater in the vicinity of the Site is currently classified as GA.

---

## **6.00 SOIL CLASSIFICATION**

The Unified Soil Classification System (USCS) was utilized to classify the soils located on the Site. The USCS divides soil into 3 main groups; coarse grain, fine grain, and highly organic. Each group is then subdivided. Course grain into gravels and sand, fine grains into silts, clays and organic clays. The soil of the Site is classified as fine to course grain sand with traces of silt and clay.

## **7.00 MONITORING WELL GAUGING**

Groundwater monitoring wells were not observed on the Site.

## **8.00 PUBLIC/PRIVATE WATER SUPPLY WELLS**

According to RIGIS, no public or private water supply wells are located on the Site and the Site is not located within a well head protection area.

## **9.00 SENSITIVE RECEPTORS**

The only sensitive receptors include subsurface utility lines.

## **10.00 CONCLUSIONS AND RECOMMENDATIONS**

Visual observations of the fill area of the UST indicated a release of petroleum products had occurred at the Site. The petroleum release appeared to be concentrated around the fill lines and is suspected to have resulted by the displacement of the fuel oil by water which had infiltrated the UST. Approximately 134.72 tons of petroleum contaminated soil was excavated from the Site and transported to Aggregate Industries in Stoughton, Massachusetts for disposal.

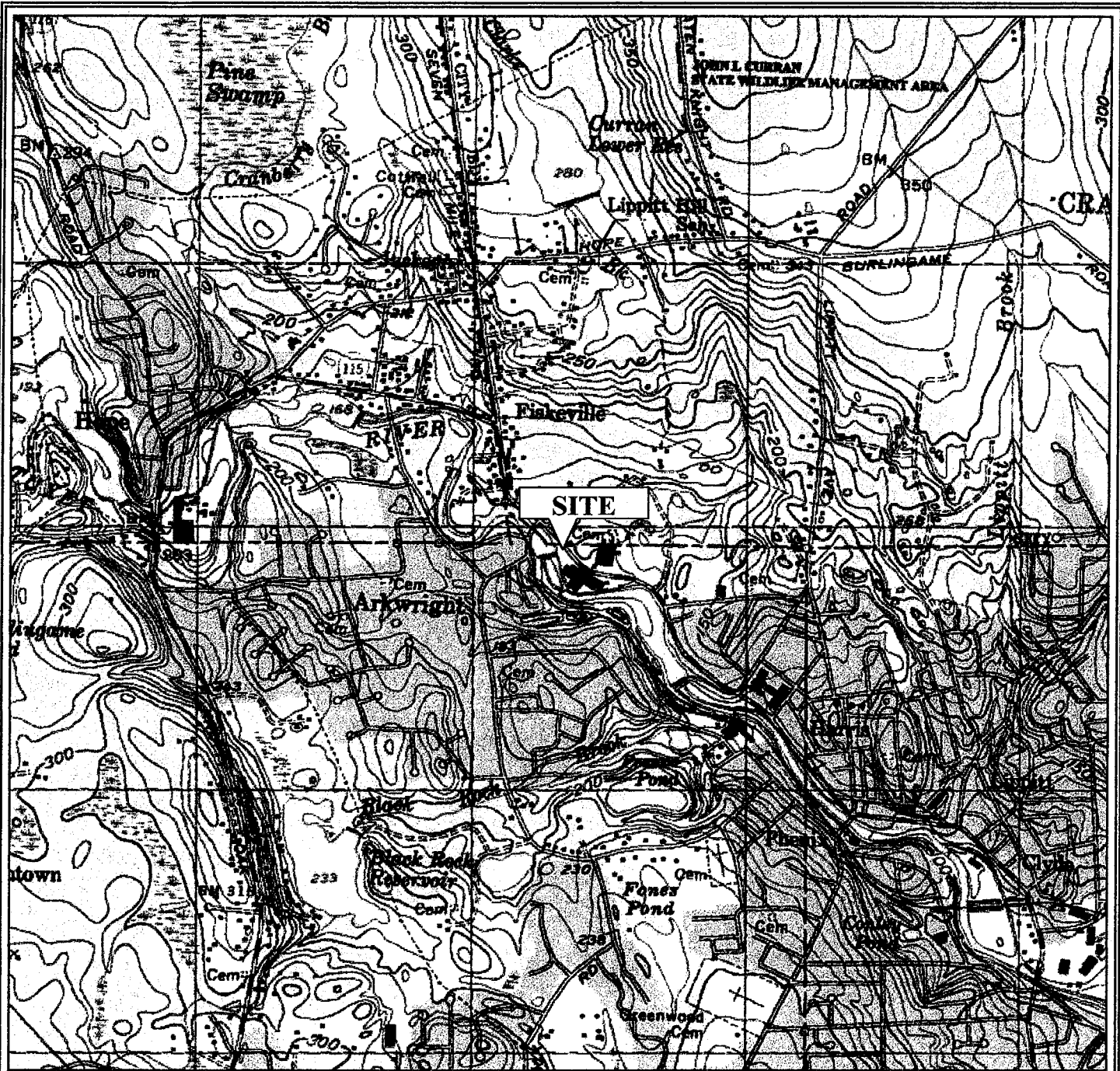
Confirmatory soil samples were below the RI DEM regulatory limits for a commercial property located within a GA groundwater classification.

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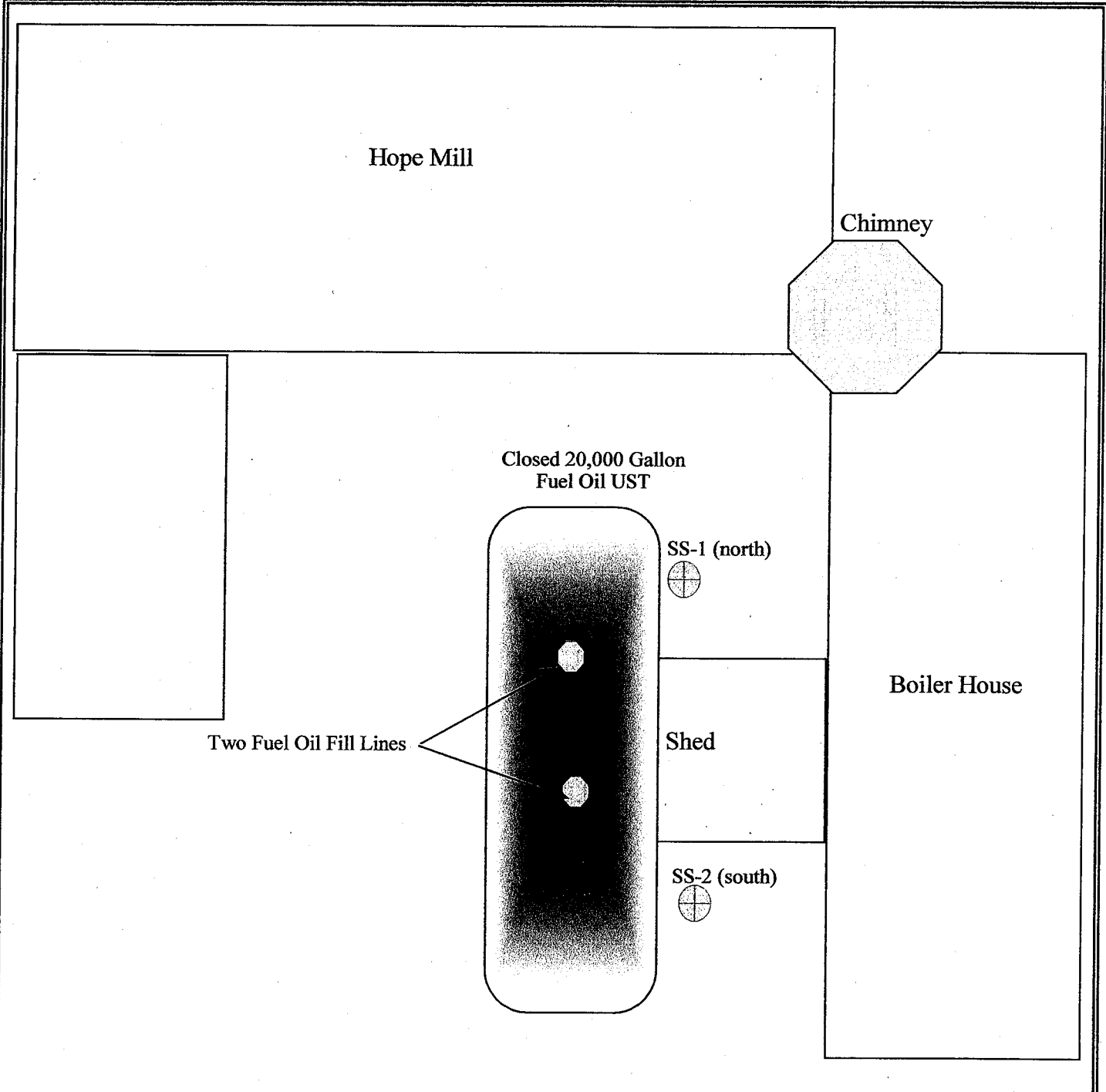
Based upon data included in this Report no further environmental investigation of the Site is warranted at this time.



**FIGURES**



Title: <b>LOCUS MAP</b>	Figure Drawing/Number: <b>1</b>	Date: April 12, 2012
Crompton, Rhode Island Quadrangle 7.5 Minute Series		Scale:
Location/Description: <b>Hope Mill, 1 Main Street, Scituate, Rhode Island</b>		1:24000
Clean Environment Inc. Working for a Cleaner Environment P.O. Box 40934, Providence, RI 02940 Tel. (401) 295-0840/Fax (401) 295-7968		Drawn By: USGS Project No. HM-001-12



Title: <p style="text-align: center;"><b>SITE MAP</b></p>	Figure Drawing/Number: <p style="text-align: center;"><b>2</b></p>	Date: <p style="text-align: center;">July 3, 2014</p>
Location/Description: <p style="text-align: center;"><b>Hope Mill Village, 1 Main Street, Scituate, Rhode Island</b></p>		Scale: <p style="text-align: center;">NTS</p>
<p style="text-align: center;"><b>Clean Environment Inc.</b>          P.O. Box 40934          Providence, RI 02940          Tel. (401) 295-0840/Fax (401) 295-7968</p>		Drawn By: <p style="text-align: center;"><b>JEL</b></p> <hr/> Project No. <p style="text-align: center;"><b>HMV-001-14</b></p>

**Appendix A**

**Laboratory Certificate of Analysis**

**Chain of Custody Documentation**



**REPORT OF ANALYTICAL RESULTS**

**NETLAB Case Number W1110-03**

Prepared for:

Attn: John Lavoie  
Clean Environment  
PO Box 40934  
Providence, RI 02940

Report Date: November 16, 2011

Reviewed by:

Richard Warila  
Laboratory Director

Lab # RI010

**NEW ENGLAND TESTING LABORATORY, INC.**

1254 Douglas Avenue, North Providence, RI 02904

(401) 353-3420

**SAMPLES SUBMITTED and REQUEST FOR ANALYSIS:**

The samples listed in Table I were submitted to New England Testing Laboratory on November 10, 2011. The group of samples appearing in this report was assigned an internal identification number (case number) for laboratory information management purposes. The client's designations for the individual samples, along with our case numbers, are used to identify the samples in this report. The case number for this sample submission is W1110-03.

Custody records are included in this report.

**TABLE I, Samples Submitted**

Sample ID	Date Sampled	Matrix	Analysis Requested
SS-1	11/9/11	Soil	Table II, III
SS-2	11/9/11	Soil	Table II

**TABLE II, Analysis and Methods**

ANALYSIS	PREPARATION METHOD	DETERMINATIVE METHOD
Total Petroleum Hydrocarbons	3550C	8100 mod.

**TABLE III, Analysis and Methods**

ANALYSIS	PREPARATION METHOD	DETERMINATIVE METHOD
Volatile Organic Compounds	5035	8260B

These methods are documented in:

*Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd ed., USEPA.*

<b>Sample: SS-1</b>		Analyst's Initials: NS
<b>Case No. W1110-03</b>		
<b>Date Collected: 11/9/11</b>		
<b>Sample Matrix: Soil</b>		
<b>Subject: TPH</b>		
<b>Prep Method: EPA 3550C</b>	Date Extracted	Date Analyzed
<b>Analytical Method: EPA 8100 M</b>	11/14/11	11/14/11
Compound	Concentration, mg/kg* (ppm)	Reporting Limit
Total Petroleum Hydrocarbons	49	24
Surrogates:		
Compound	% Recovery	Limits
Chlorooctadecane	89	62-151

<b>Sample: SS-2</b>		Analyst's Initials: NS
<b>Case No. W1110-03</b>		
<b>Date Collected: 11/9/11</b>		
<b>Sample Matrix: Soil</b>		
<b>Subject: TPH</b>		
<b>Prep Method: EPA 3550C</b>	Date Extracted	Date Analyzed
<b>Analytical Method: EPA 8100 M</b>	11/14/11	11/14/11
Compound	Concentration, mg/kg* (ppm)	Reporting Limit
Total Petroleum Hydrocarbons	ND	23
Surrogates:		
Compound	% Recovery	Limits
Chlorooctadecane	93	62-151

\*Dry Weight Basis  
ND=Not Detected



## **CASE NARRATIVE:**

### **Sample Receipt:**

No field blank was supplied unless it was identified in such a manner as to be uninterpretable by the laboratory. (This does not qualify the analytical results but does prevent conducting these SW-846 {Chapter 1, Section 3.4} QA Audits).

The samples were all appropriately cooled and preserved upon receipt.

The samples were received in the appropriate containers.

The chain of custody was adequately completed and corresponded to the samples submitted.

### **Total Petroleum Hydrocarbons:**

All samples were extracted and analyzed within method specified holding times and according to NETLAB's documented standard operating procedures. The results for the associated calibration, method blank and laboratory control sample (LCS) were within method specified quality control criteria.

### **Volatile Organic Compounds:**

All samples were extracted and analyzed within method specified holding times and according to NETLAB's documented standard operating procedures. The results for the associated calibration, method blank and laboratory control sample (LCS) were within method specified quality control criteria.

## **RESULTS: VOLATILE ORGANIC COMPOUNDS**

The presence of the NETLAB LOGO in the top right corner of each page in this section indicates:

The Technical Manager of the Organics Analysis Department certifies that the samples included in this section have been prepared and analyzed using the procedures cited and that the results have been reviewed and approved. Any exceptions or qualifications of substance have been reported in the case narrative.

VOLATILE ORGANICS ANALYSIS DATA SHEET

Case No.: W1110-03 Client Name: Clean Environment  
 Method: 8260 Lab Sample ID: SS-1  
 Matrix: (soil/water) SOIL Lab File ID: C111516.D  
 Sample wt/vol: 12.2 (g/ml) G Date Sampled: 11/9/2011  
 % Moisture 16.26 Date Analyzed: 11/15/2011  
 Soil Extract Volume: \_\_\_\_\_ (uL) Dilution Factor: 1.0  
 Analyst's Initials: \_\_\_\_\_ Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO.	COMPOUND	UNITS: <u>UG/KG</u>	Q
75-01-4	Vinyl Chloride	49	U
74-83-9	Bromomethane	49	U
75-00-3	Chloroethane	49	U
67-64-1	Acetone	240	U
75-35-4	1,1-Dichloroethene	49	U
75-15-0	Carbon Disulfide	49	U
75-09-2	Methylene Chloride	49	U
1634-04-4	tert-Butyl methyl ether	49	U
156-60-5	trans-1,2 Dichloroethene	49	U
75-34-3	1,1-Dichloroethane	49	U
78-93-3	2-Butanone	240	U
594-20-7	2,2-Dichloropropane	49	U
156-59-2	cis-1,2-Dichloroethene	49	U
67-66-3	Chloroform	49	U
74-97-5	Bromochloromethane	49	U
71-55-6	1,1,1-Trichloroethane	49	U
563-58-6	1,1-Dichloropropene	49	U
56-23-5	Carbon Tetrachloride	49	U
71-43-2	Benzene	49	U
107-06-2	1,2-Dichloroethane	49	U
79-01-6	Trichloroethene	49	U
78-87-5	1,2-Dichloropropane	49	U
75-27-4	Bromodichloromethane	49	U
74-95-3	Dibromomethane	49	U
108-10-1	4-Methyl-2-pentanone	240	U
106-93-4	Ethylene Dibromide	49	U
10061-01-5	cis-1,3-Dichloropropene	49	U
108-88-3	Toluene	49	U
10061-02-6	Trans-1,3-Dichloropropene	49	U
79-00-5	1,1,2-Trichloroethane	49	U
591-78-6	2-Hexanone	240	U
127-18-4	Tetrachloroethene	49	U
124-48-1	Chlorodibromomethane	49	U
108-90-7	Chlorobenzene	49	U
630-20-6	1,1,1,2-Tetrachloroethane	49	U

U=not detected, D=diluted, E=over range (another data sheet is included), J=below limit, B=found in blank

New England Testing Laboratory, Inc.

VOLATILE ORGANICS ANALYSIS DATA SHEET

Case No.: W1110-03 Client Name: Clean Environment  
 Method: 8260 Lab Sample ID: SS-1  
 Matrix: (soil/water) SOIL Lab File ID: C111516.D  
 Sample wt/vol: 12.2 (g/ml) G Date Sampled: 11/9/2011  
 % Moisture 16.26 Date Analyzed: 11/15/2011  
 Soil Extract Volume: \_\_\_\_\_ (uL) Dilution Factor: 1.0  
 Analyst's Initials: \_\_\_\_\_ Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO.	COMPOUND	UNITS: <u>UG/KG</u>	Q
100-41-4	Ethylbenzene	49	U
1330-20-7	m & p-Xylene	98	U
95-47-6	o-Xylene	49	U
100-42-5	Styrene	49	U
75-25-2	Bromoform	49	U
98-82-8	Isopropylbenzene	49	U
79-34-5	1,1,2,2-Tetrachloroethane	49	U
108-86-1	Bromobenzene	49	U
96-18-4	1,2,3-Trichloropropane	49	U
95-49-8	2-Chlorotoluene	49	U
103-65-1	n-Propylbenzene	49	U
108-67-8	1,3,5-Trimethylbenzene	49	U
106-43-4	4-Chlorotoluene	49	U
98-06-6	tert-Butylbenzene	49	U
95-63-6	1,2,4-Trimethylbenzene	49	U
135-98-8	sec-Butylbenzene	49	U
99-87-6	p-Isopropyltoluene	49	U
75-87-3	Chloromethane	49	U
75-65-0	tert butyl alcohol	49	U
541-73-1	1,3-Dichlorobenzene	49	U
109-99-9	Tetrahydrofuran	49	U
106-46-7	1,4-Dichlorobenzene	49	U
60-29-7	Diethyl Ether	49	U
104-51-8	n-Butylbenzene	49	U
95-50-1	1,2-Dichlorobenzene	49	U
96-12-8	1,2-Dibromo-3-chloropropane	49	U
120-82-1	1,2,4-Trichlorobenzene	49	U
87-68-3	Hexachlorobutadiene	49	U
91-20-3	Naphthalene	49	U
87-61-6	1,2,3-Trichlorobenzene	49	U
994-05-8	Tert-amyl Methyl Ether	49	U
75-71-8	Dichlorodifluoromethane	49	U
142-28-9	1,3-Dichloropropane	49	U
75-69-4	Trichlorofluoromethane	49	U
637-92-3	Ethyl Tert-butyl ether	49	U

U=not detected, D=diluted, E=over range (another data sheet is included), J=below limit, B=found in blank

New England Testing Laboratory, Inc.

VOLATILE ORGANICS ANALYSIS DATA SHEET

Case No.: W1110-03 Client Name: Clean Environment  
 Method: 8260 Lab Sample ID: SS-1  
 Matrix: (soil/water) SOIL Lab File ID: C111516.D  
 Sample wt/vol: 12.2 (g/ml) G Date Sampled: 11/9/2011  
 % Moisture 16.26 Date Analyzed: 11/15/2011  
 Soil Extract Volume: \_\_\_\_\_ (uL) Dilution Factor: 1.0  
 Analyst's Initials: \_\_\_\_\_ Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO.	COMPOUND	UNITS: <u>UG/KG</u>	Q
108-20-3	Diisopropyl Ether	49	U

U=not detected, D=diluted, E=over range (another data sheet is included), J=below limit, B=found in blank

New England Testing Laboratory, Inc.

VOLATILE ORGANICS ANALYSIS DATA SHEET

Case No.: W1110-03 Client Name: Clean Environment  
 Method: 8260 Lab Sample ID: VBLK111511  
 Matrix: (soil/water) SOIL Lab File ID: C111508.D  
 Sample wt/vol: 10.0 (g/ml) G Date Sampled: 11/9/2011  
 % Moisture 0 Date Analyzed: 11/15/2011  
 Soil Extract Volume: \_\_\_\_\_ (uL) Dilution Factor: 1.0  
 Analyst's Initials: \_\_\_\_\_ Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO.	COMPOUND	UNITS: <u>UG/KG</u>	<u>Q</u>
75-01-4	Vinyl Chloride	50	U
74-83-9	Bromomethane	50	U
75-00-3	Chloroethane	50	U
67-64-1	Acetone	250	U
75-35-4	1,1-Dichloroethene	50	U
75-15-0	Carbon Disulfide	50	U
75-09-2	Methylene Chloride	50	U
1634-04-4	tert-Butyl methyl ether	50	U
156-60-5	trans-1,2 Dichloroethene	50	U
75-34-3	1,1-Dichloroethane	50	U
78-93-3	2-Butanone	250	U
594-20-7	2,2-Dichloropropane	50	U
156-59-2	cis-1,2-Dichloroethene	50	U
67-66-3	Chloroform	50	U
74-97-5	Bromochloromethane	50	U
71-55-6	1,1,1-Trichloroethane	50	U
563-58-6	1,1-Dichloropropene	50	U
56-23-5	Carbon Tetrachloride	50	U
71-43-2	Benzene	50	U
107-06-2	1,2-Dichloroethane	50	U
79-01-6	Trichloroethene	50	U
78-87-5	1,2-Dichloropropane	50	U
75-27-4	Bromodichloromethane	50	U
74-95-3	Dibromomethane	50	U
108-10-1	4-Methyl-2-pentanone	250	U
106-93-4	Ethylene Dibromide	50	U
10061-01-5	cis-1,3-Dichloropropene	50	U
108-88-3	Toluene	50	U
10061-02-6	Trans-1,3-Dichloropropene	50	U
79-00-5	1,1,2-Trichloroethane	50	U
591-78-6	2-Hexanone	250	U
127-18-4	Tetrachloroethene	50	U
124-48-1	Chlorodibromomethane	50	U
108-90-7	Chlorobenzene	50	U
630-20-6	1,1,1,2-Tetrachloroethane	50	U

U=not detected, D=diluted, E=over range (another data sheet is included), J=below limit, B=found in blank

New England Testing Laboratory, Inc.

VOLATILE ORGANICS ANALYSIS DATA SHEET

Case No.: W1110-03 Client Name: Clean Environment  
 Method: 8260 Lab Sample ID: VBLK111511  
 Matrix: (soil/water) SOIL Lab File ID: C111508.D  
 Sample wt/vol: 10.0 (g/ml) G Date Sampled: 11/9/2011  
 % Moisture 0 Date Analyzed: 11/15/2011  
 Soil Extract Volume: \_\_\_\_\_ (uL) Dilution Factor: 1.0  
 Analyst's Initials: \_\_\_\_\_ Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO.	COMPOUND	UNITS: <u>UG/KG</u>	<u>Q</u>
100-41-4	Ethylbenzene	50	U
1330-20-7	m & p-Xylene	100	U
95-47-6	o-Xylene	50	U
100-42-5	Styrene	50	U
75-25-2	Bromoform	50	U
98-82-8	Isopropylbenzene	50	U
79-34-5	1,1,2,2-Tetrachloroethane	50	U
108-86-1	Bromobenzene	50	U
96-18-4	1,2,3-Trichloropropane	50	U
95-49-8	2-Chlorotoluene	50	U
103-65-1	n-Propylbenzene	50	U
108-67-8	1,3,5-Trimethylbenzene	50	U
106-43-4	4-Chlorotoluene	50	U
98-06-6	tert-Butylbenzene	50	U
95-63-6	1,2,4-Trimethylbenzene	50	U
135-98-8	sec-Butylbenzene	50	U
99-87-6	p-Isopropyltoluene	50	U
75-87-3	Chloromethane	50	U
75-65-0	tert butyl alcohol	50	U
541-73-1	1,3-Dichlorobenzene	50	U
109-99-9	Tetrahydrofuran	50	U
106-46-7	1,4-Dichlorobenzene	50	U
60-29-7	Diethyl Ether	50	U
104-51-8	n-Butylbenzene	50	U
95-50-1	1,2-Dichlorobenzene	50	U
96-12-8	1,2-Dibromo-3-chloropropane	50	U
120-82-1	1,2,4-Trichlorobenzene	50	U
87-68-3	Hexachlorobutadiene	50	U
91-20-3	Naphthalene	50	U
87-61-6	1,2,3-Trichlorobenzene	50	U
994-05-8	Tert-amyl Methyl Ether	50	U
75-71-8	Dichlorodifluoromethane	50	U
142-28-9	1,3-Dichloropropane	50	U
75-69-4	Trichlorofluoromethane	50	U
637-92-3	Ethyl Tert-butyl ether	50	U

U=not detected, D=diluted, E=over range (another data sheet is included), J=below limit, B=found in blank

New England Testing Laboratory, Inc.



VOLATILE ORGANICS ANALYSIS DATA SHEET

Case No.: W1110-03 Client Name: Clean Environment  
 Method: 8260 Lab Sample ID: VBLK111511  
 Matrix: (soil/water) SOIL Lab File ID: C111508.D  
 Sample wt/vol: 10.0 (g/ml) G Date Sampled: 11/9/2011  
 % Moisture 0 Date Analyzed: 11/15/2011  
 Soil Extract Volume: \_\_\_\_\_ (uL) Dilution Factor: 1.0  
 Analyst's Initials: \_\_\_\_\_ Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO.	COMPOUND	UNITS: <u>UG/KG</u>	Q
108-20-3	Diisopropyl Ether	50	U

U=not detected, D=diluted, E=over range (another data sheet is included), J=below limit, B=found in blank

New England Testing Laboratory, Inc.

## SOIL VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: New England Testing Laboratory Contract: Hope MillLab Code: RI010 Case No.: W1110-03 SAS No.: Clean SDG No.: Clean EnviLevel: (low/med) MED

	EPA SAMPLE NO.	SMC1 #	SMC2 #	SMC3 #	TOT OUT
01	LCS111511	102	96	106	0
02	VBLK111511	92	103	91	0
03	SS-1	97	103	102	0

## QC LIMITS

SMC1 = 4-Bromofluorobenzene (70-130)  
 SMC2 = Toluene-D8 (70-130)  
 SMC3 = 1,2-Dichloroethane-D4 (70-130)

# Column to be used to flag recovery values

\* Values outside of contract required QC limits

D System Monitoring Compound diluted out

New England Testing Laboratory, Inc.

### Volatile Organics Laboratory Control Spike

Date Analyzed: 11/15/2011

Sample ID: VLCS111511

Compound	Spike Added	Spike Result	Recovery, %	Lower Control Limit, %	Upper Control Limit, %
1,1-Dichloroethene	50.0	47.0	94	70	129
Benzene	50.0	51.4	103	73	129
Trichloroethene	50.0	45.9	92	77	122
Toluene	50.0	51.5	103	75	123
Chlorobenzene	50.0	53.2	106	73	125



**Appendix B**  
**Tank Disposal Documentation**



Ticket # TCOYNU

PURCHASE TICKET

Schnitzer Northeast - Johnston  
89 Cejia Street  
Johnston, RI 02919 US

Date: 11/10/11  
Ship Date: 11/10/11

Ticket # TCOYNU  
Vehicle ID: BILRAY  
Vehicle No: TK TCOYNU  
Purchased From: BILR01  
BILRAY CORP.  
73 MILL STREET  
JOHNSTON, RI 02919

Item Shpmt Material	Gross	Tare	Pounds		GROSS TONS
			Net	Adj Pd Wt	
1. TCOYNU #1 HMS UNPREPARED	53040a	35920b	17120	0	17120
Totals			17120	0	17120
Gross Wght Date/Time	11/10/11 15:36				
Tare Wght Date/Time	11/10/11 15:51				7.6429

Weighmaster Signature (Ed Baranski)

Customer Signature

(All weights are reported in Pounds unless otherwise indicated)  
(All non-Pound weights are assumed to be manual weights)  
(a=Scale 1 b=Scale 2 c=Scale 3 d=Scale 4 m=Manual Weight)

I affirm under penalty of law that the property I am selling in this transaction is not, to the best of my knowledge, stolen property and I am the lawful owner and can convey legal title to Purchaser/Payer. I warrant that this material does not contain any hazardous substances as defined by the federal and/or state law, and I agree to indemnify Purchaser/Payer if this is untrue.

DISCLAIMER AND WAIVER OF LIABILITY  
Disclaimer and Waiver of Liability for present and future deliveries. For mutual consideration the customer and driver acknowledge and assume the risk involved in discharging scrap metal in the yard. The customer and driver release discharge and hold harmless Schnitzer Northeast

**Appendix C**

**Petroleum Contaminated Soil Disposal Documentation**



AGGREGATE INDUSTRIES ENVIRONMENTAL SERVICES  
1101 TURNPIKE STREET, STOUGHTON, MA 02072  
PHONE (781) 341-5500 FAX (781) 341-2440

**SOIL RECYCLING SUBMITTAL**  
(Revised 4/1/00)

Site Information:

Name: Hope Mill Village

Contact: Vin Coccoli

Street: 1 Main St.

Phone#: 401 678-0010

City/Town: Scituate

State/Zip: RI 02857

Generator Information:

Name: Historic Structures Development LLC

Contact: Vin Coccoli

Street: One Main St., P.O. Box 70

Phone#: 401 944-9690

City/Town: Hope

State/Zip: RI 02831

Consultant Information:

Name: Clean Environment Inc.

Contact: John E. Lavoie

Street: P.O. Box 40934 \_\_\_\_\_

Phone#: 401 295-0840

City/Town: Providence

State/Zip: , RI 02940

Estimated Soil Quantity 60Tons

40 Cubic Yards

Soil Contaminants

(gasoline, diesel fuel, motor oil, etc.) \_\_\_\_\_

Analyses Performed (check all that apply)

TPH,  VOCs,  Flash,  pH,  Reactivity (S, CN),

PCBs  As,  Cd,  Cr,  Hg,  Pb,

TCLP (metals), if required based on total levels

All the above tests were performed

Other \_\_\_\_\_

Laboratory Analytical Data Attached   X  

Screening Data   NA   Instrument Used and Constituents Found   NA  

Description/Source of Release

  X   UST, \_\_\_\_\_ Other, Describe \_\_\_\_\_

Date of Release \_\_\_\_\_

Soil Description

Physical Description (sand, gravel, silt, etc.)

\_\_\_\_\_

Classification Method   USCS  

Check if the following materials are present:

       clay,        construction debris,        vegetative matter,        ash,  
       coal,        other deleterious materials (list) \_\_\_\_\_

Soil Characterization Methodology

Sampling Method \_\_\_\_\_ Grab   X   Composite

       Biased samples (e.g. headspace screened, visually contaminated)

Constitutes of Concern \_\_\_\_\_

Site History \_\_\_\_\_ (check if extra sheets attached)

Current Use   Vacant Mill Complex  


Past Use   Former Mill  

\_\_\_\_\_

I, the generator, having used due diligence, determined that there is no reason to suspect or believe that the petroleum contaminated soil has been impacted by any releases of oil or hazardous materials other than that of the known source, or I have identified the additional oil and hazardous materials that are suspected or known to be present in the soil, in addition to those associated with the known release, including any anthropogenic contaminants.

I, the generator, realize that due diligence shall consist of a search of information and records reasonably available to the generator of the contaminated soil and sufficient to make the determination. Such records and information may include, but are not limited to, those of the generator, location of generation (i.e. facility if not the generator), the Department's Bureau of

Waste Site Cleanup and the municipality (i.e. Board of Health, Fire Department) within which the site is located. All samples for VOC analysis were collected according to DEP policy WSC #99-415.



Signature of Generator

December 20, 2011

Date

Vincent R. Coccoli, Sr.  
Generator - Printed Name

A site diagram is required indicating any major structures or roads, excavation areas and stockpile locations. All sampling locations must be noted.

Check if diagram attached.

**SITE DIAGRAM**



# Material Shipping Record & Log

For the shipment of contaminated soil, urban fill, and dredge materials not subject to management under section 310 CMR 40.0035 nor manifesting under 310 CMR 30.000

Tracking Number

## A. Location Information

**Important:**

When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



1. Provide the following information on the location where the waste was generated:

Hope Mill Village  
Release name (optional)

1 Main Street  
Street

Scituate  
City/Town

Location aid

RI  
State

02857  
Zip code

2. Date/Period of generation: 11/04/2011  
From

11/04/2011  
To

3. U.S. EPA ID number: NA

4. 21E  
release:

Yes No

5. List additional tracking documents associated with this document:

**Important:**

This form is not to be used for the shipment of remediation wastes subject to management under section 310 CMR 40.0035 of the Massachusetts Contingency Plan nor is it to be used in lieu of a hazardous waste manifest for hazardous waste or recyclable materials subject to the Massachusetts Hazardous Waste Regulations 310 CMR 30.000.

## B. Generator Information

1. Provide the following generator information:

Historic Structures  
Name of organization

Vin Coccoli  
Contact name

One Main St., P.O. Box 70  
Street address

RI 02831  
State Zip code

Owner  
Title

Hope  
City/Town

401 678-0010  
Telephone number(including extension)

## C. Owner and/or Operator Information

1. If the owner and/or operator is different from the generator as indicated in Section B, provide the following information:

Check applicable: owner operator

Name of organization

Contact name

Title

Street address

City/Town

State

Zip code

Telephone number

Ext.



# Material Shipping Record & Log

For the shipment of contaminated soil, urban fill, and dredge materials  
not subject to management under section 310 CMR 40.0035 nor  
manifesting under 310 CMR 30.000

Tracking Number

---

## D. Transporter/Common Carrier Information

1. Provide the following information:

BillRay Demolition

Transporter/Common carrier name

NA

Hazardous waste license number (if applicable)

RI

Licensing state (if applicable)

David Santanelli  
Contact person

President  
Title

73 Mill Street  
Street

Johnston  
City/Town

RI  
State

02919  
Zip code

401 946-1360  
Telephone number

Ext.

---

## E. Receiving Facility Information

1. Provide the following information on the receiving facility:

Aggregate Industries  
Operator/Facility name

William R. Reinhardt  
Contact person

Manager  
Title

1101 Turnpike Street  
Street

Stoughton  
City/Town

MA  
State

02072  
Zip code

781 341-5500  
Telephone number

Ext.

2. Type of facility:

asphalt batch/cold mix  
asphalt batch/hot mix  
landfill/disposal  
landfill/ daily cover  
thermal processing  
landfill/structural fill  
other(specify):

3. Permit number: S-01-029



# Material Shipping Record & Log

For the shipment of contaminated soil, urban fill, and dredge materials not subject to management under section 310 CMR 40.0035 nor manifesting under 310 CMR 30.000

Tracking Number

Check all that apply:

1. a.           soil           dredge material           fill
- b.                            fine to course grain sand with traces of silt and clay

Description:

c.           Classification:   MIT           USDA           USAEC           ASEE

2.           Other           USCS  
(describe):

3. Type of contamination:

a.           gasoline           diesel fuel           #2 oil   #4 oil  
              #6 oil   waste oil           kerosene   jet fuel

b.           Debris:  
                          demolition   vegetative   inorganic

c.           Other  
(describe):

4. Constituents of concern (check all that apply):

As           HVOCs  
Cd           PATH  
Cr           VOCs  
Pb           PAHs  
Hg           BNAs  
Na           TPH  
PCBs       Other(describe):

5. Analyses performed (check all that apply):

As           PATH  
Cd           VOCs  
Cr           PAHs  
Pb           BNAs  
Hg           TPH  
Na           TCLP (inorganic)  
PCBs       TCLP (organic)  
HVOCs     Other(describe):

6. Screening performed:

Head Space Analysis  
Type





# Material Shipping Record & Log

For the shipment of contaminated soil, urban fill, and dredge materials not subject to management under section 310 CMR 40.0035 nor manifesting under 310 CMR 30.000

Tracking Number

---

## H. Certification of Generator

"I certify under penalties of law that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this certification, and that, based on my inquiry of those individuals immediately responsible for obtaining the information contained herein is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information."

Signature

Date December 20, 2011

Name(print) Vincent R. Coccoli, Sr.

---

## I. Acknowledgment of Receipt by Receiving Facility

Receiving facility

Representative (print)

Title

Signature

Date





# Material Shipping Record & Log

For the shipment of contaminated soil, urban fill, and dredge materials not subject to management under section 310 CMR 40.0035 nor manifesting under 310 CMR 30.000

Tracking Number

## J. Load Information

**Note:**  
Make additional copies of this page as necessary.

Load#:

Signature of transporter

Receiving facility

Date received

Time received

Date of shipment

Time of shipment

Truck/Tractor registration

Trailer registration

Load size (cubic yards/tons)

Load#:

Signature of transporter

Receiving facility

Date received

Time received

Date of shipment

Time of shipment

Truck/Tractor registration

Trailer registration

Load size (cubic yards/tons)

Load#:

Signature of transporter

Receiving facility

Date received

Time received

Date of shipment

Time of shipment

Truck/Tractor registration

Trailer registration

Load size (cubic yards/tons)

## K. Log Sheet Volume Information

Total volume this page (cubic yards/tons)

Total carried forward (cubic yards/tons)

Total carried forward and this page (cubic yards/tons)

Page

of



## Material Shipping Record & Log

For the shipment of contaminated soil, urban fill, and dredge materials  
not subject to management under section 310 CMR 40.0035 nor  
manifesting under 310 CMR 30.000

---

Tracking Number



**CERTIFICATE OF ANALYSIS**

Bilray Demolition Company, Inc  
Attn: Todd LeBlanc  
73 Mill Street  
Johnston, RI 02919

**Date Received:** 11/10/11  
**Date Reported:** 11/21/11  
**P.O. #:** 1919  
**Work Order #:** 1111-22289

---

**DESCRIPTION:** PROJECT# 19 HOPE MILL

---

Subject sample(s) has/have been analyzed by our Warwick, R.I. laboratory with the attached results.

Reference: All parameters were analyzed by U.S. EPA approved methodologies.  
The specific methodologies are listed in the methods column of the Certificate Of Analysis.

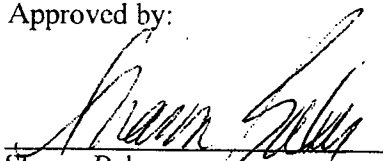
Data qualifiers (if present) are explained in full at the end of a given sample's analytical results.  
The Certificate of Analytsis shall not be reproduced except in full, without written approval of R.I. Analytical.  
Results relate only to samples submitted to the laboratory for analysis.  
Test results are not blank corrected.

Certification #: RI-033, MA-RI015, CT-PH-0508, ME-RI015  
NH-253700 A & B, USDA S-41844

This Certificate represents all data associated with the referenced work order and is paginated for completeness. The complete Certificate includes one attachment; the original Chain of Custody.

If you have any questions regarding this work, or if we may be of further assistance, please contact our customer service department.

Approved by:

  
Sharon Baker  
MIS / Data Reporting Manager

enc: Chain of Custody

**R.I. Analytical Laboratories, Inc.**  
**CERTIFICATE OF ANALYSIS**

Bilray Demolition Company, Inc  
Date Received: 11/10/11  
Work Order #: 1111-22289  
PROJECT# 19 HOPE MILL

Sample # 001  
SAMPLE DESCRIPTION: HOPE MILL SCITUATE  
SAMPLE TYPE: 2-GRAB/COMPOSITE SAMPLE DATE/TIME: 11/10/2011

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
Amrec Package						
pH	5.9		SU	SW-846 9045C	11/10/11	RS
Paint Filter	No Free Liquid			SW-846 9095	11/18/11	TV
Flashpoint	>200	80	dcg F	SW846 1010	11/11/11	RLL
Reactivity CN & S Soils						
Sulfide reactivity	<2.5	2.5	mg/kg	SW-846 7.3.4	11/15/11	ML
Cyanide Reactivity	<0.10	0.10	mg/kg	SW-846 7.3.3	11/15/11	ML
TPII						
TPH GC/FID	3700	11	mg/kg dry	SW846 8100M	11/11/11	JEB
Moisture	7		%	SM2540 G.	11/11/11	BJK
PCB						
Aroclor-1016	<0.1	0.1	mg/kg dry	SW-846 8082	11/15/11	JEB
Aroclor-1221	<0.1	0.1	mg/kg dry	SW-846 8082	11/15/11	JEB
Aroclor-1232	<0.1	0.1	mg/kg dry	SW-846 8082	11/15/11	JEB
Aroclor-1242	<0.1	0.1	mg/kg dry	SW-846 8082	11/15/11	JEB
Aroclor-1248	<0.1	0.1	mg/kg dry	SW-846 8082	11/15/11	JEB
Aroclor-1254	<0.1	0.1	mg/kg dry	SW-846 8082	11/15/11	JEB
Aroclor-1260	<0.1	0.1	mg/kg dry	SW-846 8082	11/15/11	JEB
Surrogate			RANGE	SW-846 8082	11/15/11	JEB
Tetrachloro-m-xylene (TCMX)	52		30-150%	SW-846 8082	11/15/11	JEB
Decachlorobiphenyl	40		30-150%	SW-846 8082	11/15/11	JEB
Extraction date	Extracted			SW846 3546	11/11/11	BJK
Volatile Organic Compounds						
Benzene	<0.07	0.07	mg/kg dry	5035/8260B	11/16/11	MMM
Bromobenzene	<0.07	0.07	mg/kg dry	5035/8260B	11/16/11	MMM
Bromochloromethane	<0.07	0.07	mg/kg dry	5035/8260B	11/16/11	MMM
Bromodichloromethane	<0.07	0.07	mg/kg dry	5035/8260B	11/16/11	MMM
Bromoform	<0.07	0.07	mg/kg dry	5035/8260B	11/16/11	MMM
Bromomethane	<0.34	0.34	mg/kg dry	5035/8260B	11/16/11	MMM
n-Butylbenzene	<0.07	0.07	mg/kg dry	5035/8260B	11/16/11	MMM
Sec-butylbenzene	<0.07	0.07	mg/kg dry	5035/8260B	11/16/11	MMM
tert-Butylbenzene	<0.07	0.07	mg/kg dry	5035/8260B	11/16/11	MMM
Carbon Tetrachloride	<0.07	0.07	mg/kg dry	5035/8260B	11/16/11	MMM

## R.I. Analytical Laboratories, Inc.

## CERTIFICATE OF ANALYSIS

Bilray Demolition Company, Inc

Date Received: 11/10/11

Work Order #: 1111-22289

PROJECT# 19 HOPE MILL

Sample # 001

SAMPLE DESCRIPTION: HOPE MILL SCITUATE

SAMPLE TYPE: 2-GRAB/COMPOSITE

SAMPLE DATE/TIME: 11/10/2011

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
Chlorobenzene	<0.07	0.07	mg/kg dry	5035/8260B	11/16/11	MMM
Chloroethane	<0.34	0.34	mg/kg dry	5035/8260B	11/16/11	MMM
Chloroform	<0.07	0.07	mg/kg dry	5035/8260B	11/16/11	MMM
Chloromethane	<0.34	0.34	mg/kg dry	5035/8260B	11/16/11	MMM
2-Chlorotoluene	<0.07	0.07	mg/kg dry	5035/8260B	11/16/11	MMM
4-Chlorotoluene	<0.07	0.07	mg/kg dry	5035/8260B	11/16/11	MMM
Dibromochloromethane	<0.07	0.07	mg/kg dry	5035/8260B	11/16/11	MMM
1,2-Dibromo-3-Chloropropane	<0.14	0.14	mg/kg dry	5035/8260B	11/16/11	MMM
1,2-Dibromoethane(EDB)	<0.07	0.07	mg/kg dry	5035/8260B	11/16/11	MMM
Dibromomethane	<0.14	0.14	mg/kg dry	5035/8260B	11/16/11	MMM
1,2-Dichlorobenzene	<0.07	0.07	mg/kg dry	5035/8260B	11/16/11	MMM
1,3-Dichlorobenzene	<0.07	0.07	mg/kg dry	5035/8260B	11/16/11	MMM
1,4-Dichlorobenzene	<0.07	0.07	mg/kg dry	5035/8260B	11/16/11	MMM
Dichlorodifluoromethane	<0.34	0.34	mg/kg dry	5035/8260B	11/16/11	MMM
1,1-Dichloroethane	<0.07	0.07	mg/kg dry	5035/8260B	11/16/11	MMM
1,2-Dichloroethane	<0.07	0.07	mg/kg dry	5035/8260B	11/16/11	MMM
1,1-Dichloroethene	<0.07	0.07	mg/kg dry	5035/8260B	11/16/11	MMM
cis-1,2-Dichloroethene	<0.07	0.07	mg/kg dry	5035/8260B	11/16/11	MMM
trans-1,2-Dichloroethylene	<0.07	0.07	mg/kg dry	5035/8260B	11/16/11	MMM
1,2-Dichloropropane	<0.07	0.07	mg/kg dry	5035/8260B	11/16/11	MMM
1,3-Dichloropropane	<0.07	0.07	mg/kg dry	5035/8260B	11/16/11	MMM
2,2-Dichloropropane	<0.07	0.07	mg/kg dry	5035/8260B	11/16/11	MMM
1,1-Dichloropropene	<0.07	0.07	mg/kg dry	5035/8260B	11/16/11	MMM
Ethylbenzene	0.19	0.07	mg/kg dry	5035/8260B	11/16/11	MMM
Hexachlorobutadiene	<0.07	0.07	mg/kg dry	5035/8260B	11/16/11	MMM
Isopropylbenzene	<0.07	0.07	mg/kg dry	5035/8260B	11/16/11	MMM
p-Isopropyltoluene	1.4	0.07	mg/kg dry	5035/8260B	11/16/11	MMM
Methylene Chloride	<0.07	0.07	mg/kg dry	5035/8260B	11/16/11	MMM
Naphthalene	0.08	0.07	mg/kg dry	5035/8260B	11/16/11	MMM
n-Propylbenzene	0.07	0.07	mg/kg dry	5035/8260B	11/16/11	MMM
Styrene	0.42	0.07	mg/kg dry	5035/8260B	11/16/11	MMM
1,1,1,2-Tetrachloroethane	<0.07	0.07	mg/kg dry	5035/8260B	11/16/11	MMM
1,1,2,2-Tetrachloroethane	<0.07	0.07	mg/kg dry	5035/8260B	11/16/11	MMM
Tetrachloroethene	0.07	0.07	mg/kg dry	5035/8260B	11/16/11	MMM
Toluene	0.40	0.07	mg/kg dry	5035/8260B	11/16/11	MMM
1,2,3-Trichlorobenzene	<0.07	0.07	mg/kg dry	5035/8260B	11/16/11	MMM
1,2,4-Trichlorobenzene	<0.07	0.07	mg/kg dry	5035/8260B	11/16/11	MMM

## R.I. Analytical Laboratories, Inc.

## CERTIFICATE OF ANALYSIS

Bilray Demolition Company, Inc

Date Received: 11/10/11

Work Order #: 1111-22289

PROJECT# 19 HOPE MILL

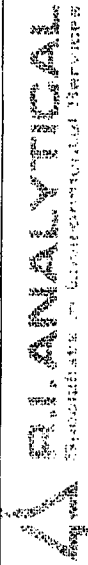
Sample # 001

SAMPLE DESCRIPTION: HOPE MILL SCITUATE

SAMPLE TYPE: 2-GRAB/COMPOSITE

SAMPLE DATE/TIME: 11/10/2011

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
1,1,1-Trichloroethane	<0.07	0.07	mg/kg dry	5035/8260B	11/16/11	MMM
1,1,2-Trichloroethane	<0.07	0.07	mg/kg dry	5035/8260B	11/16/11	MMM
Trichloroethene	<0.07	0.07	mg/kg dry	5035/8260B	11/16/11	MMM
Trichlorofluoromethane	0.81	0.07	mg/kg dry	5035/8260B	11/16/11	MMM
1,2,3-Trichloropropane	<0.07	0.07	mg/kg dry	5035/8260B	11/16/11	MMM
1,2,4-Trimethylbenzene	0.40	0.07	mg/kg dry	5035/8260B	11/16/11	MMM
1,3,5-Trimethylbenzene	0.20	0.07	mg/kg dry	5035/8260B	11/16/11	MMM
Vinyl Chloride	<0.07	0.07	mg/kg dry	5035/8260B	11/16/11	MMM
o-Xylene	0.62	0.07	mg/kg dry	5035/8260B	11/16/11	MMM
m,p-Xylene	1.2	0.07	mg/kg dry	5035/8260B	11/16/11	MMM
Total Xylene	1.8	0.07	mg/kg dry	5035/8260B	11/16/11	MMM
Methyl Tertiary Butyl Ether (MTBE)	<0.07	0.07	mg/kg dry	5035/8260B	11/16/11	MMM
Carbon Disulfide	<0.35	0.35	mg/kg dry	5035/8260B	11/16/11	MMM
Acetone	2.7	0.68	mg/kg dry	5035/8260B	11/16/11	MMM
2-Butanone(MEK)	<0.68	0.68	mg/kg dry	5035/8260B	11/16/11	MMM
2-Chloroethyl vinyl ether	<0.14	0.14	mg/kg dry	5035/8260B	11/16/11	MMM
4-Methyl-2-pentanone(MIBK)	<0.68	0.68	mg/kg dry	5035/8260B	11/16/11	MMM
2-Hexanone	<0.68	0.68	mg/kg dry	5035/8260B	11/16/11	MMM
Vinyl Acetate	<5.0	5.0	mg/kg dry	5035/8260B	11/16/11	MMM
Moisture	7		%	SM2540 G.	11/11/11	BJK
Surrogates			RANGE	5035/8260B	11/16/11	MMM
Dibromofluoromethane	96		70-130%	5035/8260B	11/16/11	MMM
Toluene-d8	103		70-130%	5035/8260B	11/16/11	MMM
4-Bromofluorobenzene	104		70-130%	5035/8260B	11/16/11	MMM
1,2 Dichloroethane-d4	95		70-130%	5035/8260B	11/16/11	MMM
Total Metals						
Arsenic	<2.7	2.7	mg/kg dry	SW-846 6010	11/15/11	PJC
Cadmium	<0.27	0.27	mg/kg dry	SW-846 6010	11/15/11	PJC
Chromium	2.9	1.6	mg/kg dry	SW-846 6010	11/15/11	PJC
Lead	29	2.2	mg/kg dry	SW-846 6010	11/15/11	PJC
Mercury	<0.073	0.073	mg/kg dry	SW-846 7471A	11/16/11	PJC



# CHAIN OF CUSTODY RECORD

41 Illinois Avenue  
 Warwick, RI 02888-3007  
 800-937-2580 • Fax: 401-738-1970 800-937-2580 • Fax: 978-568-0078

131 Coolidge St., Suite 105  
 Hudson, MA 01749-1331

Date Collected	Time Collected	Field Sample Identification	Grab or Composite	# of Containers & Type	Preservation Code <sup>a</sup>	Matrix Code <sup>m</sup>	AGGREGATE*
11/10/11	11:00 AM	HOPE MILC SCRVUATE	G	2 NP S	NP S	S	*

Bilraycorp@yahoo.com  
 David Jammelli  
 David Jammelli  
 5581 4800 0007 5556  
 x3/15  
 2 (cont)

Client Information		Project Information	
Company Name:	BILRAY CORPORATION	Project Name:	HOPE MILC
Address:	73 MILC ST JOHANSTON RI 02919	P.O. Number:	1919
City / State / Zip:	JOHANSTON RI 02919	Report To:	TODD
Telephone:	831-8895	Sampled By:	JOHN LAVOIE
Contact Person:	TODD	Quote No:	
		Project Number:	19
		Phone:	365-0067
		Fax:	

Relinquished By Signatures	Date	Time	Received By Signatures	Date	Time
<i>[Signature]</i>	11/10/11	1:00 PM	<i>[Signature]</i>	11/10/11	1:300

Circle if applicable: GW-1, GW-2, GW-3, S-1, S-2, S-3 MCP Data Enhancement QC Package? Yes No

\* Composite both jars before testing (S)

not received on ice (M)

Temp. Upon Receipt 18.8°C

Containers: P=Poly, G=Glass, AG=Amber Glass, V=Vial, St=Sterile Preservative, A=Ascorbic Acid, NH4=NH4Cl, H=HCl, M=MeOH, N=HNO3, NP=None, S=H2SO4, SB=NaHSO4, SH=NaOH, T=Na2S2O8, Z=ZnOAc

Matrix Codes: GW=Groundwater, SW=Surface Water, WW=Wastewater, DW=Drinking Water, S=Soil, SL=Sludge, A=Air, B=Bulk/Solid, WP=Wipe, O=

Lab Use Only  
 Sample Pick-Up Only  
 RIAL sampled: attach field hours  
 Shipped on ice  
 Workorder No: 1111-22889

STOUGHTON, MA 02072  
 INDUSTRIES  
 (617) 344-1100

SCALE #	DATE	TIME	HAULER NO.	TRUCK NO.
1	04/06/2012	2:42 pm	4000000	FFLEY77
PRODUCT CODE	SALE TYPE	ZONE	PLANT NO.	PROJECT NO.
7255	Pickup	ZONE0	D702	400211922
CUSTOMER	PURCHASE ORDER NO.	SALE TYPE	LOADS	ACCUM. AMOUNT
m Manual Weight, * Mail				
CUSTOMER NAME	JOB NAME / DIRECTIONS			
5723				40.08

Hope Mill Main St Scituate RI

DD - STOUGHTON-SOIL  
 715 BROADWAY  
 AUGUS, MA 01906

PRODUCT	QUANTITY	UNIT	PRICE	AMOUNT	METRIC TONS	POUNDS	TONS
CONTAMINATED SOIL - OIL	19.42	Ton	45.00	873.90	GROSS	66,120	33.06
		HAUL RATE	0.00	0.00	TARE	27,280	13.64
		TAX MAEX	0.00	0.00	NET	38,840	19.42
		TOTAL DUE		873.90			

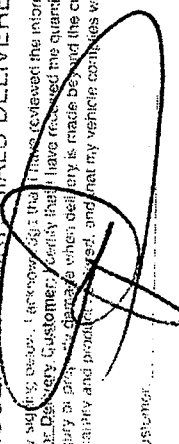
I/We relieve the seller of any liability for personal injury or property damage when delivery is made beyond the curb line.

ARRIVE JOB DEPART JOB WAITING TIME WEIGH MASTER

THE PERSON SIGNING THIS DELIVERY TICKET IS AUTHORIZED TO ACCEPT THE MATERIALS DELIVERED.

Authorization signature for waiting time.  
 Signed by: **Bill R**

By signing below, I acknowledge that I have reviewed the information on this ticket, and that I am authorized to consent to the following:  
 For Delivery Customer: I certify that I have received the quantity and product that I ordered. I relieve the seller of any liability for personal injury or property damage when delivery is made beyond the curb line.  
 For Pickup (C.O.P.) Customer: I certify that I have received the quantity and product that I ordered, and that my vehicle complies with local, state, and federal weight limitations and operating requirements.

Customer: 

AggreChoice Products do not currently meet Massachusetts, New Hampshire and Rhode Island Highway Dept./Dot specifications.

AI-25B NE (rev 01/12) CPS II GUMPERT (410) 329-1941

AUTHORIZED REPRESENTATIVE

CONTROL NO. → **813154**





**STOUGHTON SOIL PLANT**  
**1101 TURNPIKE STREET**  
**STOUGHTON, MA 02072**  
**(617) 344-1100**

SIGN AND RETURN

TICKET NO. →

**115106374**

Manual Weight		SCALE #	DATE	TIME	HAULER NO.	TRUCK NO.		
		1	04/06/2012	10:29 am	4000000	FFLEY77		
CUSTOMER	PURCHASE ORDER NO.	PRODUCT CODE	SALE TYPE	ZONE	PLANT NO.	PROJECT NO.	LOADS	ACCUM. AMOUNT
723		7255	Pickup	ZONE0	D702	400211922	1	20.66
CUSTOMER NAME			JOB NAME / DIRECTIONS					

**723**  
**STOUGHTON-SOIL**  
**15 BROADWAY**  
**STOUGHTON, MA 01906**

**Hope Mill Main St Scituate RI**

PRODUCT	QUANTITY	UNIT	PRICE	AMOUNT		METRIC TONS	POUNDS	TONS
CONTAMINATED SOIL - OIL	20.66	Ton	45.00	929.70	GROSS	31.12	68,600	34.30
			0.00	0.00	TARE	12.37	27,280	13.64
		MAEX	0.00	0.00	NET	18.74	41,320	20.66
		TOTAL DUE		929.70				

We relieve the seller of any liability for personal injury or property damage when delivery is made beyond the curb line.

ARRIVE JOB	DEPART JOB	WAITING TIME	WEIGH MASTER
			<b>Bill R</b>

THE PERSON SIGNING THIS DELIVERY TICKET IS AUTHORIZED TO ACCEPT THE MATERIALS DELIVERED.

Authorization signature for waiting time.  
 Signed by:

*[Handwritten Signature]*

AUTHORIZED REPRESENTATIVE

CONTROL NO. → **813153**

AggreChoice Products do not currently meet Massachusetts, New Hampshire and Rhode Island Highway Dept./Dot specifications.  
 CPS 11 GUMPERT (410) 329-1941

13 4. 22

**Appendix D**  
**RI DEM Approval Letter**



RHODE ISLAND  
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
235 Promenade Street, Providence, RI 02908-5767 TDD 401-222-4462

October 27, 2011

Peter J. Furness, Esq.  
100 Midway Place, Suite 1  
Cranston, RI 02920

Dear Attorney Furness:

RE: Underground Storage Tank Closure; Facility ID #4377  
Hope Mill Village, 1 Main Street, Scituate

The Office of Waste Management has reviewed the Permanent Closure Application For Underground Storage Tank(s) for the above referenced property. The following UST(s) are approved to be closed on Tuesday, November 1, 2011:

<u>UST ID #</u>	<u>VOLUME</u>	<u>STORED MATERIAL</u>	<u>METHOD OF CLOSURE</u>
002	10000-20000 Gallons	No. 6 Fuel Oil	Removal

All USTs are to be removed and handled as described in the closure application. This approval letter along with a copy of the UST Closure Application must accompany the tank(s) during transit to the proper disposal facility.

**IF ANY CONTAMINATION IS FOUND IN THE VICINITY OF OR AROUND THE SUBJECT UST(S), IMMEDIATE NOTIFICATION TO THIS OFFICE IS REQUIRED (401-222-2797).**

Your environmental consultant is required to be present during all soil excavation to properly conduct the closure assessment. Failure to have a consultant present as required by the UST regulations will result in the cancellation of this approval and rescheduling by this office.

The contractor performing the tank closure may collect samples from the subsurface. **However, please be aware that the samples must immediately be put on ice and stored in accordance with industry standards then transported to a certified lab under proper chain of custody within 24 hours of the time in which they were taken.**

You, or your representative, are required to contact the DEM inspector, Olivia French, on the day of the UST closure for verification. She can be reached at (401) 222-2797, extension 7522.

Sincerely,

Kevin Gillen, Supervising Engineer  
UST Management Program  
Office of Waste Management

KWG/NAL

cc: John Lavoie, Clean Environment  
David Santanelli, BilRay Demolition

**Appendix E**  
**Oil & Sludge Disposal Documentation**

WASTE MANIFEST

Generator's Name and Mailing Address: Patriot Site Inc, PO Box 146, Mainville, RI 02838

Generator's Site Address (if different than mailing address): 006423883 JJK

Generator's Name: CYN Oil Corporation

Generator's Phone: 781 341 9938

Transporter 1 Company Name: MAJOR 82303777

Transporter 2 Company Name: MAJOR 82303777

Designated Facility Name and Site Address: CYN Oil Corporation, 7771 Washington St, Stoughton MA 02072

Facility's Phone: MAJOR 82303777

9a. HM: 1. GW, STAGE REGULATIO WASTE OIL + WATER (NON-DOT, REGULATED MATERIAL)

9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))

10. Containers: 001 17

11. Total Quantity: 1630

12. Unit Wt./Vol.: 1

13. Waste Codes: 1111

14. Special Handling Instructions and Additional Information: 24 hr Emergency 800-878-1031

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(e) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Officer's Printed/Typed Name: [Signature]

Signature: [Signature]

16. International Shipments:  Import to U.S.  Export from U.S.

Port of entry/exit: [Blank]

Date leaving U.S.: 11/11

Month: 11, Day: 11, Year: 11

Transporter signature (for exports only): [Signature]

INTEL

GENERATOR

**Appendix F**  
**RI DE UST Checklist**



# UST Closure Assessment Report Checklist

Complete this form in its entirety and include with all Closure Assessment Reports. This checklist is intended to aid in the submission process and ensure reports contain all of the information required in Rules 13.11(B) and (C). This form does not replace the closure assessment report, and it is intended for submission to RIDEM only.

Facility Name:

UST Facility ID#:

Facility Address:

LUST Case #:

Closure Date:

*Directions: For each requirement listed below, enter the page number where the relevant information can be found in the Closure Assessment Report. Failure to include page numbers may delay review and approval. If an item is not applicable, simply state that it is not applicable in the comments field and provide an explanation in the Closure Assessment Report.*

Included?	Rule Description	Page #	Comments
<input checked="" type="checkbox"/>	A background description of the site including location, use of the facility, and a summary of any available tank and line leak detection results [Rule 13.11 (B)(1)]	1	
<input checked="" type="checkbox"/>	A locus map using the U.S. Geological Survey 7.5 minute quadrangle map [Rule 13.11 (B)(2)]		Figures
<input checked="" type="checkbox"/>	A detailed site plan showing the location of all former or existing USTs, piping, dispensers, buildings, utilities, monitoring wells, drinking water wells, soil screening locations, soil sampling locations and any other pertinent site features [Rule 13.11 (B)(3)]		Figures
<input checked="" type="checkbox"/>	Descriptions of all USTs closed including size, construction type, depth to tank bottom, age and stored material [Rule 13.11 (B)(4)]	1	
<input checked="" type="checkbox"/>	A description of the condition of the USTs and piping including extent of corrosion, identification of any holes and any other indication of leakage [Rule 13.11 (B)(5)]	2	
<input checked="" type="checkbox"/>	Photographic documentation of the condition of each tank removed [Rule 13.11 (B)(6)]		Appendix F
<input checked="" type="checkbox"/>	A description of the soil conditions in the excavation zone such as soil classification, gradation, extent of compaction and any other notable physical characteristics [Rule 13.11 (B)(7)]	4	
<input checked="" type="checkbox"/>	A description of soil contamination, including visual and olfactory observations, field screening and laboratory analytical methods used and all results [Rule 13.11 (B)(8)]	2	
<input checked="" type="checkbox"/>	A description of groundwater encountered in the excavation zone including depth to water and appearance with respect to the presence of any sheen or free product [Rule 13.11 (B)(9)]	2	
<input checked="" type="checkbox"/>	A description of groundwater obtained from monitoring or observation wells, where present, including any gauging results [Rule 13.11 (B)(10)]		NA
<input checked="" type="checkbox"/>	Identification of the DEM groundwater classification at the site and surrounding areas, the availability of public water and presence of private or public wells [Rule 13.11 (B)(11)]	2	

Included?	Rule Description	Page #	Comments
<input checked="" type="checkbox"/>	Any potential receptors such as, but not limited to, surface waters, basements, storm drains, sewer lines or other utilities where contamination is identified [Rule 13.11 (B)(12)]	4	
<input checked="" type="checkbox"/>	Description of the management of all excavated contaminated soil, including proper cover while stockpiled on-site and documentation of proper disposal [Rule 13.11 (B)(13)]	2	
<input checked="" type="checkbox"/>	Documentation of proper disposal of the tank(s) and the residual sludge material [Rule 13.11 (B)(14)]		Appendix C
<input type="checkbox"/>	Any other information or documentation required to complete the closure assessment [Rule 13.11 (B)(15)]		
<input checked="" type="checkbox"/>	Conclusions as to whether a release has occurred and recommendations for further investigation and/or remediation. [Rule 13.11 (B)(16)]	4	
<input checked="" type="checkbox"/>	A statement signed by the registered professional engineer, or the certified professional geologist, or the registered professional geologist, who prepared the report or who directly supervised preparation of the report, certifying the accuracy of the information contained in the report [Rule 13.11 (C)(1)]		Accuracy Statement
<input checked="" type="checkbox"/>	A statement signed by the facility owner/operator that the report is complete and accurate. [Rule 13.11 (C)(2)]		Accuracy Statement

**Prepared by:**

Company Name:

Contact Name:

Company Address:

E-mail:

Phone #:

Signature:

Submission Date:



**Appendix G**  
**Site Photographs**



Photo I-Fuel Fills for 20,000 Gallon No. 6 Fuel Oil UST



Photo II-Petroleum Release in Fuel Fill Area



Photo III-Tank Grave Area of 20,000 Gallon Fuel Oil UST



Photo IV-View of UST Bottom

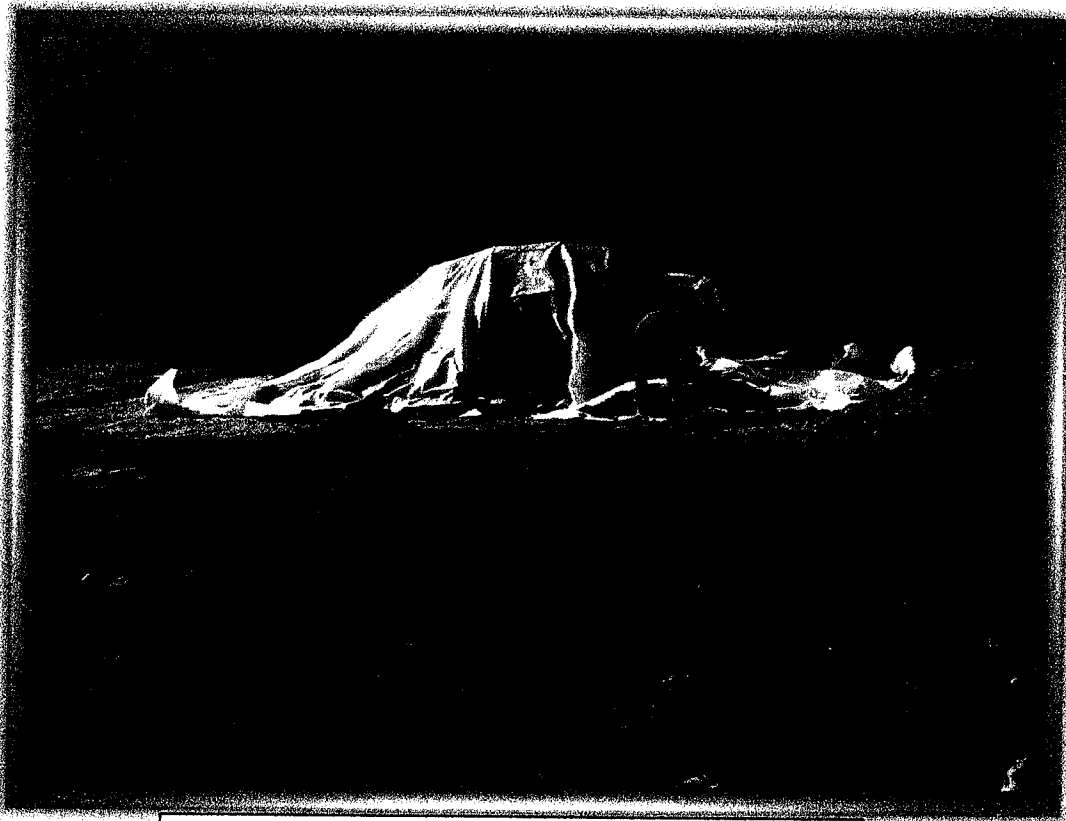


Photo V-Stockpile of Petroleum Contaminated Soil



Photo VI-View of Interior of 20,000 Gallon Fuel Oil UST

**TEST PIT LOG**



<b>SITE:</b> Hope Mill, Hope, Rhode Island	<b>TEST PIT NO:</b> ESS-30A
<b>CLIENT:</b> Paramount Apartments, LLC	<b>DATE:</b> 4/1/2020
<b>EXCAV. CONTRACTOR:</b> Kenny Lavigne	<b>ESS INSPECTOR:</b> Craig Paradis and Margaret O'Brien
<b>EXCAVATION METHOD:</b> Back Hoe	<b>SURFACE ELEV:</b> NA
<b>WEATHER:</b> Cloudy, ~30's F°	<b>DEPTH TO WATER:</b> NA

Depth (feet)	Sample Collected (depth)	Soil Headspace (ppmv)	Depth (feet)	Materials Description Moisture, Color, density, size, major and minor constituents	Depth (feet)	Notes
0.5	ESS-30A (0'-3')	0.0	0.5	1.0' - Dry, dark brown SILT, some coarse sand, little fine gravel, medium to fine sand, trace coal and metal	0.5	
1.0			1.0	0.5' - Dry, beige FINE SAND, some medium to coarse sand, fine gravel, trace coarse gravel and silt	1.0	
1.5			1.5	0.75' - Dry, brown FINE TO MEDIUM SAND AND FINE GRAVEL, some coarse sand, some to little silt	1.5	
2.0			2.0	0.5' - Dry, orange brown FINE SAND, some medium to coarse sand, fine to coarse gravel, little to trace silt, trace coal and cobbles	2.0	
2.5			2.5	1.0' - Dry, yellow brown FINE AND MEDIUM SAND, some coarse sand and fine to coarse gravel, little cobbles, trace silt	2.5	
3.0			3.0	TERMINATION at ~3.75'	3.0	
3.5			3.5		3.5	
4.0			4.0		4.0	
4.5			4.5		4.5	
5.0			5.0		5.0	
5.5			5.5		5.5	
6.0			6.0		6.0	
6.5			6.5		6.5	
7.0			7.0		7.0	
7.5			7.5		7.5	
8.0			8.0		8.0	
8.5			8.5		8.5	
9.0			9.0		9.0	
9.5			9.5		9.5	
10.0			10.0		10.0	

<b>PROPORTIONS USED</b>	<b>MOISTURE</b>	<b>LEGEND:</b>	<b>COMMENTS:</b>
Trace <10%	Dry	NM = Not Measured	
Little 10-20%	Damp		
Some 20-35%	Moist		
And 35-50%	Wet		

**TEST PIT LOG**



<b>SITE:</b> Hope Mill, Hope, Rhode Island	<b>TEST PIT NO:</b> ESS-31A
<b>CLIENT:</b> Paramount Apartments, LLC	<b>DATE:</b> 4/1/2020
<b>EXCAV. CONTRACTOR:</b> Kenny Lavigne	<b>ESS INSPECTOR:</b> Craig Paradis and Margaret O'Brien
<b>EXCAVATION METHOD:</b> Back Hoe	<b>SURFACE ELEV:</b> NA
<b>WEATHER:</b> Cloudy, ~30's F°	<b>DEPTH TO WATER:</b> 4.75'

Depth (feet)	Sample Collected (depth)	Soil Headspace (ppmv)	Depth (feet)	Materials Description Moisture, Color, density, size, major and minor constituents	Depth (feet)	Notes
0.5	ESS-31A (0'-3')		0.5	0.25' - Dry, dark grayish brown COARSE SAND AND GRAVEL, some to little fine to medium sand, trace silt	0.5	
1.0			1.0	0.67' - Dry, dark grayish brown FINE TO MEDIUM SAND, some coarse sand, little fine gravel and silt, trace coarse gravel	1.0	
1.5			1.5	3.58' - Dry, orange brown FINE SAND, some medium to coarse sand, little fine gravel and silt, little to trace cobbles and boulders	1.5	
2.0	2.0		2.0			
2.5	2.5		2.5			
3.0	ESS-31A (3'-4.75')		3.0		3.0	
3.5			3.5		3.5	
4.0			4.0		4.0	
4.5			4.5		4.5	
5.0			5.0	0.5' - Wet, orange brown FINE GRAVEL AND COARSE SAND, some medium sand, little to trace fine sand, trace silt	5.0	▼ Water
5.5			5.5	TERMINATION at 5'	5.5	
6.0			6.0		6.0	
6.5			6.5		6.5	
7.0			7.0		7.0	
7.5			7.5		7.5	
8.0			8.0		8.0	
8.5			8.5		8.5	
9.0			9.0		9.0	
9.5			9.5		9.5	
10.0			10.0		10.0	

<b>PROPORTIONS USED</b>	<b>MOISTURE</b>	<b>LEGEND:</b>	<b>COMMENTS:</b>
Trace <10%	Dry	NM = Not Measured	
Little 10-20%	Damp		
Some 20-35%	Moist		
And 35-50%	Wet		

**TEST PIT LOG**



<b>SITE:</b> Hope Mill, Hope, Rhode Island	<b>TEST PIT NO:</b> ESS-31B
<b>CLIENT:</b> Paramount Apartments, LLC	<b>DATE:</b> 4/1/2020
<b>EXCAV. CONTRACTOR:</b> Kenny Lavigne	<b>ESS INSPECTOR:</b> Craig Paradis and Margaret O'Brien
<b>EXCAVATION METHOD:</b> Back Hoe	<b>SURFACE ELEV:</b> NA
<b>WEATHER:</b> Cloudy, ~30's F°	<b>DEPTH TO WATER:</b> 4.5'

Depth (feet)	Sample Collected (depth)	Soil Headspace (ppmv)	Depth (feet)	Materials Description Moisture, Color, density, size, major and minor constituents	Depth (feet)	Notes
0.5	ESS-31B (0'-3')	0.0	0.5	1.5' - Dry, dark brown FINE SAND, some silt, little fine gravel and coarse sand	0.5	
1.0			1.0	3.5' - Dry to wet, orange and dark brown FINE SAND, some silt, little medium to coarse sand, fine to coarse gravel, and cobbles, trace boulders	1.0	
1.5			1.5		1.5	
2.0	2.0	2.0	2.0	2.0		
2.5	2.5	2.5	2.5	2.5		
3.0	ESS-31B (3'-4.5')		3.0	TERMINATION at 5'	3.0	
3.5			3.5		3.5	
4.0			4.0		4.0	
4.5	4.5	4.5	4.5	4.5	▼ Water	
5.0	5.0	5.0	5.0	5.0		
5.5	5.5	5.5	5.5	5.5		
6.0	6.0	6.0	6.0	6.0		
6.5	6.5	6.5	6.5	6.5		
7.0	7.0	7.0	7.0	7.0		
7.5	7.5	7.5	7.5	7.5		
8.0	8.0	8.0	8.0	8.0		
8.5	8.5	8.5	8.5	8.5		
9.0	9.0	9.0	9.0	9.0		
9.5	9.5	9.5	9.5	9.5		
10.0	10.0	10.0	10.0	10.0		

<b>PROPORTIONS USED</b>	<b>MOISTURE</b>	<b>LEGEND:</b>	<b>COMMENTS:</b>
Trace <10%	Dry	NM = Not Measured	
Little 10-20%	Damp		
Some 20-35%	Moist		
And 35-50%	Wet		

**TEST PIT LOG**



<b>SITE:</b> Hope Mill, Hope, Rhode Island	<b>TEST PIT NO:</b> ESS-31C
<b>CLIENT:</b> Paramount Apartments, LLC	<b>DATE:</b> 4/1/2020
<b>EXCAV. CONTRACTOR:</b> Kenny Lavigne	<b>ESS INSPECTOR:</b> Craig Paradis and Margaret O'Brien
<b>EXCAVATION METHOD:</b> Back Hoe	<b>SURFACE ELEV:</b> NA
<b>WEATHER:</b> Cloudy, ~30's F°	<b>DEPTH TO WATER:</b> 4.25'

Depth (feet)	Sample Collected (depth)	Soil Headspace (ppmv)	Depth (feet)	Materials Description Moisture, Color, density, size, major and minor constituents	Depth (feet)	Notes	
0.5	ESS-31C (0'-3')	0.0	0.5	0.5' - Dry, dark brown FINE SAND, some medium sand and silt, little coarse sand, trace fine gravel	0.5		
1.0			1.0	0.5' - Dry, dark brown FINE SAND AND SILT, some medium to coarse sand, trace fine gravel	1.0		
1.5			1.5	2' - Dry, brown FINE TO MEDIUM SAND, some boulders, little coarse sand, fine to coarse gravel, silt, and cobbles, trace coal	1.5		
2.0	2.0		2.0				
2.5	2.5		2.5				
3.0	3.0		3.0				
3.5	ESS-31C (3'-4.25')		3.5	1.5' - Damp to wet, orange brown FINE TO MEDIUM SAND, some coarse sand, little silt and fine to coarse gravel	3.5		
4.0			4.0		4.0		
4.5			4.5	TERMINATION at 4.5'	4.5		▼ Water
5.0			5.0		5.0		
5.5			5.5		5.5		
6.0			6.0		6.0		
6.5			6.5		6.5		
7.0			7.0		7.0		
7.5			7.5		7.5		
8.0			8.0		8.0		
8.5			8.5		8.5		
9.0			9.0		9.0		
9.5			9.5		9.5		
10.0			10.0		10.0		

<b>PROPORTIONS USED</b>	<b>MOISTURE</b>	<b>LEGEND:</b>	<b>COMMENTS:</b>
Trace <10%	Dry	NM = Not Measured	
Little 10-20%	Damp		
Some 20-35%	Moist		
And 35-50%	Wet		



# TEST PIT LOG



<b>SITE:</b> Hope Mill, Hope, Rhode Island	<b>TEST PIT NO:</b> ESS-31D
<b>CLIENT:</b> Paramount Apartments, LLC	<b>DATE:</b> 4/1/2020
<b>EXCAV. CONTRACTOR:</b> Kenny Lavigne	<b>ESS INSPECTOR:</b> Craig Paradis and Margaret O'Brien
<b>EXCAVATION METHOD:</b> Back Hoe	<b>SURFACE ELEV:</b> NA
<b>WEATHER:</b> Cloudy, ~30's F°	<b>DEPTH TO WATER:</b> 4.5-4.75'

Depth (feet)	Sample Collected (depth)	Soil Headspace (ppmv)	Depth (feet)	Materials Description Moisture, Color, density, size, major and minor constituents	Depth (feet)	Notes
0.5	ESS-31D (0'-3')	0.0	0.5	1.5' - Dry, brown and gray FINE TO MEDIUM SAND, some coarse sand, little fine gravel and silt	0.5	Layer of bricks observed 1.5-2.5' bgs
1.0			1.0	1' - Dry, brown FINE SAND, some medium to coarse sand, some to little fine to coarse gravel, little silt, trace cobbles and bricks	1.5	
1.5			1.5		2.0	
2.0	ESS-31D (3'-4.5')	0.0	2.0	2.25' - Dry to wet, orange brown FINE SAND, some silt, little medium to coarse sand and fine to coarse gravel, trace cobbles and bricks	2.0	▼ Water
2.5			2.5		2.5	
3.0			3.0		3.0	
3.5			3.5		3.5	
4.0			4.0		4.0	
4.5			4.5		4.5	
5.0			5.0	TERMINATION at 4.75'	5.0	
5.5			5.5		5.5	
6.0			6.0		6.0	
6.5			6.5		6.5	
7.0			7.0		7.0	
7.5			7.5		7.5	
8.0			8.0		8.0	
8.5			8.5		8.5	
9.0			9.0		9.0	
9.5			9.5		9.5	
10.0			10.0		10.0	

<b>PROPORTIONS USED</b>	<b>MOISTURE</b>	<b>LEGEND:</b>	<b>COMMENTS:</b>
Trace <10%	Dry	NM = Not Measured	
Little 10-20%	Damp		
Some 20-35%	Moist		
And 35-50%	Wet		

**TEST PIT LOG**



<b>SITE:</b> Hope Mill, Hope, Rhode Island	<b>TEST PIT NO:</b> ESS-32A
<b>CLIENT:</b> Paramount Apartments, LLC	<b>DATE:</b> 4/1/2020
<b>EXCAV. CONTRACTOR:</b> Kenny Lavigne	<b>ESS INSPECTOR:</b> Craig Paradis and Margaret O'Brien
<b>EXCAVATION METHOD:</b> Back Hoe	<b>SURFACE ELEV:</b> NA
<b>WEATHER:</b> Cloudy, ~30's F°	<b>DEPTH TO WATER:</b> 3.75'

Depth (feet)	Sample Collected (depth)	Soil Headspace (ppmv)	Depth (feet)	Materials Description Moisture, Color, density, size, major and minor constituents	Depth (feet)	Notes
0.5	↑ ESS-32A (0'-3') ↓		0.5	0.75' - Dry, dark brown COARSE SAND, some medium sand and gravel, little fine sand and coarse gravel	0.5	
1.0			1.0	3.0' - Dry to moist, brown MEDIUM TO COARSE SAND, little fine to coarse gravel, cobbles, and fine sand, trace boulders and metal	1.0	
1.5			1.5		1.5	
2.0			2.0		2.0	
2.5			2.5		2.5	
3.0			3.0		3.0	
3.5			3.5		3.5	▼ Water
4.0			4.0	TERMINATION at 3.75'	4.0	
4.5			4.5		4.5	
5.0			5.0		5.0	
5.5			5.5		5.5	
6.0			6.0		6.0	
6.5			6.5		6.5	
7.0			7.0		7.0	
7.5			7.5		7.5	
8.0			8.0		8.0	
8.5			8.5		8.5	
9.0			9.0		9.0	
9.5			9.5		9.5	
10.0			10.0		10.0	

<b>PROPORTIONS USED</b>	<b>MOISTURE</b>	<b>LEGEND:</b>	<b>COMMENTS:</b>
Trace <10%	Dry	NM = Not Measured	
Little 10-20%	Damp		
Some 20-35%	Moist		
And 35-50%	Wet		

**TEST PIT LOG**



<b>SITE:</b> Hope Mill, Hope, Rhode Island	<b>TEST PIT NO:</b> ESS-33A
<b>CLIENT:</b> Paramount Apartments, LLC	<b>DATE:</b> 4/1/2020
<b>EXCAV. CONTRACTOR:</b> Kenny Lavigne	<b>ESS INSPECTOR:</b> Craig Paradis and Margaret O'Brien
<b>EXCAVATION METHOD:</b> Back Hoe	<b>SURFACE ELEV:</b> NA
<b>WEATHER:</b> Cloudy, ~30's F°	<b>DEPTH TO WATER:</b> NA

Depth (feet)	Sample Collected (depth)	Soil Headspace (ppmv)	Depth (feet)	Materials Description Moisture, Color, density, size, major and minor constituents	Depth (feet)	Notes
0.5	ESS-33A (0'-3')	0.0	0.5	1.0' - Dry, brown FINE SAND, some medium sand, little silt and fine to coarse gravel, trace coarse sand	0.5	
1.0			1.0	0.67' - Dry, dark brown and brown FINE TO MEDIUM SAND, some silt, trace coarse sand	1.0	
1.5			1.5	1.17' - Dry, orange FINE TO MEDIUM SAND, some silt, trace coarse sand, fine to coarse gravel, and cobbles	1.5	
2.0			2.0		2.0	
2.5			2.5		2.5	
3.0			3.0	0.25' - Dry, brown MEDIUM TO COARSE SAND, some fine to coarse gravel, little fine sand, trace cobbles	3.0	
3.5			3.5	TERMINATION at 3.1'	3.5	
4.0			4.0		4.0	
4.5			4.5		4.5	
5.0			5.0		5.0	
5.5			5.5		5.5	
6.0			6.0		6.0	
6.5			6.5		6.5	
7.0			7.0		7.0	
7.5			7.5		7.5	
8.0			8.0		8.0	
8.5			8.5		8.5	
9.0			9.0		9.0	
9.5			9.5		9.5	
10.0			10.0		10.0	

<b>PROPORTIONS USED</b>	<b>MOISTURE</b>	<b>LEGEND:</b>	<b>COMMENTS:</b>
Trace <10%	Dry	NM = Not Measured	
Little 10-20%	Damp		
Some 20-35%	Moist		
And 35-50%	Wet		

**TEST PIT LOG**



<b>SITE:</b> Hope Mill, Hope, Rhode Island	<b>TEST PIT NO:</b> ESS-34A
<b>CLIENT:</b> Paramount Apartments, LLC	<b>DATE:</b> 4/1/2020
<b>EXCAV. CONTRACTOR:</b> Kenny Lavigne	<b>ESS INSPECTOR:</b> Craig Paradis and Margaret O'Brien
<b>EXCAVATION METHOD:</b> Back Hoe	<b>SURFACE ELEV:</b> NA
<b>WEATHER:</b> Cloudy, ~30's F°	<b>DEPTH TO WATER:</b> NA

Depth (feet)	Sample Collected (depth)	Soil Headspace (ppmv)	Depth (feet)	Materials Description Moisture, Color, density, size, major and minor constituents	Depth (feet)	Notes
0.5	ESS-34A (0'-3')	0.0	0.5	1.0' - Dry, brown FINE TO MEDIUM SAND, some coarse sand and silt, some to little fine to coarse gravel, little cobbles	0.5	
1.0			1.0	2.0' - Dry, orange brown FINE TO MEDIUM SAND, some fine to coarse gravel, little coarse sand, silt, and cobbles, trace boulders	1.0	
1.5		1.5	2.0		2.0	
2.0		2.0	2.5	2.5		
2.5	0.0	3.0	3.0	0.25' - Dry, grayish brown MEDIUM AND FINE SAND, trace to little silt	3.0	
3.0			3.5	TERMINATION at 3.25'	3.5	
3.5			4.0		4.0	
4.0			4.5		4.5	
4.5			5.0		5.0	
5.0			5.5		5.5	
5.5			6.0		6.0	
6.0			6.5		6.5	
6.5			7.0		7.0	
7.0			7.5		7.5	
7.5			8.0		8.0	
8.0			8.5		8.5	
8.5			9.0		9.0	
9.0			9.5		9.5	
9.5			10.0		10.0	

<b>PROPORTIONS USED</b>	<b>MOISTURE</b>	<b>LEGEND:</b>	<b>COMMENTS:</b>
Trace <10%	Dry	NM = Not Measured	
Little 10-20%	Damp		
Some 20-35%	Moist		
And 35-50%	Wet		

<b>TEST PIT LOG</b> 	<b>SITE:</b> Hope Mill, Hope, Rhode Island	<b>TEST PIT NO:</b> ESS-35A
	<b>CLIENT:</b> Paramount Apartments, LLC	<b>DATE:</b> 4/1/2020
	<b>EXCAV. CONTRACTOR:</b> Kenny Lavigne	<b>ESS INSPECTOR:</b> Craig Paradis and Margaret O'Brien
	<b>EXCAVATION METHOD:</b> Back Hoe	<b>SURFACE ELEV:</b> NA
	<b>WEATHER:</b> Cloudy, ~30's F°	<b>DEPTH TO WATER:</b> NA

Depth (feet)	Sample Collected (depth)	Soil Headspace (ppmv)	Depth (feet)	Materials Description Moisture, Color, density, size, major and minor constituents	Depth (feet)	Notes
0.5	ESS-35A (0'-3')	0.0	0.5	1.0' - Moist, dark brown FINE TO COARSE SAND, some silt, little fine to coarse gravel, trace glass and metal ore	0.5	
1.0			1.0	1.0' - Dry, dark brown MEDIUM AND FINE SAND, some silt, little coarse sand, trace fine to coarse gravel, metal ore, and woody debris	1.0	
1.5		0.0	1.5		1.5	
2.0			2.0		2.0	
2.5			2.5	1.5' - Dry, orange brown to beige COARSE SAND AND FINE TO COARSE GRAVEL, little fine to medium sand, trace silt	2.5	
3.0			3.0		3.0	
3.5			3.5	TERMINATION at 3.5'	3.5	
4.0			4.0		4.0	
4.5			4.5		4.5	
5.0			5.0		5.0	
5.5			5.5		5.5	
6.0			6.0		6.0	
6.5			6.5		6.5	
7.0			7.0		7.0	
7.5			7.5		7.5	
8.0			8.0		8.0	
8.5			8.5		8.5	
9.0			9.0		9.0	
9.5			9.5		9.5	
10.0			10.0		10.0	

<b>PROPORTIONS USED</b>	<b>MOISTURE</b>	<b>LEGEND:</b>	<b>COMMENTS:</b>
Trace <10%	Dry	NM = Not Measured	
Little 10-20%	Damp		
Some 20-35%	Moist		
And 35-50%	Wet		

**TEST PIT LOG**



<b>SITE:</b> Hope Mill, Hope, Rhode Island	<b>TEST PIT NO:</b> ESS-48
<b>CLIENT:</b> Paramount Apartments, LLC	<b>DATE:</b> 4/2/2020
<b>EXCAV. CONTRACTOR:</b> Kenny Lavigne	<b>ESS INSPECTOR:</b> Craig Paradis and Margaret O'Brien
<b>EXCAVATION METHOD:</b> Back Hoe	<b>SURFACE ELEV:</b> NA
<b>WEATHER:</b> Cloudy, ~40's F°	<b>DEPTH TO WATER:</b> 10.5'

Depth (feet)	Sample Collected (depth)	Soil Headspace (ppmv)	Depth (feet)	Materials Description Moisture, Color, density, size, major and minor constituents	Depth (feet)	Notes
0.5	ESS-48 (0'-4')	0.0	0.5	0.33' - Dry, dark brown FINE TO MEDIUM SAND, some to little silt, fine to coarse gravel, and coarse sand	0.5	
1.0			1.0	0.66' - Dry, brown FINE TO MEDIUM SAND, some coarse sand, little fine to coarse gravel	1.0	
1.5			1.5	0.25' - Dry, gray FINE SAND AND SILT	1.5	
2.0			2.0	5.75' - Dry, gray, brown, dark brown, and white FINE TO MEDIUM SAND, little coarse sand, fine to coarse gravel, and cobbles	2.0	
2.5		2.5		2.5		
3.0		3.0		3.0		
3.5		3.5		3.5		
4.0		4.0		4.0		
4.5		4.5		4.5		
5.0		5.0		5.0		
5.5		5.5		5.5		
6.0		6.0		6.0		
6.5		6.5		6.5		
7.0		7.0		7.0		
7.5		7.5	3.5' - Dry, to moist light gray FINE TO MEDIUM SAND, little coarse sand, trace silt	7.5		
8.0		8.0		8.0		
8.5		8.5		8.5		
9.0		9.0		9.0		
9.5		9.5		9.5		
10.0		10.0		10.0		
10.5		10.5	TERMINATION at 10.5'	10.5	▼ Water	

<b>PROPORTIONS USED</b>	<b>MOISTURE</b>	<b>LEGEND:</b>	<b>COMMENTS:</b>
Trace <10%	Dry	NM = Not Measured	
Little 10-20%	Damp		
Some 20-35%	Moist		
And 35-50%	Wet		

**TEST PIT LOG**



<b>SITE:</b> Hope Mill, Hope, Rhode Island	<b>TEST PIT NO:</b> ESS-50
<b>CLIENT:</b> Paramount Apartments, LLC	<b>DATE:</b> 4/2/2020
<b>EXCAV. CONTRACTOR:</b> Kenny Lavigne	<b>ESS INSPECTOR:</b> Craig Paradis and Margaret O'Brien
<b>EXCAVATION METHOD:</b> Back Hoe	<b>SURFACE ELEV:</b> NA
<b>WEATHER:</b> Cloudy, ~40's F°	<b>DEPTH TO WATER:</b> 9.5'

Depth (feet)	Sample Collected (depth)	Soil Headspace (ppmv)	Depth (feet)	Materials Description Moisture, Color, density, size, major and minor constituents	Depth (feet)	Notes
0.5	ESS-50 (0'-4')	0.0	0.5	1.0' - Dry, dark brown FINE TO MEDIUM SAND, some silt, little coarse sand and fine to coarse gravel	0.5	
1.0			1.0	1.5' - Dry, yellow brown FINE TO MEDIUM SAND, some coarse sand, little fine to coarse gravel, trace cobbles	1.0	
1.5			1.5		2.0	
2.0	2.0	0.0	2.5	6.5' - Dry to moist, orange brown FINE TO MEDIUM SAND, little coarse sand and fine to coarse gravel, trace silt and cobbles	2.5	
2.5	2.5		3.0			
3.0	3.0		3.5			
3.5	ESS-50 (4'-8')	0.0	3.5	TERMINATION at 9.5'	3.5	
4.0			4.0		4.0	
4.5			4.5		4.5	
5.0			5.0		5.0	
5.5			5.5		5.5	
6.0	6.0	0.0	6.0	0.5' - Wet, red brown COARSE SAND, some fine to medium sand, little fine to coarse gravel, trace silt	6.0	
6.5	6.5		6.5			
7.0	7.0		7.0			
7.5	7.5	0.0	7.5	TERMINATION at 9.5'	7.5	
8.0	8.0		8.0			
8.5	8.5	0.0	8.5	TERMINATION at 9.5'	8.5	
9.0	9.0		9.0			
9.5	9.5	0.0	9.5	TERMINATION at 9.5'	9.5	▼ Water
10.0	10.0		10.0			

<b>PROPORTIONS USED</b>	<b>MOISTURE</b>	<b>LEGEND:</b>	<b>COMMENTS:</b>
Trace <10%	Dry	NM = Not Measured	
Little 10-20%	Damp		
Some 20-35%	Moist		
And 35-50%	Wet		

**TEST PIT LOG**



<b>SITE:</b> Hope Mill, Hope, Rhode Island	<b>TEST PIT NO:</b> ESS-57A
<b>CLIENT:</b> Paramount Apartments, LLC	<b>DATE:</b> 4/2/2020
<b>EXCAV. CONTRACTOR:</b> Kenny Lavigne	<b>ESS INSPECTOR:</b> Craig Paradis and Margaret O'Brien
<b>EXCAVATION METHOD:</b> Back Hoe	<b>SURFACE ELEV:</b> NA
<b>WEATHER:</b> Cloudy, ~40's F°	<b>DEPTH TO WATER:</b> 9.0'

Depth (feet)	Sample Collected (depth)	Soil Headspace (ppmv)	Depth (feet)	Materials Description Moisture, Color, density, size, major and minor constituents	Depth (feet)	Notes
0.5	ESS-57A (0'-3')		0.5	0.5' - Dry, brown FINE SAND AND SILT (LOAM), little to trace fine gravel	0.5	
1.0			1.0	1.4' - Dry, orange brown FINE TO MEDIUM SAND, some fine to coarse gravel, cobbles, and boulders, little silt	1.0	
1.5		1.5		1.5		
2.0		2.0		2.0		
2.5		2.5	0.75' - Dry, yellowish brown FINE TO MEDIUM SAND AND COARSE SAND, some fine to coarse gravel, cobbles, and boulders, trace silt	2.5		
3.0		3.0	5.8' - Dry, brown MEDIUM TO COARSE SAND, and to some fine to coarse gravel and cobbles, some boulders, trace silt	3.0		
3.5	ESS-57A (3'-5')	0.0	3.5		3.5	
4.0			4.0		4.0	
4.5		4.5		4.5		
5.0		5.0		5.0		
5.5	ESS-57A (5'-9')	0.0	5.5		5.5	
6.0			6.0		6.0	
6.5			6.5		6.5	
7.0			7.0		7.0	
7.5			7.5		7.5	
8.0		8.0		8.0		
8.5		8.5		8.5		
9.0		9.0	0.5' - Moist, gray brown MEDIUM TO COARSE SAND, some fine to coarse gravel, some to little cobbles, little to trace boulders	9.0	▼ Water	
9.5		9.5	TERMINATION at 9.0'	9.5		
10.0		10.0		10.0		

<b>PROPORTIONS USED</b>	<b>MOISTURE</b>	<b>LEGEND:</b>	<b>COMMENTS:</b>
Trace <10%	Dry	NM = Not Measured	
Little 10-20%	Damp		
Some 20-35%	Moist		
And 35-50%	Wet		



**TEST PIT LOG**



<b>SITE:</b> Hope Mill, Hope, Rhode Island	<b>TEST PIT NO:</b> ESS-57B
<b>CLIENT:</b> Paramount Apartments, LLC	<b>DATE:</b> 4/2/2020
<b>EXCAV. CONTRACTOR:</b> Kenny Lavigne	<b>ESS INSPECTOR:</b> Craig Paradis and Margaret O'Brien
<b>EXCAVATION METHOD:</b> Back Hoe	<b>SURFACE ELEV:</b> NA
<b>WEATHER:</b> Cloudy, ~40's F°	<b>DEPTH TO WATER:</b> 8.0'

Depth (feet)	Sample Collected (depth)	Soil Headspace (ppmv)	Depth (feet)	Materials Description Moisture, Color, density, size, major and minor constituents	Depth (feet)	Notes
0.5	ESS-57B (0'-3')	0.0	0.5	0.5' - Dry, brown FINE TO MEDIUM SAND, some fine to coarse gravel, little coarse sand, trace silt	0.5	
1.0			1.0	0.67' - Dry, orange FINE TO MEDIUM SAND, little coarse sand and fine to coarse gravel, trace silt	1.0	
1.5			1.5	6.83' - Dry to moist, orange and beige MEDIUM TO COARSE SAND, some fine to coarse gravel, little cobbles, fine sand, trace boulders	1.5	
2.0	2.0	0.0	2.0	2.0		
2.5	2.5		2.5	2.5		
3.0	3.0		3.0	3.0		
3.5	ESS-57B (3'-5')	0.0	3.5	3.5	3.5	
4.0			4.0	4.0	4.0	
4.5			4.5	4.5	4.5	
5.0	ESS-57B (5'-8')	0.0	5.0	5.0	5.0	
5.5			5.5	5.5	5.5	
6.0			6.0	6.0	6.0	
6.5			6.5	6.5	6.5	
7.0			7.0	7.0	7.0	
7.5	7.5	7.5	7.5	7.5		
8.0	8.0	8.0	8.0	8.0	▼ Water	
8.5			8.5	0.5' - Wet, olive brown COARSE SAND, some medium sand, fine to coarse gravel, some to little cobble, trace fine sand, silt, and boulders	8.5	
9.0			9.0	TERMINATION at 8.5'	9.0	
9.5			9.5		9.5	
10.0			10.0		10.0	

<b>PROPORTIONS USED</b>	<b>MOISTURE</b>	<b>LEGEND:</b>	<b>COMMENTS:</b>
Trace <10%	Dry	NM = Not Measured	
Little 10-20%	Damp		
Some 20-35%	Moist		
And 35-50%	Wet		

# TEST PIT LOG



<b>SITE:</b> Hope Mill, Hope, Rhode Island	<b>TEST PIT NO:</b> ESS-57C
<b>CLIENT:</b> Paramount Apartments, LLC	<b>DATE:</b> 4/2/2020
<b>EXCAV. CONTRACTOR:</b> Kenny Lavigne	<b>ESS INSPECTOR:</b> Craig Paradis and Margaret O'Brien
<b>EXCAVATION METHOD:</b> Back Hoe	<b>SURFACE ELEV:</b> NA
<b>WEATHER:</b> Cloudy, ~40's F°	<b>DEPTH TO WATER:</b> 8.0'

Depth (feet)	Sample Collected (depth)	Soil Headspace (ppmv)	Depth (feet)	Materials Description Moisture, Color, density, size, major and minor constituents	Depth (feet)	Notes
0.5	ESS-57C (0'-3')	0.0	0.5	0.5' - Dry, FINE SAND AND SILT (LOAM), little to trace fine gravel	0.5	
1.0			1.0	1.5' - Dry, orange brown FINE TO MEDIUM SAND, some fine to coarse gravel, cobbles, and boulders, little silt	1.0	
1.5			1.5		1.5	
2.0	2.0		2.0			
2.5			2.5	6.0' - Dry to moist, yellow brown FINE TO MEDIUM SAND AND COARSE SAND, some fine to coarse gravel, cobbles, and boulders, trace silt	2.5	
3.0			3.0		3.0	
3.5	ESS-57C (3'-5')	0.0	3.5		3.5	
4.0			4.0		4.0	
4.5			4.5		4.5	
5.0			5.0		5.0	
5.5	ESS-57C (5'-8')	0.0	5.5		5.5	
6.0			6.0		6.0	
6.5			6.5		6.5	
7.0			7.0		7.0	
7.5			7.5		7.5	
8.0			8.0	TERMINATION at 8.0'	8.0	▼ Water
8.5			8.5		8.5	
9.0			9.0		9.0	
9.5			9.5		9.5	
10.0			10.0		10.0	

<b>PROPORTIONS USED</b>	<b>MOISTURE</b>	<b>LEGEND:</b>	<b>COMMENTS:</b>
Trace <10%	Dry	NM = Not Measured	
Little 10-20%	Damp		
Some 20-35%	Moist		
And 35-50%	Wet		

**TEST PIT LOG**



<b>SITE:</b> Hope Mill, Hope, Rhode Island	<b>TEST PIT NO:</b> ESS-57D
<b>CLIENT:</b> Paramount Apartments, LLC	<b>DATE:</b> 4/2/2020
<b>EXCAV. CONTRACTOR:</b> Kenny Lavigne	<b>ESS INSPECTOR:</b> Craig Paradis and Margaret O'Brien
<b>EXCAVATION METHOD:</b> Back Hoe	<b>SURFACE ELEV:</b> NA
<b>WEATHER:</b> Cloudy, ~40's F°	<b>DEPTH TO WATER:</b> 9.0'

Depth (feet)	Sample Collected (depth)	Soil Headspace (ppmv)	Depth (feet)	Materials Description Moisture, Color, density, size, major and minor constituents	Depth (feet)	Notes
0.5	ESS-57D (0'-3')	0.0	0.5	0.5' - Dry, brown FINE SAND, some medium sand, little coarse sand, silt, and fine to coarse gravel	0.5	
1.0			1.0	1.0' - Dry, orange FINE TO MEDIUM SAND, little coarse sand, trace silt	1.0	
1.5			1.5	1.5' - Dry, yellow brown FINE TO MEDIUM SAND AND COARSE SAND, some fine to coarse gravel, little cobbles, trace boulders	1.5	
2.0	2.0	2.0				
2.5	2.5	2.5				
3.0	ESS-57D (3'-5')	0.0	3.0	6.0' - Dry, yellow brown MEDIUM TO COARSE SAND, some fine to coarse gravel, little cobbles and fine sand, trace boulders	3.0	
3.5			3.5		3.5	
4.0			4.0		4.0	
4.5	ESS-57D (5'-9')	0.0	4.5	TERMINATION at 9.0'	4.5	
5.0			5.0		5.0	
5.5			5.5		5.5	
6.0			6.0		6.0	
6.5			6.5		6.5	
7.0			7.0		7.0	
7.5	7.5	7.5				
8.0	8.0	8.0				
8.5	8.5	8.5				
9.0	9.0	9.0				
9.5	9.5	9.5				
10.0	10.0	10.0				

<b>PROPORTIONS USED</b>	<b>MOISTURE</b>	<b>LEGEND:</b>	<b>COMMENTS:</b>
Trace <10%	Dry	NM = Not Measured	
Little 10-20%	Damp		
Some 20-35%	Moist		
And 35-50%	Wet		

**TEST PIT LOG**



<b>SITE:</b> Hope Mill, Hope, Rhode Island	<b>TEST PIT NO:</b> ESS-58
<b>CLIENT:</b> Paramount Apartments, LLC	<b>DATE:</b> 4/1/2020
<b>EXCAV. CONTRACTOR:</b> Kenny Lavigne	<b>ESS INSPECTOR:</b> Craig Paradis and Margaret O'Brien
<b>EXCAVATION METHOD:</b> Back Hoe	<b>SURFACE ELEV:</b> NA
<b>WEATHER:</b> Cloudy, ~40's F°	<b>DEPTH TO WATER:</b> 10.5'

Depth (feet)	Sample Collected (depth)	Soil Headspace (ppmv)	Depth (feet)	Materials Description Moisture, Color, density, size, major and minor constituents	Depth (feet)	Notes
0.5	ESS-58 (0'-3')		0.5	1.83' - Dry, dark brown SILT (LOAM) AND FINE SAND, trace fine to coarse gravel and metal ore	0.5	
1.0		0.0	1.0		1.0	
1.5			1.5		1.5	
2.0		2.0	0.16' - Dry, yellow brown MEDIUM TO COARSE SAND, some fine sand and fine gravel, trace coarse gravel and cobbles	2.0		
2.5	0.0	2.5	1.25' - Dry, orange brown FINE SAND AND SILT, trace fine gravel	2.5		
3.0		3.0		3.0		
3.5	ESS-58 (3'-7.5')		3.5	7.25' - Damp to wet, olive brown FINE AND MEDIUM SAND, trace coarse sand, fine to coarse gravel, and cobbles	3.5	
4.0			4.0		4.0	
4.5			4.5		4.5	
5.0		0.0	5.0		5.0	
5.5			5.5		5.5	
6.0		6.0		6.0		
6.5		6.5		6.5		
7.0		7.0		7.0		
7.5		7.5		7.5		
8.0		8.0		8.0		
8.5		8.5		8.5		
9.0		9.0		9.0		
9.5		9.5		9.5		
10.0		10.0		10.0		
10.5		10.5		TERMINATION at 10.5'	10.5	▼ Water

<b>PROPORTIONS USED</b>	<b>MOISTURE</b>	<b>LEGEND:</b>	<b>COMMENTS:</b>
Trace <10%	Dry	NM = Not Measured	
Little 10-20%	Damp		
Some 20-35%	Moist		
And 35-50%	Wet		

**TEST PIT LOG**



<b>SITE:</b> Hope Mill, Hope, Rhode Island	<b>TEST PIT NO:</b> ESS-59
<b>CLIENT:</b> Paramount Apartments, LLC	<b>DATE:</b> 4/2/2020
<b>EXCAV. CONTRACTOR:</b> Kenny Lavigne	<b>ESS INSPECTOR:</b> Craig Paradis and Margaret O'Brien
<b>EXCAVATION METHOD:</b> Back Hoe	<b>SURFACE ELEV:</b> NA
<b>WEATHER:</b> Cloudy, ~40's F°	<b>DEPTH TO WATER:</b> NA

Depth (feet)	Sample Collected (depth)	Soil Headspace (ppmv)	Depth (feet)	Materials Description Moisture, Color, density, size, major and minor constituents	Depth (feet)	Notes
0.5	ESS-59 (0'-3')	0.0	0.5	0.5' - Dry, dark brown FINE SAND AND SILT, little medium to coarse sand	0.5	
1.0			1.0	1.0' - Dry, brown FINE SAND, little silt and medium to coarse sand, trace fine gravel	1.0	
1.5			1.5	6.5' - Dry, brown MEDIUM TO COARSE SAND, some fine to coarse gravel, little fine to medium sand and cobbles, trace boulders	1.5	
2.0	2.0		2.0			
2.5	2.5		2.5			
3.0	3.0		3.0			
3.5	3.5		3.5			
4.0	4.0		4.0			
4.5	4.5		4.5			
5.0	5.0	0.0	5.0		5.0	
5.5	5.5		5.5		5.5	
6.0	6.0		6.0		6.0	
6.5	6.5		6.5		6.5	
7.0	7.0		7.0		7.0	
7.5	7.5		7.5		7.5	
8.0	8.0		8.0	TERMINATION at 8.0'	8.0	
8.5	8.5		8.5		8.5	
9.0	9.0		9.0		9.0	
9.5	9.5		9.5		9.5	
10.0	10.0		10.0		10.0	

<b>PROPORTIONS USED</b>	<b>MOISTURE</b>	<b>LEGEND:</b>	<b>COMMENTS:</b>
Trace <10%	Dry	NM = Not Measured	
Little 10-20%	Damp		
Some 20-35%	Moist		
And 35-50%	Wet		

**TEST PIT LOG**



<b>SITE:</b> Hope Mill, Hope, Rhode Island	<b>TEST PIT NO:</b> ESS-60
<b>CLIENT:</b> Paramount Apartments, LLC	<b>DATE:</b> 4/2/2020
<b>EXCAV. CONTRACTOR:</b> Kenny Lavigne	<b>ESS INSPECTOR:</b> Craig Paradis and Margaret O'Brien
<b>EXCAVATION METHOD:</b> Back Hoe	<b>SURFACE ELEV:</b> NA
<b>WEATHER:</b> Cloudy, ~40's F°	<b>DEPTH TO WATER:</b> 9.5'

Depth (feet)	Sample Collected (depth)	Soil Headspace (ppmv)	Depth (feet)	Materials Description Moisture, Color, density, size, major and minor constituents	Depth (feet)	Notes
0.5	ESS-60 (0'-4')	0.0	0.5	0.75' - Dry, dark brown FINE TO MEDIUM SAND, some to little silt, little coarse sand and fine to coarse gravel	0.5	
1.0			1.0	1.75' - Dry, brown, gray, and dark brown FINE TO MEDIUM SAND, little coarse sand and fine to coarse gravel, trace silt, cobbles, metal, and glass	1.0	
1.5			1.5		1.5	
2.0			2.0		2.0	
2.5	2.5		2.5			
3.0	3.0		4.0' - Dry, orange FINE TO MEDIUM SAND, little coarse sand, trace silt	3.0		
3.5	3.5		3.5			
4.0	4.0	0.0	4.0		4.0	
4.5			4.5		4.5	
5.0			5.0		5.0	
5.5			5.5		5.5	
6.0		0.0	6.0		6.0	
6.5			6.5		6.5	
7.0			7.0	1.5' - Dry brown COARSE SAND, some fine to medium sand, trace fine to coarse gravel	7.0	
7.5			7.5		7.5	
8.0			8.0		8.0	
8.5			8.5	1.5' - Moist brown MEDIUM TO COARSE SAND, some fine sand, little fine to coarse gravel	8.5	
9.0			9.0		9.0	
9.5			9.5	TERMINATION at 9.5'	9.5	▼ Water
10.0			10.0		10.0	

<b>PROPORTIONS USED</b>	<b>MOISTURE</b>	<b>LEGEND:</b>	<b>COMMENTS:</b>
Trace <10%	Dry	NM = Not Measured	
Little 10-20%	Damp		
Some 20-35%	Moist		
And 35-50%	Wet		



## ANALYTICAL REPORT

Lab Number:	L1601312
Client:	ESS Group, Inc. 100 Fifth Avenue 5th Floor Waltham, MA 02451
ATTN:	Craig Paradis
Phone:	(781) 419-7714
Project Name:	HOPE MILL
Project Number:	P312-001
Report Date:	01/21/16

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Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), VA (460195), MD (348), IL (200077), NC (666), TX (T104704476), DOD (L2217), USDA (Permit #P-330-11-00240).

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Eight Walkup Drive, Westborough, MA 01581-1019  
508-898-9220 (Fax) 508-898-9193 800-624-9220 - [www.alphalab.com](http://www.alphalab.com)



**Project Name:** HOPE MILL  
**Project Number:** P312-001

**Lab Number:** L1601312  
**Report Date:** 01/21/16

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1601312-01	ESSTP-19	SOIL	1 MILL ST., SCITUATE, RI	01/14/16 12:05	01/15/16
L1601312-02	ESSTP-21	SOIL	1 MILL ST., SCITUATE, RI	01/14/16 14:40	01/15/16
L1601312-03	ESSTP-22	SOIL	1 MILL ST., SCITUATE, RI	01/14/16 13:45	01/15/16
L1601312-04	ESSTP-19	SOIL	1 MILL ST., SCITUATE, RI	01/14/16 12:08	01/15/16
L1601312-05	ESSTP-21	SOIL	1 MILL ST., SCITUATE, RI	01/14/16 14:42	01/15/16
L1601312-06	ESSTP-22	SOIL	1 MILL ST., SCITUATE, RI	01/14/16 13:47	01/15/16
L1601312-07	ESSTP-22	SOIL	1 MILL ST., SCITUATE, RI	01/14/16 13:50	01/15/16
L1601312-08	FW-1	SOIL	1 MILL ST., SCITUATE, RI	01/14/16 13:10	01/15/16
L1601312-09	FW-2	SOIL	1 MILL ST., SCITUATE, RI	01/14/16 13:25	01/15/16
L1601312-10	FW-3	SOIL	1 MILL ST., SCITUATE, RI	01/14/16 13:20	01/15/16
L1601312-11	FW-4	SOIL	1 MILL ST., SCITUATE, RI	01/14/16 12:20	01/15/16
L1601312-12	FW-5	SOIL	1 MILL ST., SCITUATE, RI	01/14/16 12:30	01/15/16
L1601312-13	FW-6	SOIL	1 MILL ST., SCITUATE, RI	01/14/16 12:50	01/15/16
L1601312-14	FW-8	SOIL	1 MILL ST., SCITUATE, RI	01/14/16 12:45	01/15/16
L1601312-15	ESS-27	SOIL	1 MILL ST., SCITUATE, RI	01/14/16 14:30	01/15/16
L1601312-16	ESS-28	SOIL	1 MILL ST., SCITUATE, RI	01/14/16 14:35	01/15/16
L1601312-17	FW-7	SOIL	1 MILL ST., SCITUATE, RI	01/14/16 12:40	01/15/16



**Project Name:** HOPE MILL**Lab Number:** L1601312**Project Number:** P312-001**Report Date:** 01/21/16

### Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

#### HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

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**Project Name:** HOPE MILL  
**Project Number:** P312-001

**Lab Number:** L1601312  
**Report Date:** 01/21/16

### Case Narrative (continued)

#### Petroleum Hydrocarbon Quantitation

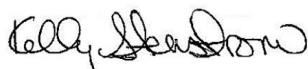
The WG858393-3 Laboratory Duplicate RPD (45%), performed on L1601312-07, is outside the acceptance criteria. The elevated RPD has been attributed to the non-homogeneous nature of the native sample.

#### Cyanide, Total

The WG857832-2 LCS recovery (76%), associated with L1601312-01, -02, and -03, is below our in-house acceptance criteria, but within the vendor-certified acceptance limits. The results of the original analyses are reported.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:

 Kelly Stenstrom

Title: Technical Director/Representative

Date: 01/21/16

# ORGANICS

# VOLATILES

Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

## SAMPLE RESULTS

Lab ID: L1601312-04  
 Client ID: ESSTP-19  
 Sample Location: 1 MILL ST., SCITUATE, RI  
 Matrix: Soil  
 Analytical Method: 1,8260C  
 Analytical Date: 01/21/16 11:23  
 Analyst: BN  
 Percent Solids: 92%

Date Collected: 01/14/16 12:08  
 Date Received: 01/15/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS-5035 - Westborough Lab</b>						
Methylene chloride	ND		ug/kg	8.7	--	1
1,1-Dichloroethane	ND		ug/kg	1.3	--	1
Chloroform	ND		ug/kg	1.3	--	1
Carbon tetrachloride	ND		ug/kg	0.87	--	1
1,2-Dichloropropane	ND		ug/kg	3.1	--	1
Dibromochloromethane	ND		ug/kg	0.87	--	1
1,1,2-Trichloroethane	ND		ug/kg	1.3	--	1
Tetrachloroethene	ND		ug/kg	0.87	--	1
Chlorobenzene	ND		ug/kg	0.87	--	1
Trichlorofluoromethane	ND		ug/kg	4.4	--	1
1,2-Dichloroethane	ND		ug/kg	0.87	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.87	--	1
Bromodichloromethane	ND		ug/kg	0.87	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.87	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.87	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.87	--	1
1,1-Dichloropropene	ND		ug/kg	4.4	--	1
Bromoform	ND		ug/kg	3.5	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.87	--	1
Benzene	ND		ug/kg	0.87	--	1
Toluene	ND		ug/kg	1.3	--	1
Ethylbenzene	ND		ug/kg	0.87	--	1
Chloromethane	ND		ug/kg	4.4	--	1
Bromomethane	ND		ug/kg	1.7	--	1
Vinyl chloride	ND		ug/kg	1.7	--	1
Chloroethane	ND		ug/kg	1.7	--	1
1,1-Dichloroethene	ND		ug/kg	0.87	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.3	--	1
Trichloroethene	ND		ug/kg	0.87	--	1
1,2-Dichlorobenzene	ND		ug/kg	4.4	--	1

Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

## SAMPLE RESULTS

Lab ID: L1601312-04

Date Collected: 01/14/16 12:08

Client ID: ESSTP-19

Date Received: 01/15/16

Sample Location: 1 MILL ST., SCITUATE, RI

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS-5035 - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	4.4	--	1
1,4-Dichlorobenzene	ND		ug/kg	4.4	--	1
Methyl tert butyl ether	ND		ug/kg	1.7	--	1
p/m-Xylene	ND		ug/kg	1.7	--	1
o-Xylene	ND		ug/kg	1.7	--	1
Xylenes, Total	ND		ug/kg	1.7	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.87	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.87	--	1
Dibromomethane	ND		ug/kg	8.7	--	1
1,4-Dichlorobutane	ND		ug/kg	8.7	--	1
1,2,3-Trichloropropane	ND		ug/kg	8.7	--	1
Styrene	ND		ug/kg	1.7	--	1
Dichlorodifluoromethane	ND		ug/kg	8.7	--	1
Acetone	ND		ug/kg	31	--	1
Carbon disulfide	ND		ug/kg	8.7	--	1
2-Butanone	ND		ug/kg	8.7	--	1
Vinyl acetate	ND		ug/kg	8.7	--	1
4-Methyl-2-pentanone	ND		ug/kg	8.7	--	1
2-Hexanone	ND		ug/kg	8.7	--	1
Ethyl methacrylate	ND		ug/kg	8.7	--	1
Acrylonitrile	ND		ug/kg	3.5	--	1
Bromochloromethane	ND		ug/kg	4.4	--	1
Tetrahydrofuran	ND		ug/kg	17	--	1
2,2-Dichloropropane	ND		ug/kg	4.4	--	1
1,2-Dibromoethane	ND		ug/kg	3.5	--	1
1,3-Dichloropropane	ND		ug/kg	4.4	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.87	--	1
Bromobenzene	ND		ug/kg	4.4	--	1
n-Butylbenzene	ND		ug/kg	0.87	--	1
sec-Butylbenzene	ND		ug/kg	0.87	--	1
tert-Butylbenzene	ND		ug/kg	4.4	--	1
o-Chlorotoluene	ND		ug/kg	4.4	--	1
p-Chlorotoluene	ND		ug/kg	4.4	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	4.4	--	1
Hexachlorobutadiene	ND		ug/kg	4.4	--	1
Isopropylbenzene	ND		ug/kg	0.87	--	1
p-Isopropyltoluene	ND		ug/kg	0.87	--	1
Naphthalene	ND		ug/kg	4.4	--	1
n-Propylbenzene	ND		ug/kg	0.87	--	1

**Project Name:** HOPE MILL  
**Project Number:** P312-001

**Lab Number:** L1601312  
**Report Date:** 01/21/16

**SAMPLE RESULTS**

**Lab ID:** L1601312-04  
**Client ID:** ESSTP-19  
**Sample Location:** 1 MILL ST., SCITUATE, RI

**Date Collected:** 01/14/16 12:08  
**Date Received:** 01/15/16  
**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Volatile Organics by GC/MS-5035 - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	4.4	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	4.4	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	4.4	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	4.4	--	1
trans-1,4-Dichloro-2-butene	ND		ug/kg	4.4	--	1
Ethyl ether	ND		ug/kg	4.4	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	121		70-130
Toluene-d8	106		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	100		70-130

Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

## SAMPLE RESULTS

Lab ID: L1601312-05  
 Client ID: ESSTP-21  
 Sample Location: 1 MILL ST., SCITUATE, RI  
 Matrix: Soil  
 Analytical Method: 1,8260C  
 Analytical Date: 01/21/16 11:49  
 Analyst: BN  
 Percent Solids: 93%

Date Collected: 01/14/16 14:42  
 Date Received: 01/15/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS-5035 - Westborough Lab</b>						
Methylene chloride	ND		ug/kg	7.0	--	1
1,1-Dichloroethane	ND		ug/kg	1.0	--	1
Chloroform	ND		ug/kg	1.0	--	1
Carbon tetrachloride	ND		ug/kg	0.70	--	1
1,2-Dichloropropane	ND		ug/kg	2.4	--	1
Dibromochloromethane	ND		ug/kg	0.70	--	1
1,1,2-Trichloroethane	ND		ug/kg	1.0	--	1
Tetrachloroethene	ND		ug/kg	0.70	--	1
Chlorobenzene	ND		ug/kg	0.70	--	1
Trichlorofluoromethane	ND		ug/kg	3.5	--	1
1,2-Dichloroethane	ND		ug/kg	0.70	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.70	--	1
Bromodichloromethane	ND		ug/kg	0.70	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.70	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.70	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.70	--	1
1,1-Dichloropropene	ND		ug/kg	3.5	--	1
Bromoform	ND		ug/kg	2.8	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.70	--	1
Benzene	ND		ug/kg	0.70	--	1
Toluene	ND		ug/kg	1.0	--	1
Ethylbenzene	ND		ug/kg	0.70	--	1
Chloromethane	ND		ug/kg	3.5	--	1
Bromomethane	ND		ug/kg	1.4	--	1
Vinyl chloride	ND		ug/kg	1.4	--	1
Chloroethane	ND		ug/kg	1.4	--	1
1,1-Dichloroethene	ND		ug/kg	0.70	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.0	--	1
Trichloroethene	ND		ug/kg	0.70	--	1
1,2-Dichlorobenzene	ND		ug/kg	3.5	--	1



Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

## SAMPLE RESULTS

Lab ID: L1601312-05

Date Collected: 01/14/16 14:42

Client ID: ESSTP-21

Date Received: 01/15/16

Sample Location: 1 MILL ST., SCITUATE, RI

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS-5035 - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	3.5	--	1
1,4-Dichlorobenzene	ND		ug/kg	3.5	--	1
Methyl tert butyl ether	ND		ug/kg	1.4	--	1
p/m-Xylene	ND		ug/kg	1.4	--	1
o-Xylene	ND		ug/kg	1.4	--	1
Xylenes, Total	ND		ug/kg	1.4	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.70	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.70	--	1
Dibromomethane	ND		ug/kg	7.0	--	1
1,4-Dichlorobutane	ND		ug/kg	7.0	--	1
1,2,3-Trichloropropane	ND		ug/kg	7.0	--	1
Styrene	ND		ug/kg	1.4	--	1
Dichlorodifluoromethane	ND		ug/kg	7.0	--	1
Acetone	ND		ug/kg	25	--	1
Carbon disulfide	ND		ug/kg	7.0	--	1
2-Butanone	ND		ug/kg	7.0	--	1
Vinyl acetate	ND		ug/kg	7.0	--	1
4-Methyl-2-pentanone	ND		ug/kg	7.0	--	1
2-Hexanone	ND		ug/kg	7.0	--	1
Ethyl methacrylate	ND		ug/kg	7.0	--	1
Acrylonitrile	ND		ug/kg	2.8	--	1
Bromochloromethane	ND		ug/kg	3.5	--	1
Tetrahydrofuran	ND		ug/kg	14	--	1
2,2-Dichloropropane	ND		ug/kg	3.5	--	1
1,2-Dibromoethane	ND		ug/kg	2.8	--	1
1,3-Dichloropropane	ND		ug/kg	3.5	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.70	--	1
Bromobenzene	ND		ug/kg	3.5	--	1
n-Butylbenzene	ND		ug/kg	0.70	--	1
sec-Butylbenzene	ND		ug/kg	0.70	--	1
tert-Butylbenzene	ND		ug/kg	3.5	--	1
o-Chlorotoluene	ND		ug/kg	3.5	--	1
p-Chlorotoluene	ND		ug/kg	3.5	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.5	--	1
Hexachlorobutadiene	ND		ug/kg	3.5	--	1
Isopropylbenzene	ND		ug/kg	0.70	--	1
p-Isopropyltoluene	ND		ug/kg	0.70	--	1
Naphthalene	ND		ug/kg	3.5	--	1
n-Propylbenzene	ND		ug/kg	0.70	--	1

Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

## SAMPLE RESULTS

Lab ID: L1601312-05

Date Collected: 01/14/16 14:42

Client ID: ESSTP-21

Date Received: 01/15/16

Sample Location: 1 MILL ST., SCITUATE, RI

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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## Volatile Organics by GC/MS-5035 - Westborough Lab

1,2,3-Trichlorobenzene	ND		ug/kg	3.5	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	3.5	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	3.5	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	3.5	--	1
trans-1,4-Dichloro-2-butene	ND		ug/kg	3.5	--	1
Ethyl ether	ND		ug/kg	3.5	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	119		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	98		70-130

Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

## SAMPLE RESULTS

Lab ID: L1601312-06  
 Client ID: ESSTP-22  
 Sample Location: 1 MILL ST., SCITUATE, RI  
 Matrix: Soil  
 Analytical Method: 1,8260C  
 Analytical Date: 01/21/16 12:15  
 Analyst: BN  
 Percent Solids: 76%

Date Collected: 01/14/16 13:47  
 Date Received: 01/15/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS-5035 - Westborough Lab</b>						
Methylene chloride	ND		ug/kg	9.1	--	1
1,1-Dichloroethane	ND		ug/kg	1.4	--	1
Chloroform	ND		ug/kg	1.4	--	1
Carbon tetrachloride	ND		ug/kg	0.91	--	1
1,2-Dichloropropane	ND		ug/kg	3.2	--	1
Dibromochloromethane	ND		ug/kg	0.91	--	1
1,1,2-Trichloroethane	ND		ug/kg	1.4	--	1
Tetrachloroethene	ND		ug/kg	0.91	--	1
Chlorobenzene	ND		ug/kg	0.91	--	1
Trichlorofluoromethane	ND		ug/kg	4.6	--	1
1,2-Dichloroethane	ND		ug/kg	0.91	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.91	--	1
Bromodichloromethane	ND		ug/kg	0.91	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.91	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.91	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.91	--	1
1,1-Dichloropropene	ND		ug/kg	4.6	--	1
Bromoform	ND		ug/kg	3.6	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.91	--	1
Benzene	ND		ug/kg	0.91	--	1
Toluene	ND		ug/kg	1.4	--	1
Ethylbenzene	ND		ug/kg	0.91	--	1
Chloromethane	ND		ug/kg	4.6	--	1
Bromomethane	ND		ug/kg	1.8	--	1
Vinyl chloride	ND		ug/kg	1.8	--	1
Chloroethane	ND		ug/kg	1.8	--	1
1,1-Dichloroethene	ND		ug/kg	0.91	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.4	--	1
Trichloroethene	ND		ug/kg	0.91	--	1
1,2-Dichlorobenzene	ND		ug/kg	4.6	--	1

Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

## SAMPLE RESULTS

Lab ID: L1601312-06

Date Collected: 01/14/16 13:47

Client ID: ESSTP-22

Date Received: 01/15/16

Sample Location: 1 MILL ST., SCITUATE, RI

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS-5035 - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	4.6	--	1
1,4-Dichlorobenzene	ND		ug/kg	4.6	--	1
Methyl tert butyl ether	ND		ug/kg	1.8	--	1
p/m-Xylene	ND		ug/kg	1.8	--	1
o-Xylene	ND		ug/kg	1.8	--	1
Xylenes, Total	ND		ug/kg	1.8	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.91	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.91	--	1
Dibromomethane	ND		ug/kg	9.1	--	1
1,4-Dichlorobutane	ND		ug/kg	9.1	--	1
1,2,3-Trichloropropane	ND		ug/kg	9.1	--	1
Styrene	ND		ug/kg	1.8	--	1
Dichlorodifluoromethane	ND		ug/kg	9.1	--	1
Acetone	ND		ug/kg	33	--	1
Carbon disulfide	ND		ug/kg	9.1	--	1
2-Butanone	ND		ug/kg	9.1	--	1
Vinyl acetate	ND		ug/kg	9.1	--	1
4-Methyl-2-pentanone	ND		ug/kg	9.1	--	1
2-Hexanone	ND		ug/kg	9.1	--	1
Ethyl methacrylate	ND		ug/kg	9.1	--	1
Acrylonitrile	ND		ug/kg	3.6	--	1
Bromochloromethane	ND		ug/kg	4.6	--	1
Tetrahydrofuran	ND		ug/kg	18	--	1
2,2-Dichloropropane	ND		ug/kg	4.6	--	1
1,2-Dibromoethane	ND		ug/kg	3.6	--	1
1,3-Dichloropropane	ND		ug/kg	4.6	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.91	--	1
Bromobenzene	ND		ug/kg	4.6	--	1
n-Butylbenzene	ND		ug/kg	0.91	--	1
sec-Butylbenzene	ND		ug/kg	0.91	--	1
tert-Butylbenzene	ND		ug/kg	4.6	--	1
o-Chlorotoluene	ND		ug/kg	4.6	--	1
p-Chlorotoluene	ND		ug/kg	4.6	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	4.6	--	1
Hexachlorobutadiene	ND		ug/kg	4.6	--	1
Isopropylbenzene	ND		ug/kg	0.91	--	1
p-Isopropyltoluene	ND		ug/kg	0.91	--	1
Naphthalene	ND		ug/kg	4.6	--	1
n-Propylbenzene	ND		ug/kg	0.91	--	1

Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

## SAMPLE RESULTS

Lab ID: L1601312-06

Date Collected: 01/14/16 13:47

Client ID: ESSTP-22

Date Received: 01/15/16

Sample Location: 1 MILL ST., SCITUATE, RI

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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## Volatile Organics by GC/MS-5035 - Westborough Lab

1,2,3-Trichlorobenzene	ND		ug/kg	4.6	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	4.6	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	4.6	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	4.6	--	1
trans-1,4-Dichloro-2-butene	ND		ug/kg	4.6	--	1
Ethyl ether	ND		ug/kg	4.6	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	119		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	97		70-130

Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8260C  
 Analytical Date: 01/21/16 08:49  
 Analyst: BN

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS-5035 - Westborough Lab for sample(s): 04-06 Batch: WG859210-3					
Methylene chloride	ND		ug/kg	10	--
1,1-Dichloroethane	ND		ug/kg	1.5	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	3.5	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.5	--
2-Chloroethylvinyl ether	ND		ug/kg	20	--
Tetrachloroethene	ND		ug/kg	1.0	--
Chlorobenzene	ND		ug/kg	1.0	--
Trichlorofluoromethane	ND		ug/kg	5.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	1.0	--
Bromodichloromethane	ND		ug/kg	1.0	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	1.0	--
1,3-Dichloropropene, Total	ND		ug/kg	1.0	--
1,1-Dichloropropene	ND		ug/kg	5.0	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	1.0	--
Benzene	ND		ug/kg	1.0	--
Toluene	ND		ug/kg	1.5	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	5.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	2.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--

Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

### Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C  
 Analytical Date: 01/21/16 08:49  
 Analyst: BN

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS-5035 - Westborough Lab for sample(s): 04-06 Batch: WG859210-3					
Trichloroethene	ND		ug/kg	1.0	--
1,2-Dichlorobenzene	ND		ug/kg	5.0	--
1,3-Dichlorobenzene	ND		ug/kg	5.0	--
1,4-Dichlorobenzene	ND		ug/kg	5.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	2.0	--
Xylenes, Total	ND		ug/kg	2.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	10	--
1,4-Dichlorobutane	ND		ug/kg	10	--
1,2,3-Trichloropropane	ND		ug/kg	10	--
Styrene	ND		ug/kg	2.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	36	--
Carbon disulfide	ND		ug/kg	10	--
2-Butanone	ND		ug/kg	10	--
Vinyl acetate	ND		ug/kg	10	--
4-Methyl-2-pentanone	ND		ug/kg	10	--
2-Hexanone	ND		ug/kg	10	--
Ethyl methacrylate	ND		ug/kg	10	--
Acrolein	ND		ug/kg	25	--
Acrylonitrile	ND		ug/kg	4.0	--
Bromochloromethane	ND		ug/kg	5.0	--
Tetrahydrofuran	ND		ug/kg	20	--
2,2-Dichloropropane	ND		ug/kg	5.0	--
1,2-Dibromoethane	ND		ug/kg	4.0	--
1,3-Dichloropropane	ND		ug/kg	5.0	--

Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

### Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C  
 Analytical Date: 01/21/16 08:49  
 Analyst: BN

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS-5035 - Westborough Lab for sample(s): 04-06 Batch: WG859210-3					
1,1,1,2-Tetrachloroethane	ND		ug/kg	1.0	--
Bromobenzene	ND		ug/kg	5.0	--
n-Butylbenzene	ND		ug/kg	1.0	--
sec-Butylbenzene	ND		ug/kg	1.0	--
tert-Butylbenzene	ND		ug/kg	5.0	--
1,3,5-Trichlorobenzene	ND		ug/kg	4.0	--
o-Chlorotoluene	ND		ug/kg	5.0	--
p-Chlorotoluene	ND		ug/kg	5.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	5.0	--
Hexachlorobutadiene	ND		ug/kg	5.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	5.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	5.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	5.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	5.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	5.0	--
trans-1,4-Dichloro-2-butene	ND		ug/kg	5.0	--
Ethyl ether	ND		ug/kg	5.0	--
Methyl Acetate	ND		ug/kg	20	--
Ethyl Acetate	ND		ug/kg	20	--
Isopropyl Ether	ND		ug/kg	4.0	--
Cyclohexane	ND		ug/kg	20	--
Tert-Butyl Alcohol	ND		ug/kg	100	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	4.0	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	4.0	--
1,4-Dioxane	ND		ug/kg	100	--
Methyl cyclohexane	ND		ug/kg	4.0	--



Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

**Method Blank Analysis  
Batch Quality Control**

Analytical Method: 1,8260C  
 Analytical Date: 01/21/16 08:49  
 Analyst: BN

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS-5035 - Westborough Lab for sample(s): 04-06 Batch: WG859210-3					
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		ug/kg	20	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	112		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	94		70-130

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: HOPE MILL

Project Number: P312-001

Lab Number: L1601312

Report Date: 01/21/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS-5035 - Westborough Lab Associated sample(s): 04-06 Batch: WG859210-1 WG859210-2								
Methylene chloride	92		86		70-130	7		30
1,1-Dichloroethane	100		94		70-130	6		30
Chloroform	97		92		70-130	5		30
Carbon tetrachloride	90		82		70-130	9		30
1,2-Dichloropropane	96		93		70-130	3		30
Dibromochloromethane	86		88		70-130	2		30
1,1,2-Trichloroethane	102		101		70-130	1		30
2-Chloroethylvinyl ether	83		84		70-130	1		30
Tetrachloroethene	101		92		70-130	9		30
Chlorobenzene	99		96		70-130	3		30
Trichlorofluoromethane	97		87		70-139	11		30
1,2-Dichloroethane	102		102		70-130	0		30
1,1,1-Trichloroethane	95		87		70-130	9		30
Bromodichloromethane	89		86		70-130	3		30
trans-1,3-Dichloropropene	95		95		70-130	0		30
cis-1,3-Dichloropropene	90		88		70-130	2		30
1,1-Dichloropropene	96		86		70-130	11		30
Bromoform	85		85		70-130	0		30
1,1,2,2-Tetrachloroethane	98		100		70-130	2		30
Benzene	95		90		70-130	5		30
Toluene	100		94		70-130	6		30

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: HOPE MILL

Project Number: P312-001

Lab Number: L1601312

Report Date: 01/21/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS-5035 - Westborough Lab Associated sample(s): 04-06 Batch: WG859210-1 WG859210-2								
Ethylbenzene	102		95		70-130	7		30
Chloromethane	100		92		52-130	8		30
Bromomethane	122		113		57-147	8		30
Vinyl chloride	117		105		67-130	11		30
Chloroethane	114		102		50-151	11		30
1,1-Dichloroethene	91		81		65-135	12		30
trans-1,2-Dichloroethene	91		85		70-130	7		30
Trichloroethene	94		87		70-130	8		30
1,2-Dichlorobenzene	104		103		70-130	1		30
1,3-Dichlorobenzene	106		101		70-130	5		30
1,4-Dichlorobenzene	105		102		70-130	3		30
Methyl tert butyl ether	91		91		66-130	0		30
p/m-Xylene	100		95		70-130	5		30
o-Xylene	100		95		70-130	5		30
cis-1,2-Dichloroethene	94		88		70-130	7		30
Dibromomethane	91		90		70-130	1		30
1,4-Dichlorobutane	109		109		70-130	0		30
1,2,3-Trichloropropane	105		105		68-130	0		30
Styrene	98		95		70-130	3		30
Dichlorodifluoromethane	87		78		30-146	11		30
Acetone	112		106		54-140	6		30

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS-5035 - Westborough Lab Associated sample(s): 04-06 Batch: WG859210-1 WG859210-2								
Carbon disulfide	83		75		59-130	10		30
2-Butanone	89		104		70-130	16		30
Vinyl acetate	101		104		70-130	3		30
4-Methyl-2-pentanone	77		81		70-130	5		30
2-Hexanone	84		88		70-130	5		30
Ethyl methacrylate	84		86		70-130	2		30
Acrolein	81		87		70-130	7		30
Acrylonitrile	88		92		70-130	4		30
Bromochloromethane	92		91		70-130	1		30
Tetrahydrofuran	117		106		66-130	10		30
2,2-Dichloropropane	91		84		70-130	8		30
1,2-Dibromoethane	95		96		70-130	1		30
1,3-Dichloropropane	102		102		69-130	0		30
1,1,1,2-Tetrachloroethane	94		92		70-130	2		30
Bromobenzene	101		97		70-130	4		30
n-Butylbenzene	107		98		70-130	9		30
sec-Butylbenzene	103		94		70-130	9		30
tert-Butylbenzene	100		91		70-130	9		30
1,3,5-Trichlorobenzene	104		99		70-139	5		30
o-Chlorotoluene	106		100		70-130	6		30
p-Chlorotoluene	104		98		70-130	6		30

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: HOPE MILL

Project Number: P312-001

Lab Number: L1601312

Report Date: 01/21/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS-5035 - Westborough Lab Associated sample(s): 04-06 Batch: WG859210-1 WG859210-2								
1,2-Dibromo-3-chloropropane	78		80		68-130	3		30
Hexachlorobutadiene	101		90		67-130	12		30
Isopropylbenzene	101		94		70-130	7		30
p-Isopropyltoluene	101		92		70-130	9		30
Naphthalene	92		94		70-130	2		30
n-Propylbenzene	104		96		70-130	8		30
1,2,3-Trichlorobenzene	100		98		70-130	2		30
1,2,4-Trichlorobenzene	100		98		70-130	2		30
1,3,5-Trimethylbenzene	102		94		70-130	8		30
1,2,4-Trimethylbenzene	101		96		70-130	5		30
trans-1,4-Dichloro-2-butene	98		99		70-130	1		30
Halothane	89		80		70-130	11		20
Ethyl ether	96		97		67-130	1		30
Methyl Acetate	102		103		65-130	1		30
Ethyl Acetate	99		102		70-130	3		30
Isopropyl Ether	104		102		66-130	2		30
Cyclohexane	97		86		70-130	12		30
Tert-Butyl Alcohol	77		81		70-130	5		30
Ethyl-Tert-Butyl-Ether	96		96		70-130	0		30
Tertiary-Amyl Methyl Ether	88		88		70-130	0		30
1,4-Dioxane	95		98		65-136	3		30

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: HOPE MILL

Project Number: P312-001

Lab Number: L1601312

Report Date: 01/21/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS-5035 - Westborough Lab Associated sample(s): 04-06 Batch: WG859210-1 WG859210-2								
Methyl cyclohexane	91		80		70-130	13		30
1,1,2-Trichloro-1,2,2-Trifluoroethane	88		79		70-130	11		30
1,4-Diethylbenzene	100		93		70-130	7		30
4-Ethyltoluene	102		94		70-130	8		30
1,2,4,5-Tetramethylbenzene	96		92		70-130	4		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	110		111		70-130
Toluene-d8	104		104		70-130
4-Bromofluorobenzene	102		101		70-130
Dibromofluoromethane	98		99		70-130

# SEMIVOLATILES

Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

## SAMPLE RESULTS

Lab ID: L1601312-01  
 Client ID: ESSTP-19  
 Sample Location: 1 MILL ST., SCITUATE, RI  
 Matrix: Soil  
 Analytical Method: 1,8270D  
 Analytical Date: 01/20/16 16:21  
 Analyst: RC  
 Percent Solids: 92%

Date Collected: 01/14/16 12:05  
 Date Received: 01/15/16  
 Field Prep: Not Specified  
 Extraction Method: EPA 3546  
 Extraction Date: 01/19/16 21:04

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Semivolatile Organics by GC/MS - Westborough Lab</b>						
Acenaphthene	ND		ug/kg	140	--	1
Benzidine	ND		ug/kg	590	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	180	--	1
Hexachlorobenzene	ND		ug/kg	110	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	160	--	1
2-Chloronaphthalene	ND		ug/kg	180	--	1
1,2-Dichlorobenzene	710		ug/kg	180	--	1
1,3-Dichlorobenzene	ND		ug/kg	180	--	1
1,4-Dichlorobenzene	210		ug/kg	180	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	180	--	1
2,4-Dinitrotoluene	ND		ug/kg	180	--	1
2,6-Dinitrotoluene	ND		ug/kg	180	--	1
Azobenzene	ND		ug/kg	180	--	1
Fluoranthene	ND		ug/kg	110	--	1
4-Chlorophenyl phenyl ether	ND		ug/kg	180	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	180	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	210	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	190	--	1
Hexachlorobutadiene	ND		ug/kg	180	--	1
Hexachlorocyclopentadiene	ND		ug/kg	510	--	1
Hexachloroethane	ND		ug/kg	140	--	1
Isophorone	ND		ug/kg	160	--	1
Naphthalene	ND		ug/kg	180	--	1
Nitrobenzene	ND		ug/kg	160	--	1
NitrosoDiPhenylAmine(NDPA)/DPA	ND		ug/kg	140	--	1
n-Nitrosodi-n-propylamine	ND		ug/kg	180	--	1
Bis(2-Ethylhexyl)phthalate	ND		ug/kg	180	--	1
Butyl benzyl phthalate	ND		ug/kg	180	--	1
Di-n-butylphthalate	ND		ug/kg	180	--	1
Di-n-octylphthalate	ND		ug/kg	180	--	1



Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

## SAMPLE RESULTS

Lab ID: L1601312-01

Date Collected: 01/14/16 12:05

Client ID: ESSTP-19

Date Received: 01/15/16

Sample Location: 1 MILL ST., SCITUATE, RI

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Diethyl phthalate	ND		ug/kg	180	--	1
Dimethyl phthalate	ND		ug/kg	180	--	1
Benzo(a)anthracene	ND		ug/kg	110	--	1
Benzo(a)pyrene	ND		ug/kg	140	--	1
Benzo(b)fluoranthene	ND		ug/kg	110	--	1
Benzo(k)fluoranthene	ND		ug/kg	110	--	1
Chrysene	ND		ug/kg	110	--	1
Acenaphthylene	ND		ug/kg	140	--	1
Anthracene	ND		ug/kg	110	--	1
Benzo(ghi)perylene	ND		ug/kg	140	--	1
Fluorene	ND		ug/kg	180	--	1
Phenanthrene	ND		ug/kg	110	--	1
Dibenzo(a,h)anthracene	ND		ug/kg	110	--	1
Indeno(1,2,3-cd)Pyrene	ND		ug/kg	140	--	1
Pyrene	ND		ug/kg	110	--	1
Biphenyl	ND		ug/kg	400	--	1
Aniline	ND		ug/kg	210	--	1
4-Chloroaniline	ND		ug/kg	180	--	1
1-Methylnaphthalene	ND		ug/kg	180	--	1
2-Nitroaniline	ND		ug/kg	180	--	1
3-Nitroaniline	ND		ug/kg	180	--	1
4-Nitroaniline	ND		ug/kg	180	--	1
Dibenzofuran	ND		ug/kg	180	--	1
2-Methylnaphthalene	ND		ug/kg	210	--	1
n-Nitrosodimethylamine	ND		ug/kg	360	--	1
2,4,6-Trichlorophenol	ND		ug/kg	110	--	1
P-Chloro-M-Cresol	ND		ug/kg	180	--	1
2-Chlorophenol	ND		ug/kg	180	--	1
2,4-Dichlorophenol	ND		ug/kg	160	--	1
2,4-Dimethylphenol	ND		ug/kg	180	--	1
2-Nitrophenol	ND		ug/kg	380	--	1
4-Nitrophenol	ND		ug/kg	250	--	1
2,4-Dinitrophenol	ND		ug/kg	850	--	1
4,6-Dinitro-o-cresol	ND		ug/kg	460	--	1
Pentachlorophenol	ND		ug/kg	140	--	1
Phenol	ND		ug/kg	180	--	1
2-Methylphenol	ND		ug/kg	180	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	260	--	1
2,4,5-Trichlorophenol	ND		ug/kg	180	--	1

Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

## SAMPLE RESULTS

Lab ID: L1601312-01

Date Collected: 01/14/16 12:05

Client ID: ESSTP-19

Date Received: 01/15/16

Sample Location: 1 MILL ST., SCITUATE, RI

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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## Semivolatile Organics by GC/MS - Westborough Lab

Benzoic Acid	ND		ug/kg	580	--	1
Benzyl Alcohol	ND		ug/kg	180	--	1
Carbazole	ND		ug/kg	180	--	1
Pyridine	ND		ug/kg	710	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	55		25-120
Phenol-d6	61		10-120
Nitrobenzene-d5	60		23-120
2-Fluorobiphenyl	62		30-120
2,4,6-Tribromophenol	70		10-136
4-Terphenyl-d14	66		18-120

Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

## SAMPLE RESULTS

Lab ID: L1601312-02  
 Client ID: ESSTP-21  
 Sample Location: 1 MILL ST., SCITUATE, RI  
 Matrix: Soil  
 Analytical Method: 1,8270D  
 Analytical Date: 01/20/16 16:46  
 Analyst: RC  
 Percent Solids: 93%

Date Collected: 01/14/16 14:40  
 Date Received: 01/15/16  
 Field Prep: Not Specified  
 Extraction Method: EPA 3546  
 Extraction Date: 01/19/16 21:04

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Semivolatile Organics by GC/MS - Westborough Lab</b>						
Acenaphthene	ND		ug/kg	140	--	1
Benzidine	ND		ug/kg	580	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	180	--	1
Hexachlorobenzene	ND		ug/kg	100	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	160	--	1
2-Chloronaphthalene	ND		ug/kg	180	--	1
1,2-Dichlorobenzene	ND		ug/kg	180	--	1
1,3-Dichlorobenzene	ND		ug/kg	180	--	1
1,4-Dichlorobenzene	ND		ug/kg	180	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	180	--	1
2,4-Dinitrotoluene	ND		ug/kg	180	--	1
2,6-Dinitrotoluene	ND		ug/kg	180	--	1
Azobenzene	ND		ug/kg	180	--	1
Fluoranthene	ND		ug/kg	100	--	1
4-Chlorophenyl phenyl ether	ND		ug/kg	180	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	180	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	210	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	190	--	1
Hexachlorobutadiene	ND		ug/kg	180	--	1
Hexachlorocyclopentadiene	ND		ug/kg	500	--	1
Hexachloroethane	ND		ug/kg	140	--	1
Isophorone	ND		ug/kg	160	--	1
Naphthalene	ND		ug/kg	180	--	1
Nitrobenzene	ND		ug/kg	160	--	1
NitrosoDiPhenylAmine(NDPA)/DPA	ND		ug/kg	140	--	1
n-Nitrosodi-n-propylamine	ND		ug/kg	180	--	1
Bis(2-Ethylhexyl)phthalate	ND		ug/kg	180	--	1
Butyl benzyl phthalate	ND		ug/kg	180	--	1
Di-n-butylphthalate	ND		ug/kg	180	--	1
Di-n-octylphthalate	ND		ug/kg	180	--	1

Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

## SAMPLE RESULTS

Lab ID: L1601312-02

Date Collected: 01/14/16 14:40

Client ID: ESSTP-21

Date Received: 01/15/16

Sample Location: 1 MILL ST., SCITUATE, RI

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Diethyl phthalate	ND		ug/kg	180	--	1
Dimethyl phthalate	ND		ug/kg	180	--	1
Benzo(a)anthracene	ND		ug/kg	100	--	1
Benzo(a)pyrene	ND		ug/kg	140	--	1
Benzo(b)fluoranthene	ND		ug/kg	100	--	1
Benzo(k)fluoranthene	ND		ug/kg	100	--	1
Chrysene	ND		ug/kg	100	--	1
Acenaphthylene	ND		ug/kg	140	--	1
Anthracene	ND		ug/kg	100	--	1
Benzo(ghi)perylene	ND		ug/kg	140	--	1
Fluorene	ND		ug/kg	180	--	1
Phenanthrene	ND		ug/kg	100	--	1
Dibenzo(a,h)anthracene	ND		ug/kg	100	--	1
Indeno(1,2,3-cd)Pyrene	ND		ug/kg	140	--	1
Pyrene	140		ug/kg	100	--	1
Biphenyl	ND		ug/kg	400	--	1
Aniline	ND		ug/kg	210	--	1
4-Chloroaniline	ND		ug/kg	180	--	1
1-Methylnaphthalene	ND		ug/kg	180	--	1
2-Nitroaniline	ND		ug/kg	180	--	1
3-Nitroaniline	ND		ug/kg	180	--	1
4-Nitroaniline	ND		ug/kg	180	--	1
Dibenzofuran	ND		ug/kg	180	--	1
2-Methylnaphthalene	ND		ug/kg	210	--	1
n-Nitrosodimethylamine	ND		ug/kg	350	--	1
2,4,6-Trichlorophenol	ND		ug/kg	100	--	1
P-Chloro-M-Cresol	ND		ug/kg	180	--	1
2-Chlorophenol	ND		ug/kg	180	--	1
2,4-Dichlorophenol	ND		ug/kg	160	--	1
2,4-Dimethylphenol	ND		ug/kg	180	--	1
2-Nitrophenol	ND		ug/kg	380	--	1
4-Nitrophenol	ND		ug/kg	250	--	1
2,4-Dinitrophenol	ND		ug/kg	850	--	1
4,6-Dinitro-o-cresol	ND		ug/kg	460	--	1
Pentachlorophenol	ND		ug/kg	140	--	1
Phenol	ND		ug/kg	180	--	1
2-Methylphenol	ND		ug/kg	180	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	250	--	1
2,4,5-Trichlorophenol	ND		ug/kg	180	--	1

**Project Name:** HOPE MILL  
**Project Number:** P312-001

**Lab Number:** L1601312  
**Report Date:** 01/21/16

**SAMPLE RESULTS**

Lab ID: L1601312-02  
 Client ID: ESSTP-21  
 Sample Location: 1 MILL ST., SCITUATE, RI

Date Collected: 01/14/16 14:40  
 Date Received: 01/15/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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## Semivolatile Organics by GC/MS - Westborough Lab

Benzoic Acid	ND		ug/kg	570	--	1
Benzyl Alcohol	ND		ug/kg	180	--	1
Carbazole	ND		ug/kg	180	--	1
Pyridine	ND		ug/kg	710	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	66		25-120
Phenol-d6	72		10-120
Nitrobenzene-d5	69		23-120
2-Fluorobiphenyl	70		30-120
2,4,6-Tribromophenol	72		10-136
4-Terphenyl-d14	70		18-120

Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

## SAMPLE RESULTS

Lab ID: L1601312-03  
 Client ID: ESSTP-22  
 Sample Location: 1 MILL ST., SCITUATE, RI  
 Matrix: Soil  
 Analytical Method: 1,8270D  
 Analytical Date: 01/20/16 17:12  
 Analyst: RC  
 Percent Solids: 76%

Date Collected: 01/14/16 13:45  
 Date Received: 01/15/16  
 Field Prep: Not Specified  
 Extraction Method: EPA 3546  
 Extraction Date: 01/19/16 21:04

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Semivolatile Organics by GC/MS - Westborough Lab</b>						
Acenaphthene	ND		ug/kg	170	--	1
Benzidine	ND		ug/kg	700	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	210	--	1
Hexachlorobenzene	ND		ug/kg	130	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	190	--	1
2-Chloronaphthalene	ND		ug/kg	210	--	1
1,2-Dichlorobenzene	ND		ug/kg	210	--	1
1,3-Dichlorobenzene	ND		ug/kg	210	--	1
1,4-Dichlorobenzene	ND		ug/kg	210	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	210	--	1
2,4-Dinitrotoluene	ND		ug/kg	210	--	1
2,6-Dinitrotoluene	ND		ug/kg	210	--	1
Azobenzene	ND		ug/kg	210	--	1
Fluoranthene	ND		ug/kg	130	--	1
4-Chlorophenyl phenyl ether	ND		ug/kg	210	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	210	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	260	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	230	--	1
Hexachlorobutadiene	ND		ug/kg	210	--	1
Hexachlorocyclopentadiene	ND		ug/kg	610	--	1
Hexachloroethane	ND		ug/kg	170	--	1
Isophorone	ND		ug/kg	190	--	1
Naphthalene	ND		ug/kg	210	--	1
Nitrobenzene	ND		ug/kg	190	--	1
NitrosoDiPhenylAmine(NDPA)/DPA	ND		ug/kg	170	--	1
n-Nitrosodi-n-propylamine	ND		ug/kg	210	--	1
Bis(2-Ethylhexyl)phthalate	ND		ug/kg	210	--	1
Butyl benzyl phthalate	ND		ug/kg	210	--	1
Di-n-butylphthalate	ND		ug/kg	210	--	1
Di-n-octylphthalate	ND		ug/kg	210	--	1

Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

## SAMPLE RESULTS

Lab ID: L1601312-03

Date Collected: 01/14/16 13:45

Client ID: ESSTP-22

Date Received: 01/15/16

Sample Location: 1 MILL ST., SCITUATE, RI

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Diethyl phthalate	ND		ug/kg	210	--	1
Dimethyl phthalate	ND		ug/kg	210	--	1
Benzo(a)anthracene	ND		ug/kg	130	--	1
Benzo(a)pyrene	ND		ug/kg	170	--	1
Benzo(b)fluoranthene	ND		ug/kg	130	--	1
Benzo(k)fluoranthene	ND		ug/kg	130	--	1
Chrysene	ND		ug/kg	130	--	1
Acenaphthylene	ND		ug/kg	170	--	1
Anthracene	ND		ug/kg	130	--	1
Benzo(ghi)perylene	ND		ug/kg	170	--	1
Fluorene	ND		ug/kg	210	--	1
Phenanthrene	ND		ug/kg	130	--	1
Dibenzo(a,h)anthracene	ND		ug/kg	130	--	1
Indeno(1,2,3-cd)Pyrene	ND		ug/kg	170	--	1
Pyrene	ND		ug/kg	130	--	1
Biphenyl	ND		ug/kg	490	--	1
Aniline	ND		ug/kg	260	--	1
4-Chloroaniline	ND		ug/kg	210	--	1
1-Methylnaphthalene	ND		ug/kg	210	--	1
2-Nitroaniline	ND		ug/kg	210	--	1
3-Nitroaniline	ND		ug/kg	210	--	1
4-Nitroaniline	ND		ug/kg	210	--	1
Dibenzofuran	ND		ug/kg	210	--	1
2-Methylnaphthalene	ND		ug/kg	260	--	1
n-Nitrosodimethylamine	ND		ug/kg	430	--	1
2,4,6-Trichlorophenol	ND		ug/kg	130	--	1
P-Chloro-M-Cresol	ND		ug/kg	210	--	1
2-Chlorophenol	ND		ug/kg	210	--	1
2,4-Dichlorophenol	ND		ug/kg	190	--	1
2,4-Dimethylphenol	ND		ug/kg	210	--	1
2-Nitrophenol	ND		ug/kg	460	--	1
4-Nitrophenol	ND		ug/kg	300	--	1
2,4-Dinitrophenol	ND		ug/kg	1000	--	1
4,6-Dinitro-o-cresol	ND		ug/kg	550	--	1
Pentachlorophenol	ND		ug/kg	170	--	1
Phenol	ND		ug/kg	210	--	1
2-Methylphenol	ND		ug/kg	210	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	310	--	1
2,4,5-Trichlorophenol	ND		ug/kg	210	--	1

Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

## SAMPLE RESULTS

Lab ID: L1601312-03

Date Collected: 01/14/16 13:45

Client ID: ESSTP-22

Date Received: 01/15/16

Sample Location: 1 MILL ST., SCITUATE, RI

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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## Semivolatile Organics by GC/MS - Westborough Lab

Benzoic Acid	ND		ug/kg	690	--	1
Benzyl Alcohol	ND		ug/kg	210	--	1
Carbazole	ND		ug/kg	210	--	1
Pyridine	ND		ug/kg	850	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	67		25-120
Phenol-d6	70		10-120
Nitrobenzene-d5	68		23-120
2-Fluorobiphenyl	69		30-120
2,4,6-Tribromophenol	73		10-136
4-Terphenyl-d14	71		18-120



Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

## SAMPLE RESULTS

Lab ID: L1601312-15  
 Client ID: ESS-27  
 Sample Location: 1 MILL ST., SCITUATE, RI  
 Matrix: Soil  
 Analytical Method: 1,8270D  
 Analytical Date: 01/21/16 12:52  
 Analyst: JB  
 Percent Solids: 95%

Date Collected: 01/14/16 14:30  
 Date Received: 01/15/16  
 Field Prep: Not Specified  
 Extraction Method: EPA 3546  
 Extraction Date: 01/19/16 21:01

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Semivolatile Organics by GC/MS - Westborough Lab</b>						
Acenaphthene	ND		ug/kg	140	--	1
2-Chloronaphthalene	ND		ug/kg	170	--	1
Fluoranthene	ND		ug/kg	100	--	1
Naphthalene	ND		ug/kg	170	--	1
Benzo(a)anthracene	ND		ug/kg	100	--	1
Benzo(a)pyrene	ND		ug/kg	140	--	1
Benzo(b)fluoranthene	ND		ug/kg	100	--	1
Benzo(k)fluoranthene	ND		ug/kg	100	--	1
Chrysene	ND		ug/kg	100	--	1
Acenaphthylene	ND		ug/kg	140	--	1
Anthracene	ND		ug/kg	100	--	1
Benzo(ghi)perylene	ND		ug/kg	140	--	1
Fluorene	ND		ug/kg	170	--	1
Phenanthrene	ND		ug/kg	100	--	1
Dibenzo(a,h)anthracene	ND		ug/kg	100	--	1
Indeno(1,2,3-cd)Pyrene	ND		ug/kg	140	--	1
Pyrene	ND		ug/kg	100	--	1
1-Methylnaphthalene	ND		ug/kg	170	--	1
2-Methylnaphthalene	ND		ug/kg	210	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	66		23-120
2-Fluorobiphenyl	67		30-120
4-Terphenyl-d14	66		18-120

Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

## SAMPLE RESULTS

Lab ID: L1601312-16  
 Client ID: ESS-28  
 Sample Location: 1 MILL ST., SCITUATE, RI  
 Matrix: Soil  
 Analytical Method: 1,8270D  
 Analytical Date: 01/20/16 15:55  
 Analyst: JB  
 Percent Solids: 85%

Date Collected: 01/14/16 14:35  
 Date Received: 01/15/16  
 Field Prep: Not Specified  
 Extraction Method: EPA 3546  
 Extraction Date: 01/19/16 21:01

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Semivolatile Organics by GC/MS - Westborough Lab</b>						
Acenaphthene	280		ug/kg	150	--	1
2-Chloronaphthalene	ND		ug/kg	190	--	1
Fluoranthene	3900		ug/kg	110	--	1
Naphthalene	220		ug/kg	190	--	1
Benzo(a)anthracene	1700		ug/kg	110	--	1
Benzo(a)pyrene	1500		ug/kg	150	--	1
Benzo(b)fluoranthene	2000		ug/kg	110	--	1
Benzo(k)fluoranthene	690		ug/kg	110	--	1
Chrysene	1700		ug/kg	110	--	1
Acenaphthylene	300		ug/kg	150	--	1
Anthracene	810		ug/kg	110	--	1
Benzo(ghi)perylene	880		ug/kg	150	--	1
Fluorene	290		ug/kg	190	--	1
Phenanthrene	3100		ug/kg	110	--	1
Dibenzo(a,h)anthracene	220		ug/kg	110	--	1
Indeno(1,2,3-cd)Pyrene	820		ug/kg	150	--	1
Pyrene	3400		ug/kg	110	--	1
1-Methylnaphthalene	ND		ug/kg	190	--	1
2-Methylnaphthalene	ND		ug/kg	230	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	64		23-120
2-Fluorobiphenyl	62		30-120
4-Terphenyl-d14	65		18-120

**Project Name:** HOPE MILL  
**Project Number:** P312-001

**Lab Number:** L1601312  
**Report Date:** 01/21/16

**Method Blank Analysis**  
**Batch Quality Control**

**Analytical Method:** 1,8270D  
**Analytical Date:** 01/20/16 11:29  
**Analyst:** JB

**Extraction Method:** EPA 3546  
**Extraction Date:** 01/19/16 21:01

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 15-16 Batch: WG858612-1					
Acenaphthene	ND		ug/kg	130	--
2-Chloronaphthalene	ND		ug/kg	160	--
Fluoranthene	ND		ug/kg	98	--
Naphthalene	ND		ug/kg	160	--
Benzo(a)anthracene	ND		ug/kg	98	--
Benzo(a)pyrene	ND		ug/kg	130	--
Benzo(b)fluoranthene	ND		ug/kg	98	--
Benzo(k)fluoranthene	ND		ug/kg	98	--
Chrysene	ND		ug/kg	98	--
Acenaphthylene	ND		ug/kg	130	--
Anthracene	ND		ug/kg	98	--
Benzo(ghi)perylene	ND		ug/kg	130	--
Fluorene	ND		ug/kg	160	--
Phenanthrene	ND		ug/kg	98	--
Dibenzo(a,h)anthracene	ND		ug/kg	98	--
Indeno(1,2,3-cd)Pyrene	ND		ug/kg	130	--
Pyrene	ND		ug/kg	98	--
1-Methylnaphthalene	ND		ug/kg	160	--
2-Methylnaphthalene	ND		ug/kg	200	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	60		23-120
2-Fluorobiphenyl	72		30-120
4-Terphenyl-d14	74		18-120

Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

**Method Blank Analysis  
Batch Quality Control**

Analytical Method: 1,8270D  
 Analytical Date: 01/20/16 11:29  
 Analyst: RC

Extraction Method: EPA 3546  
 Extraction Date: 01/19/16 21:04

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-03 Batch: WG858617-1					
Acenaphthene	ND		ug/kg	130	--
Benzidine	ND		ug/kg	540	--
1,2,4-Trichlorobenzene	ND		ug/kg	160	--
Hexachlorobenzene	ND		ug/kg	98	--
Bis(2-chloroethyl)ether	ND		ug/kg	150	--
2-Chloronaphthalene	ND		ug/kg	160	--
1,2-Dichlorobenzene	ND		ug/kg	160	--
1,3-Dichlorobenzene	ND		ug/kg	160	--
1,4-Dichlorobenzene	ND		ug/kg	160	--
3,3'-Dichlorobenzidine	ND		ug/kg	160	--
2,4-Dinitrotoluene	ND		ug/kg	160	--
2,6-Dinitrotoluene	ND		ug/kg	160	--
Azobenzene	ND		ug/kg	160	--
Fluoranthene	ND		ug/kg	98	--
4-Chlorophenyl phenyl ether	ND		ug/kg	160	--
4-Bromophenyl phenyl ether	ND		ug/kg	160	--
Bis(2-chloroisopropyl)ether	ND		ug/kg	200	--
Bis(2-chloroethoxy)methane	ND		ug/kg	180	--
Hexachlorobutadiene	ND		ug/kg	160	--
Hexachlorocyclopentadiene	ND		ug/kg	460	--
Hexachloroethane	ND		ug/kg	130	--
Isophorone	ND		ug/kg	150	--
Naphthalene	ND		ug/kg	160	--
Nitrobenzene	ND		ug/kg	150	--
NitrosoDiPhenylAmine(NDPA)/DPA	ND		ug/kg	130	--
n-Nitrosodi-n-propylamine	ND		ug/kg	160	--
Bis(2-Ethylhexyl)phthalate	ND		ug/kg	160	--
Butyl benzyl phthalate	ND		ug/kg	160	--
Di-n-butylphthalate	ND		ug/kg	160	--

**Project Name:** HOPE MILL  
**Project Number:** P312-001

**Lab Number:** L1601312  
**Report Date:** 01/21/16

**Method Blank Analysis**  
**Batch Quality Control**

**Analytical Method:** 1,8270D  
**Analytical Date:** 01/20/16 11:29  
**Analyst:** RC

**Extraction Method:** EPA 3546  
**Extraction Date:** 01/19/16 21:04

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-03 Batch: WG858617-1					
Di-n-octylphthalate	ND		ug/kg	160	--
Diethyl phthalate	ND		ug/kg	160	--
Dimethyl phthalate	ND		ug/kg	160	--
Benzo(a)anthracene	ND		ug/kg	98	--
Benzo(a)pyrene	ND		ug/kg	130	--
Benzo(b)fluoranthene	ND		ug/kg	98	--
Benzo(k)fluoranthene	ND		ug/kg	98	--
Chrysene	ND		ug/kg	98	--
Acenaphthylene	ND		ug/kg	130	--
Anthracene	ND		ug/kg	98	--
Benzo(ghi)perylene	ND		ug/kg	130	--
Fluorene	ND		ug/kg	160	--
Phenanthrene	ND		ug/kg	98	--
Dibenzo(a,h)anthracene	ND		ug/kg	98	--
Indeno(1,2,3-cd)Pyrene	ND		ug/kg	130	--
Pyrene	ND		ug/kg	98	--
Biphenyl	ND		ug/kg	370	--
Aniline	ND		ug/kg	200	--
4-Chloroaniline	ND		ug/kg	160	--
1-Methylnaphthalene	ND		ug/kg	160	--
2-Nitroaniline	ND		ug/kg	160	--
3-Nitroaniline	ND		ug/kg	160	--
4-Nitroaniline	ND		ug/kg	160	--
Dibenzofuran	ND		ug/kg	160	--
2-Methylnaphthalene	ND		ug/kg	200	--
n-Nitrosodimethylamine	ND		ug/kg	320	--
2,4,6-Trichlorophenol	ND		ug/kg	98	--
P-Chloro-M-Cresol	ND		ug/kg	160	--
2-Chlorophenol	ND		ug/kg	160	--

Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

**Method Blank Analysis  
Batch Quality Control**

Analytical Method: 1,8270D  
 Analytical Date: 01/20/16 11:29  
 Analyst: RC

Extraction Method: EPA 3546  
 Extraction Date: 01/19/16 21:04

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-03 Batch: WG858617-1					
2,4-Dichlorophenol	ND		ug/kg	150	--
2,4-Dimethylphenol	ND		ug/kg	160	--
2-Nitrophenol	ND		ug/kg	350	--
4-Nitrophenol	ND		ug/kg	230	--
2,4-Dinitrophenol	ND		ug/kg	780	--
4,6-Dinitro-o-cresol	ND		ug/kg	420	--
Pentachlorophenol	ND		ug/kg	130	--
Phenol	ND		ug/kg	160	--
2-Methylphenol	ND		ug/kg	160	--
3-Methylphenol/4-Methylphenol	ND		ug/kg	230	--
2,4,5-Trichlorophenol	ND		ug/kg	160	--
Benzoic Acid	ND		ug/kg	530	--
Benzyl Alcohol	ND		ug/kg	160	--
Carbazole	ND		ug/kg	160	--
Pyridine	ND		ug/kg	650	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	60		25-120
Phenol-d6	60		10-120
Nitrobenzene-d5	60		23-120
2-Fluorobiphenyl	72		30-120
2,4,6-Tribromophenol	72		10-136
4-Terphenyl-d14	74		18-120

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: HOPE MILL

Project Number: P312-001

Lab Number: L1601312

Report Date: 01/21/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 15-16 Batch: WG858612-2 WG858612-3								
Acenaphthene	71		68		31-137	4		50
2-Chloronaphthalene	75		70		40-140	7		50
Fluoranthene	74		74		40-140	0		50
Naphthalene	71		65		40-140	9		50
Benzo(a)anthracene	72		72		40-140	0		50
Benzo(a)pyrene	70		71		40-140	1		50
Benzo(b)fluoranthene	68		68		40-140	0		50
Benzo(k)fluoranthene	71		75		40-140	5		50
Chrysene	74		74		40-140	0		50
Acenaphthylene	74		72		40-140	3		50
Anthracene	77		78		40-140	1		50
Benzo(ghi)perylene	69		70		40-140	1		50
Fluorene	72		72		40-140	0		50
Phenanthrene	72		72		40-140	0		50
Dibenzo(a,h)anthracene	69		70		40-140	1		50
Indeno(1,2,3-cd)Pyrene	67		68		40-140	1		50
Pyrene	74		76		35-142	3		50
1-Methylnaphthalene	68		63		40-140	8		50
2-Methylnaphthalene	72		66		40-140	9		50

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: HOPE MILL

Project Number: P312-001

Lab Number: L1601312

Report Date: 01/21/16

Parameter	<i>LCS</i> %Recovery	<i>Qual</i>	<i>LCSD</i> %Recovery	<i>Qual</i>	<i>%Recovery</i> Limits	<i>RPD</i>	<i>Qual</i>	<i>RPD</i> Limits
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Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 15-16 Batch: WG858612-2 WG858612-3

<i>Surrogate</i>	<i>LCS</i> %Recovery	<i>Qual</i>	<i>LCSD</i> %Recovery	<i>Qual</i>	<i>Acceptance</i> Criteria
Nitrobenzene-d5	68		64		23-120
2-Fluorobiphenyl	80		76		30-120
4-Terphenyl-d14	79		82		18-120



## Lab Control Sample Analysis

### Batch Quality Control

Project Name: HOPE MILL

Project Number: P312-001

Lab Number: L1601312

Report Date: 01/21/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG858617-2 WG858617-3								
Acenaphthene	71		68		31-137	4		50
Benzidine	61		67	Q	10-66	9		50
1,2,4-Trichlorobenzene	77		69		38-107	11		50
Hexachlorobenzene	80		81		40-140	1		50
Bis(2-chloroethyl)ether	65		57		40-140	13		50
2-Chloronaphthalene	75		70		40-140	7		50
1,2-Dichlorobenzene	69		59		40-140	16		50
1,3-Dichlorobenzene	69		57		40-140	19		50
1,4-Dichlorobenzene	69		58		28-104	17		50
3,3'-Dichlorobenzidine	42		43		40-140	2		50
2,4-Dinitrotoluene	81		81		28-89	0		50
2,6-Dinitrotoluene	79		79		40-140	0		50
Azobenzene	63		64		40-140	2		50
Fluoranthene	74		74		40-140	0		50
4-Chlorophenyl phenyl ether	77		76		40-140	1		50
4-Bromophenyl phenyl ether	79		79		40-140	0		50
Bis(2-chloroisopropyl)ether	58		53		40-140	9		50
Bis(2-chloroethoxy)methane	65		62		40-117	5		50
Hexachlorobutadiene	81		70		40-140	15		50
Hexachlorocyclopentadiene	108		97		40-140	11		50
Hexachloroethane	64		56		40-140	13		50

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: HOPE MILL

Project Number: P312-001

Lab Number: L1601312

Report Date: 01/21/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG858617-2 WG858617-3								
Isophorone	62		60		40-140	3		50
Naphthalene	71		65		40-140	9		50
Nitrobenzene	69		60		40-140	14		50
NitrosoDiPhenylAmine(NDPA)/DPA	74		73		36-157	1		50
n-Nitrosodi-n-propylamine	62		59		32-121	5		50
Bis(2-Ethylhexyl)phthalate	70		69		40-140	1		50
Butyl benzyl phthalate	69		70		40-140	1		50
Di-n-butylphthalate	71		71		40-140	0		50
Di-n-octylphthalate	69		68		40-140	1		50
Diethyl phthalate	71		72		40-140	1		50
Dimethyl phthalate	72		71		40-140	1		50
Benzo(a)anthracene	72		72		40-140	0		50
Benzo(a)pyrene	70		71		40-140	1		50
Benzo(b)fluoranthene	68		68		40-140	0		50
Benzo(k)fluoranthene	71		75		40-140	5		50
Chrysene	74		74		40-140	0		50
Acenaphthylene	74		72		40-140	3		50
Anthracene	77		78		40-140	1		50
Benzo(ghi)perylene	69		70		40-140	1		50
Fluorene	72		72		40-140	0		50
Phenanthrene	72		72		40-140	0		50

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: HOPE MILL

Project Number: P312-001

Lab Number: L1601312

Report Date: 01/21/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG858617-2 WG858617-3								
Dibenzo(a,h)anthracene	69		70		40-140	1		50
Indeno(1,2,3-cd)Pyrene	67		68		40-140	1		50
Pyrene	74		76		35-142	3		50
Biphenyl	73		68		54-104	7		50
Aniline	50		47		40-140	6		50
4-Chloroaniline	58		56		40-140	4		50
1-Methylnaphthalene	68		63		26-130	8		50
2-Nitroaniline	78		76		47-134	3		50
3-Nitroaniline	60		63		26-129	5		50
4-Nitroaniline	69		70		41-125	1		50
Dibenzofuran	72		71		40-140	1		50
2-Methylnaphthalene	72		66		40-140	9		50
n-Nitrosodimethylamine	58		48		22-100	19		50
2,4,6-Trichlorophenol	79		77		30-130	3		50
P-Chloro-M-Cresol	73		70		26-103	4		50
2-Chlorophenol	71		63		25-102	12		50
2,4-Dichlorophenol	79		72		30-130	9		50
2,4-Dimethylphenol	76		71		30-130	7		50
2-Nitrophenol	74		70		30-130	6		50
4-Nitrophenol	73		72		11-114	1		50
2,4-Dinitrophenol	48		44		4-130	9		50

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: HOPE MILL

Project Number: P312-001

Lab Number: L1601312

Report Date: 01/21/16

Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG858617-2 WG858617-3								
4,6-Dinitro-o-cresol	72		71		10-130	1		50
Pentachlorophenol	60		58		17-109	3		50
Phenol	62		56		26-90	10		50
2-Methylphenol	70		63		30-130	11		50
3-Methylphenol/4-Methylphenol	68		65		30-130	5		50
2,4,5-Trichlorophenol	78		77		30-130	1		50
Benzoic Acid	22		23		10-110	4		50
Benzyl Alcohol	62		57		40-140	8		50
Carbazole	71		71		54-128	0		50
Pyridine	51		36		10-93	34		50

Surrogate	LCS		LCSD		Acceptance Criteria
	%Recovery	Qual	%Recovery	Qual	
2-Fluorophenol	71		64		25-120
Phenol-d6	71		64		10-120
Nitrobenzene-d5	68		64		23-120
2-Fluorobiphenyl	80		76		30-120
2,4,6-Tribromophenol	84		85		10-136
4-Terphenyl-d14	79		82		18-120

# **PETROLEUM HYDROCARBONS**

**Project Name:** HOPE MILL**Lab Number:** L1601312**Project Number:** P312-001**Report Date:** 01/21/16**SAMPLE RESULTS**

**Lab ID:** L1601312-01  
**Client ID:** ESSTP-19  
**Sample Location:** 1 MILL ST., SCITUATE, RI  
**Matrix:** Soil  
**Analytical Method:** 1,8015C(M)  
**Analytical Date:** 01/21/16 12:51  
**Analyst:** NL  
**Percent Solids:** 92%

**Date Collected:** 01/14/16 12:05  
**Date Received:** 01/15/16  
**Field Prep:** Not Specified  
**Extraction Method:** EPA 3546  
**Extraction Date:** 01/19/16 09:27

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Petroleum Hydrocarbon Quantitation - Westborough Lab						
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TPH	437000		ug/kg	35000	--	1
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Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	75		40-140

**Project Name:** HOPE MILL**Lab Number:** L1601312**Project Number:** P312-001**Report Date:** 01/21/16**SAMPLE RESULTS**

**Lab ID:** L1601312-02  
**Client ID:** ESSTP-21  
**Sample Location:** 1 MILL ST., SCITUATE, RI  
**Matrix:** Soil  
**Analytical Method:** 1,8015C(M)  
**Analytical Date:** 01/21/16 14:39  
**Analyst:** NL  
**Percent Solids:** 93%

**Date Collected:** 01/14/16 14:40  
**Date Received:** 01/15/16  
**Field Prep:** Not Specified  
**Extraction Method:** EPA 3546  
**Extraction Date:** 01/19/16 09:27

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Petroleum Hydrocarbon Quantitation - Westborough Lab						
------------------------------------------------------	--	--	--	--	--	--

TPH	66400		ug/kg	35500	--	1
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Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	74		40-140

**Project Name:** HOPE MILL**Lab Number:** L1601312**Project Number:** P312-001**Report Date:** 01/21/16**SAMPLE RESULTS**

**Lab ID:** L1601312-03  
**Client ID:** ESSTP-22  
**Sample Location:** 1 MILL ST., SCITUATE, RI  
**Matrix:** Soil  
**Analytical Method:** 1,8015C(M)  
**Analytical Date:** 01/21/16 14:03  
**Analyst:** NL  
**Percent Solids:** 76%

**Date Collected:** 01/14/16 13:45  
**Date Received:** 01/15/16  
**Field Prep:** Not Specified  
**Extraction Method:** EPA 3546  
**Extraction Date:** 01/19/16 09:27

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Petroleum Hydrocarbon Quantitation - Westborough Lab						
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TPH	62200		ug/kg	42600	--	1
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Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	79		40-140



**Project Name:** HOPE MILL**Lab Number:** L1601312**Project Number:** P312-001**Report Date:** 01/21/16**SAMPLE RESULTS**

**Lab ID:** L1601312-07  
**Client ID:** ESSTP-22  
**Sample Location:** 1 MILL ST., SCITUATE, RI  
**Matrix:** Soil  
**Analytical Method:** 1,8015C(M)  
**Analytical Date:** 01/20/16 18:32  
**Analyst:** NL  
**Percent Solids:** 87%

**Date Collected:** 01/14/16 13:50  
**Date Received:** 01/15/16  
**Field Prep:** Not Specified  
**Extraction Method:** EPA 3546  
**Extraction Date:** 01/19/16 09:27

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Petroleum Hydrocarbon Quantitation - Westborough Lab						
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TPH	181000		ug/kg	37000	--	1
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Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	85		40-140

Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

**Method Blank Analysis  
Batch Quality Control**

Analytical Method: 1,8015C(M)  
 Analytical Date: 01/20/16 14:13  
 Analyst: NL

Extraction Method: EPA 3546  
 Extraction Date: 01/19/16 09:27

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbon Quantitation - Westborough Lab for sample(s): 01-03,07 Batch: WG858393-1					
TPH	ND		ug/kg	32700	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	76		40-140

### Lab Control Sample Analysis Batch Quality Control

**Project Name:** HOPE MILL  
**Project Number:** P312-001

**Lab Number:** L1601312  
**Report Date:** 01/21/16

<b>Parameter</b>	<b>LCS %Recovery</b>	<b>Qual</b>	<b>LCSD %Recovery</b>	<b>Qual</b>	<b>%Recovery Limits</b>	<b>RPD</b>	<b>Qual</b>	<b>RPD Limits</b>
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 01-03,07 Batch: WG858393-2								
TPH	73		-		40-140	-		40

<b>Surrogate</b>	<b>LCS %Recovery</b>	<b>Qual</b>	<b>LCSD %Recovery</b>	<b>Qual</b>	<b>Acceptance Criteria</b>
o-Terphenyl	76				40-140

**Lab Duplicate Analysis**  
**Batch Quality Control**

**Project Name:** HOPE MILL

**Project Number:** P312-001

**Lab Number:** L1601312

**Report Date:** 01/21/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 01-03,07 QC Batch ID: WG858393-3 QC Sample: L1601312-07 Client ID: ESSTP-22						
TPH	181000	286000	ug/kg	45	Q	40

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	85		80		40-140



# PCBS

Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

## SAMPLE RESULTS

Lab ID: L1601312-01  
 Client ID: ESSTP-19  
 Sample Location: 1 MILL ST., SCITUATE, RI  
 Matrix: Soil  
 Analytical Method: 1,8082A  
 Analytical Date: 01/20/16 22:15  
 Analyst: JT  
 Percent Solids: 92%

Date Collected: 01/14/16 12:05  
 Date Received: 01/15/16  
 Field Prep: Not Specified  
 Extraction Method: EPA 3540C  
 Extraction Date: 01/19/16 07:01  
 Cleanup Method: EPA 3665A  
 Cleanup Date: 01/20/16  
 Cleanup Method: EPA 3660B  
 Cleanup Date: 01/20/16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
<b>PCB by GC - Westborough Lab</b>							
Aroclor 1016	ND		ug/kg	35.0	--	1	A
Aroclor 1221	ND		ug/kg	35.0	--	1	A
Aroclor 1232	ND		ug/kg	35.0	--	1	A
Aroclor 1242	ND		ug/kg	35.0	--	1	A
Aroclor 1248	ND		ug/kg	35.0	--	1	A
Aroclor 1254	ND		ug/kg	35.0	--	1	A
Aroclor 1260	ND		ug/kg	35.0	--	1	A
Aroclor 1262	ND		ug/kg	35.0	--	1	A
Aroclor 1268	ND		ug/kg	35.0	--	1	A
PCBs, Total	ND		ug/kg	35.0	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	56		30-150	A
Decachlorobiphenyl	70		30-150	A
2,4,5,6-Tetrachloro-m-xylene	53		30-150	B
Decachlorobiphenyl	61		30-150	B

Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

## SAMPLE RESULTS

Lab ID: L1601312-02  
 Client ID: ESSTP-21  
 Sample Location: 1 MILL ST., SCITUATE, RI  
 Matrix: Soil  
 Analytical Method: 1,8082A  
 Analytical Date: 01/20/16 22:29  
 Analyst: JT  
 Percent Solids: 93%

Date Collected: 01/14/16 14:40  
 Date Received: 01/15/16  
 Field Prep: Not Specified  
 Extraction Method: EPA 3540C  
 Extraction Date: 01/19/16 07:01  
 Cleanup Method: EPA 3665A  
 Cleanup Date: 01/20/16  
 Cleanup Method: EPA 3660B  
 Cleanup Date: 01/20/16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
<b>PCB by GC - Westborough Lab</b>							
Aroclor 1016	ND		ug/kg	35.3	--	1	A
Aroclor 1221	ND		ug/kg	35.3	--	1	A
Aroclor 1232	ND		ug/kg	35.3	--	1	A
Aroclor 1242	ND		ug/kg	35.3	--	1	A
Aroclor 1248	ND		ug/kg	35.3	--	1	A
Aroclor 1254	ND		ug/kg	35.3	--	1	A
Aroclor 1260	ND		ug/kg	35.3	--	1	A
Aroclor 1262	ND		ug/kg	35.3	--	1	A
Aroclor 1268	ND		ug/kg	35.3	--	1	A
PCBs, Total	ND		ug/kg	35.3	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	69		30-150	A
Decachlorobiphenyl	76		30-150	A
2,4,5,6-Tetrachloro-m-xylene	69		30-150	B
Decachlorobiphenyl	78		30-150	B

Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

## SAMPLE RESULTS

Lab ID: L1601312-03  
 Client ID: ESSTP-22  
 Sample Location: 1 MILL ST., SCITUATE, RI  
 Matrix: Soil  
 Analytical Method: 1,8082A  
 Analytical Date: 01/20/16 22:42  
 Analyst: JT  
 Percent Solids: 76%

Date Collected: 01/14/16 13:45  
 Date Received: 01/15/16  
 Field Prep: Not Specified  
 Extraction Method: EPA 3540C  
 Extraction Date: 01/19/16 07:01  
 Cleanup Method: EPA 3665A  
 Cleanup Date: 01/20/16  
 Cleanup Method: EPA 3660B  
 Cleanup Date: 01/20/16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
PCB by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	43.2	--	1	A
Aroclor 1221	ND		ug/kg	43.2	--	1	A
Aroclor 1232	ND		ug/kg	43.2	--	1	A
Aroclor 1242	ND		ug/kg	43.2	--	1	A
Aroclor 1248	ND		ug/kg	43.2	--	1	A
Aroclor 1254	ND		ug/kg	43.2	--	1	A
Aroclor 1260	ND		ug/kg	43.2	--	1	A
Aroclor 1262	ND		ug/kg	43.2	--	1	A
Aroclor 1268	ND		ug/kg	43.2	--	1	A
PCBs, Total	ND		ug/kg	43.2	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	69		30-150	A
Decachlorobiphenyl	64		30-150	A
2,4,5,6-Tetrachloro-m-xylene	71		30-150	B
Decachlorobiphenyl	76		30-150	B



Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8082A  
Analytical Date: 01/20/16 22:55  
Analyst: JT

Extraction Method: EPA 3540C  
Extraction Date: 01/19/16 07:01  
Cleanup Method: EPA 3665A  
Cleanup Date: 01/20/16  
Cleanup Method: EPA 3660B  
Cleanup Date: 01/20/16

Parameter	Result	Qualifier	Units	RL	MDL	Column
PCB by GC - Westborough Lab for sample(s): 01-03 Batch: WG858346-1						
Aroclor 1016	ND		ug/kg	32.5	--	A
Aroclor 1221	ND		ug/kg	32.5	--	A
Aroclor 1232	ND		ug/kg	32.5	--	A
Aroclor 1242	ND		ug/kg	32.5	--	A
Aroclor 1248	ND		ug/kg	32.5	--	A
Aroclor 1254	ND		ug/kg	32.5	--	A
Aroclor 1260	ND		ug/kg	32.5	--	A
Aroclor 1262	ND		ug/kg	32.5	--	A
Aroclor 1268	ND		ug/kg	32.5	--	A
PCBs, Total	ND		ug/kg	32.5	--	A

Surrogate	%Recovery	Qualifier	Acceptance	
			Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	70		30-150	A
Decachlorobiphenyl	67		30-150	A
2,4,5,6-Tetrachloro-m-xylene	68		30-150	B
Decachlorobiphenyl	71		30-150	B

### Lab Control Sample Analysis Batch Quality Control

**Project Name:** HOPE MILL  
**Project Number:** P312-001

**Lab Number:** L1601312  
**Report Date:** 01/21/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
PCB by GC - Westborough Lab Associated sample(s): 01-03 Batch: WG858346-2 WG858346-3									
Aroclor 1016	80		76		40-140	5		50	A
Aroclor 1260	73		61		40-140	18		50	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	73		59		30-150	A
Decachlorobiphenyl	77		62		30-150	A
2,4,5,6-Tetrachloro-m-xylene	70		56		30-150	B
Decachlorobiphenyl	75		61		30-150	B

# PESTICIDES

Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

## SAMPLE RESULTS

Lab ID: L1601312-01  
 Client ID: ESSTP-19  
 Sample Location: 1 MILL ST., SCITUATE, RI  
 Matrix: Soil  
 Analytical Method: 1,8081B  
 Analytical Date: 01/20/16 15:54  
 Analyst: AM  
 Percent Solids: 92%

Date Collected: 01/14/16 12:05  
 Date Received: 01/15/16  
 Field Prep: Not Specified  
 Extraction Method: EPA 3546  
 Extraction Date: 01/19/16 10:05  
 Cleanup Method: EPA 3620B  
 Cleanup Date: 01/20/16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
<b>Pesticides by GC - Westborough Lab</b>							
Delta-BHC	ND		ug/kg	8.22	--	1	A
Lindane	ND		ug/kg	3.42	--	1	A
Alpha-BHC	ND		ug/kg	3.42	--	1	A
Beta-BHC	ND		ug/kg	8.22	--	1	A
Heptachlor	ND		ug/kg	4.11	--	1	A
Aldrin	ND		ug/kg	8.22	--	1	A
Heptachlor epoxide	ND		ug/kg	15.4	--	1	A
Endrin	ND		ug/kg	3.42	--	1	A
Endrin aldehyde	ND		ug/kg	10.3	--	1	A
Endrin ketone	ND		ug/kg	8.22	--	1	A
Dieldrin	ND		ug/kg	5.14	--	1	A
4,4'-DDE	ND		ug/kg	8.22	--	1	A
4,4'-DDD	ND		ug/kg	8.22	--	1	A
4,4'-DDT	ND		ug/kg	15.4	--	1	A
Endosulfan I	ND		ug/kg	8.22	--	1	A
Endosulfan II	ND		ug/kg	8.22	--	1	A
Endosulfan sulfate	ND		ug/kg	3.42	--	1	A
Methoxychlor	ND		ug/kg	15.4	--	1	A
Toxaphene	ND		ug/kg	154	--	1	A
Chlordane	ND		ug/kg	66.8	--	1	A
cis-Chlordane	ND		ug/kg	10.3	--	1	A
trans-Chlordane	ND		ug/kg	10.3	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	81		30-150	B
Decachlorobiphenyl	95		30-150	B
2,4,5,6-Tetrachloro-m-xylene	86		30-150	A
Decachlorobiphenyl	87		30-150	A

Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

## SAMPLE RESULTS

Lab ID: L1601312-02  
 Client ID: ESSTP-21  
 Sample Location: 1 MILL ST., SCITUATE, RI  
 Matrix: Soil  
 Analytical Method: 1,8081B  
 Analytical Date: 01/20/16 16:07  
 Analyst: AM  
 Percent Solids: 93%

Date Collected: 01/14/16 14:40  
 Date Received: 01/15/16  
 Field Prep: Not Specified  
 Extraction Method: EPA 3546  
 Extraction Date: 01/19/16 10:05  
 Cleanup Method: EPA 3620B  
 Cleanup Date: 01/20/16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
<b>Pesticides by GC - Westborough Lab</b>							
Delta-BHC	ND		ug/kg	8.36	--	1	A
Lindane	ND		ug/kg	3.48	--	1	A
Alpha-BHC	ND		ug/kg	3.48	--	1	A
Beta-BHC	ND		ug/kg	8.36	--	1	A
Heptachlor	ND		ug/kg	4.18	--	1	A
Aldrin	ND		ug/kg	8.36	--	1	A
Heptachlor epoxide	ND		ug/kg	15.7	--	1	A
Endrin	ND		ug/kg	3.48	--	1	A
Endrin aldehyde	ND		ug/kg	10.4	--	1	A
Endrin ketone	ND		ug/kg	8.36	--	1	A
Dieldrin	ND		ug/kg	5.22	--	1	A
4,4'-DDE	ND		ug/kg	8.36	--	1	A
4,4'-DDD	ND		ug/kg	8.36	--	1	A
4,4'-DDT	ND		ug/kg	15.7	--	1	A
Endosulfan I	ND		ug/kg	8.36	--	1	A
Endosulfan II	ND		ug/kg	8.36	--	1	A
Endosulfan sulfate	ND		ug/kg	3.48	--	1	A
Methoxychlor	ND		ug/kg	15.7	--	1	A
Toxaphene	ND		ug/kg	157	--	1	A
Chlordane	ND		ug/kg	67.9	--	1	A
cis-Chlordane	ND		ug/kg	10.4	--	1	A
trans-Chlordane	ND		ug/kg	10.4	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	81		30-150	B
Decachlorobiphenyl	95		30-150	B
2,4,5,6-Tetrachloro-m-xylene	86		30-150	A
Decachlorobiphenyl	90		30-150	A

Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

## SAMPLE RESULTS

Lab ID: L1601312-03  
 Client ID: ESSTP-22  
 Sample Location: 1 MILL ST., SCITUATE, RI  
 Matrix: Soil  
 Analytical Method: 1,8081B  
 Analytical Date: 01/20/16 16:20  
 Analyst: AM  
 Percent Solids: 76%

Date Collected: 01/14/16 13:45  
 Date Received: 01/15/16  
 Field Prep: Not Specified  
 Extraction Method: EPA 3546  
 Extraction Date: 01/19/16 10:05  
 Cleanup Method: EPA 3620B  
 Cleanup Date: 01/20/16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
<b>Pesticides by GC - Westborough Lab</b>							
Delta-BHC	ND		ug/kg	10.2	--	1	A
Lindane	ND		ug/kg	4.24	--	1	A
Alpha-BHC	ND		ug/kg	4.24	--	1	A
Beta-BHC	ND		ug/kg	10.2	--	1	A
Heptachlor	ND		ug/kg	5.08	--	1	B
Aldrin	ND		ug/kg	10.2	--	1	A
Heptachlor epoxide	ND		ug/kg	19.1	--	1	A
Endrin	ND		ug/kg	4.24	--	1	A
Endrin aldehyde	ND		ug/kg	12.7	--	1	A
Endrin ketone	ND		ug/kg	10.2	--	1	A
Dieldrin	ND		ug/kg	6.35	--	1	A
4,4'-DDE	ND		ug/kg	10.2	--	1	A
4,4'-DDD	ND		ug/kg	10.2	--	1	A
4,4'-DDT	ND		ug/kg	19.1	--	1	A
Endosulfan I	ND		ug/kg	10.2	--	1	A
Endosulfan II	ND		ug/kg	10.2	--	1	A
Endosulfan sulfate	ND		ug/kg	4.24	--	1	A
Methoxychlor	ND		ug/kg	19.1	--	1	A
Toxaphene	ND		ug/kg	191	--	1	A
Chlordane	511		ug/kg	82.6	--	1	A
cis-Chlordane	68.6		ug/kg	12.7	--	1	A
trans-Chlordane	77.3		ug/kg	12.7	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	82		30-150	B
Decachlorobiphenyl	85		30-150	B
2,4,5,6-Tetrachloro-m-xylene	86		30-150	A
Decachlorobiphenyl	89		30-150	A

Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8081B  
 Analytical Date: 01/20/16 15:14  
 Analyst: AM

Extraction Method: EPA 3546  
 Extraction Date: 01/19/16 10:05  
 Cleanup Method: EPA 3620B  
 Cleanup Date: 01/20/16

Parameter	Result	Qualifier	Units	RL	MDL	Column
Pesticides by GC - Westborough Lab for sample(s): 01-03 Batch: WG858423-1						
Delta-BHC	ND		ug/kg	7.66	--	A
Lindane	ND		ug/kg	3.19	--	A
Alpha-BHC	ND		ug/kg	3.19	--	A
Beta-BHC	ND		ug/kg	7.66	--	A
Heptachlor	ND		ug/kg	3.83	--	A
Aldrin	ND		ug/kg	7.66	--	A
Heptachlor epoxide	ND		ug/kg	14.4	--	A
Endrin	ND		ug/kg	3.19	--	A
Endrin aldehyde	ND		ug/kg	9.57	--	A
Endrin ketone	ND		ug/kg	7.66	--	A
Dieldrin	ND		ug/kg	4.79	--	A
4,4'-DDE	ND		ug/kg	7.66	--	A
4,4'-DDD	ND		ug/kg	7.66	--	A
4,4'-DDT	ND		ug/kg	14.4	--	A
Endosulfan I	ND		ug/kg	7.66	--	A
Endosulfan II	ND		ug/kg	7.66	--	A
Endosulfan sulfate	ND		ug/kg	3.19	--	A
Methoxychlor	ND		ug/kg	14.4	--	A
Toxaphene	ND		ug/kg	144	--	A
Chlordane	ND		ug/kg	62.2	--	A
cis-Chlordane	ND		ug/kg	9.57	--	A
trans-Chlordane	ND		ug/kg	9.57	--	A

Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

**Method Blank Analysis  
Batch Quality Control**

Analytical Method: 1,8081B  
 Analytical Date: 01/20/16 15:14  
 Analyst: AM

Extraction Method: EPA 3546  
 Extraction Date: 01/19/16 10:05  
 Cleanup Method: EPA 3620B  
 Cleanup Date: 01/20/16

Parameter	Result	Qualifier	Units	RL	MDL
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Pesticides by GC - Westborough Lab for sample(s): 01-03 Batch: WG858423-1

Surrogate	%Recovery	Qualifier	Acceptance	
			Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	71		30-150	B
Decachlorobiphenyl	77		30-150	B
2,4,5,6-Tetrachloro-m-xylene	71		30-150	A
Decachlorobiphenyl	65		30-150	A



## Lab Control Sample Analysis

### Batch Quality Control

Project Name: HOPE MILL

Project Number: P312-001

Lab Number: L1601312

Report Date: 01/21/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Pesticides by GC - Westborough Lab Associated sample(s): 01-03 Batch: WG858423-2 WG858423-3									
Delta-BHC	96		94		30-150	2		30	A
Lindane	95		92		30-150	3		30	A
Alpha-BHC	103		96		30-150	7		30	A
Beta-BHC	98		92		30-150	6		30	A
Heptachlor	88		89		30-150	1		30	A
Aldrin	93		93		30-150	0		30	A
Heptachlor epoxide	92		91		30-150	1		30	A
Endrin	88		87		30-150	1		30	A
Endrin aldehyde	61		68		30-150	11		30	A
Endrin ketone	68		74		30-150	8		30	A
Dieldrin	87		82		30-150	6		30	A
4,4'-DDE	94		87		30-150	8		30	A
4,4'-DDD	89		89		30-150	0		30	A
4,4'-DDT	85		88		30-150	3		30	A
Endosulfan I	88		84		30-150	5		30	A
Endosulfan II	82		86		30-150	5		30	A
Endosulfan sulfate	68		70		30-150	3		30	A
Methoxychlor	79		82		30-150	4		30	A
cis-Chlordane	94		88		30-150	7		30	A
trans-Chlordane	93		88		30-150	6		30	A

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: HOPE MILL

Project Number: P312-001

Lab Number: L1601312

Report Date: 01/21/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
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Pesticides by GC - Westborough Lab Associated sample(s): 01-03 Batch: WG858423-2 WG858423-3

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	74		81		30-150	B
Decachlorobiphenyl	72		83		30-150	B
2,4,5,6-Tetrachloro-m-xylene	78		84		30-150	A
Decachlorobiphenyl	66		80		30-150	A

## METALS

Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

## SAMPLE RESULTS

Lab ID: L1601312-01

Date Collected: 01/14/16 12:05

Client ID: ESSTP-19

Date Received: 01/15/16

Sample Location: 1 MILL ST., SCITUATE, RI

Field Prep: Not Specified

Matrix: Soil

Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
<b>Total Metals - Westborough Lab</b>											
Antimony, Total	ND		mg/kg	2.1	--	1	01/16/16 09:00	01/18/16 20:25	EPA 3050B	1,6010C	PS
Arsenic, Total	1.6		mg/kg	0.42	--	1	01/16/16 09:00	01/18/16 20:25	EPA 3050B	1,6010C	PS
Beryllium, Total	0.38		mg/kg	0.21	--	1	01/16/16 09:00	01/18/16 20:25	EPA 3050B	1,6010C	PS
Cadmium, Total	ND		mg/kg	0.42	--	1	01/16/16 09:00	01/18/16 20:25	EPA 3050B	1,6010C	PS
Chromium, Total	4.8		mg/kg	0.42	--	1	01/16/16 09:00	01/18/16 20:25	EPA 3050B	1,6010C	PS
Copper, Total	10		mg/kg	0.42	--	1	01/16/16 09:00	01/18/16 20:25	EPA 3050B	1,6010C	PS
Lead, Total	20		mg/kg	2.1	--	1	01/16/16 09:00	01/18/16 20:25	EPA 3050B	1,6010C	PS
Mercury, Total	0.17		mg/kg	0.07	--	1	01/16/16 10:10	01/18/16 15:53	EPA 7471B	1,7471B	DB
Nickel, Total	1.5		mg/kg	1.0	--	1	01/16/16 09:00	01/18/16 20:25	EPA 3050B	1,6010C	PS
Selenium, Total	ND		mg/kg	0.84	--	1	01/16/16 09:00	01/18/16 20:25	EPA 3050B	1,6010C	PS
Silver, Total	ND		mg/kg	0.42	--	1	01/16/16 09:00	01/18/16 20:25	EPA 3050B	1,6010C	PS
Thallium, Total	ND		mg/kg	0.84	--	1	01/16/16 09:00	01/18/16 20:25	EPA 3050B	1,6010C	PS
Zinc, Total	160		mg/kg	2.1	--	1	01/16/16 09:00	01/18/16 20:25	EPA 3050B	1,6010C	PS



**Project Name:** HOPE MILL  
**Project Number:** P312-001

**Lab Number:** L1601312  
**Report Date:** 01/21/16

**SAMPLE RESULTS**

Lab ID: L1601312-02  
 Client ID: ESSTP-21  
 Sample Location: 1 MILL ST., SCITUATE, RI  
 Matrix: Soil  
 Percent Solids: 93%

Date Collected: 01/14/16 14:40  
 Date Received: 01/15/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
<b>Total Metals - Westborough Lab</b>											
Antimony, Total	ND		mg/kg	2.1	--	1	01/16/16 09:00	01/18/16 20:29	EPA 3050B	1,6010C	PS
Arsenic, Total	1.8		mg/kg	0.43	--	1	01/16/16 09:00	01/18/16 20:29	EPA 3050B	1,6010C	PS
Beryllium, Total	0.46		mg/kg	0.21	--	1	01/16/16 09:00	01/18/16 20:29	EPA 3050B	1,6010C	PS
Cadmium, Total	ND		mg/kg	0.43	--	1	01/16/16 09:00	01/18/16 20:29	EPA 3050B	1,6010C	PS
Chromium, Total	2.8		mg/kg	0.43	--	1	01/16/16 09:00	01/18/16 20:29	EPA 3050B	1,6010C	PS
Copper, Total	2.6		mg/kg	0.43	--	1	01/16/16 09:00	01/18/16 20:29	EPA 3050B	1,6010C	PS
Lead, Total	19		mg/kg	2.1	--	1	01/16/16 09:00	01/18/16 20:29	EPA 3050B	1,6010C	PS
Mercury, Total	0.10		mg/kg	0.07	--	1	01/16/16 10:10	01/18/16 15:57	EPA 7471B	1,7471B	DB
Nickel, Total	ND		mg/kg	1.1	--	1	01/16/16 09:00	01/18/16 20:29	EPA 3050B	1,6010C	PS
Selenium, Total	ND		mg/kg	0.86	--	1	01/16/16 09:00	01/18/16 20:29	EPA 3050B	1,6010C	PS
Silver, Total	ND		mg/kg	0.43	--	1	01/16/16 09:00	01/18/16 20:29	EPA 3050B	1,6010C	PS
Thallium, Total	ND		mg/kg	0.86	--	1	01/16/16 09:00	01/18/16 20:29	EPA 3050B	1,6010C	PS
Zinc, Total	65		mg/kg	2.1	--	1	01/16/16 09:00	01/18/16 20:29	EPA 3050B	1,6010C	PS



Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

## SAMPLE RESULTS

Lab ID: L1601312-03  
 Client ID: ESSTP-22  
 Sample Location: 1 MILL ST., SCITUATE, RI  
 Matrix: Soil  
 Percent Solids: 76%

Date Collected: 01/14/16 13:45  
 Date Received: 01/15/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
<b>Total Metals - Westborough Lab</b>											
Antimony, Total	ND		mg/kg	2.6	--	1	01/16/16 09:00	01/18/16 20:33	EPA 3050B	1,6010C	PS
Arsenic, Total	2.9		mg/kg	0.51	--	1	01/16/16 09:00	01/18/16 20:33	EPA 3050B	1,6010C	PS
Beryllium, Total	0.69		mg/kg	0.26	--	1	01/16/16 09:00	01/18/16 20:33	EPA 3050B	1,6010C	PS
Cadmium, Total	ND		mg/kg	0.51	--	1	01/16/16 09:00	01/18/16 20:33	EPA 3050B	1,6010C	PS
Chromium, Total	3.8		mg/kg	0.51	--	1	01/16/16 09:00	01/18/16 20:33	EPA 3050B	1,6010C	PS
Copper, Total	2.3		mg/kg	0.51	--	1	01/16/16 09:00	01/18/16 20:33	EPA 3050B	1,6010C	PS
Lead, Total	5.8		mg/kg	2.6	--	1	01/16/16 09:00	01/18/16 20:33	EPA 3050B	1,6010C	PS
Mercury, Total	ND		mg/kg	0.09	--	1	01/16/16 10:10	01/18/16 15:58	EPA 7471B	1,7471B	DB
Nickel, Total	1.7		mg/kg	1.3	--	1	01/16/16 09:00	01/18/16 20:33	EPA 3050B	1,6010C	PS
Selenium, Total	ND		mg/kg	1.0	--	1	01/16/16 09:00	01/18/16 20:33	EPA 3050B	1,6010C	PS
Silver, Total	ND		mg/kg	0.51	--	1	01/16/16 09:00	01/18/16 20:33	EPA 3050B	1,6010C	PS
Thallium, Total	ND		mg/kg	1.0	--	1	01/16/16 09:00	01/18/16 20:33	EPA 3050B	1,6010C	PS
Zinc, Total	36		mg/kg	2.6	--	1	01/16/16 09:00	01/18/16 20:33	EPA 3050B	1,6010C	PS



Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

## SAMPLE RESULTS

Lab ID: L1601312-15  
 Client ID: ESS-27  
 Sample Location: 1 MILL ST., SCITUATE, RI  
 Matrix: Soil  
 Percent Solids: 95%

Date Collected: 01/14/16 14:30  
 Date Received: 01/15/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
<b>Total Metals - Westborough Lab</b>											
Antimony, Total	ND		mg/kg	2.1	--	1	01/16/16 09:00	01/18/16 20:38	EPA 3050B	1,6010C	PS
Arsenic, Total	1.8		mg/kg	0.42	--	1	01/16/16 09:00	01/18/16 20:38	EPA 3050B	1,6010C	PS
Beryllium, Total	0.25		mg/kg	0.21	--	1	01/16/16 09:00	01/18/16 20:38	EPA 3050B	1,6010C	PS
Cadmium, Total	ND		mg/kg	0.42	--	1	01/16/16 09:00	01/18/16 20:38	EPA 3050B	1,6010C	PS
Chromium, Total	2.7		mg/kg	0.42	--	1	01/16/16 09:00	01/18/16 20:38	EPA 3050B	1,6010C	PS
Copper, Total	9.9		mg/kg	0.42	--	1	01/16/16 09:00	01/18/16 20:38	EPA 3050B	1,6010C	PS
Lead, Total	56		mg/kg	2.1	--	1	01/16/16 09:00	01/18/16 20:38	EPA 3050B	1,6010C	PS
Mercury, Total	ND		mg/kg	0.07	--	1	01/16/16 10:10	01/18/16 16:02	EPA 7471B	1,7471B	DB
Nickel, Total	ND		mg/kg	1.0	--	1	01/16/16 09:00	01/18/16 20:38	EPA 3050B	1,6010C	PS
Selenium, Total	ND		mg/kg	0.84	--	1	01/16/16 09:00	01/18/16 20:38	EPA 3050B	1,6010C	PS
Silver, Total	ND		mg/kg	0.42	--	1	01/16/16 09:00	01/18/16 20:38	EPA 3050B	1,6010C	PS
Thallium, Total	ND		mg/kg	0.84	--	1	01/16/16 09:00	01/18/16 20:38	EPA 3050B	1,6010C	PS
Zinc, Total	11		mg/kg	2.1	--	1	01/16/16 09:00	01/18/16 20:38	EPA 3050B	1,6010C	PS



**Project Name:** HOPE MILL  
**Project Number:** P312-001

**Lab Number:** L1601312  
**Report Date:** 01/21/16

**SAMPLE RESULTS**

Lab ID: L1601312-16  
 Client ID: ESS-28  
 Sample Location: 1 MILL ST., SCITUATE, RI  
 Matrix: Soil  
 Percent Solids: 85%

Date Collected: 01/14/16 14:35  
 Date Received: 01/15/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
<b>Total Metals - Westborough Lab</b>											
Antimony, Total	ND		mg/kg	2.3	--	1	01/16/16 09:00	01/18/16 20:42	EPA 3050B	1,6010C	PS
Arsenic, Total	5.8		mg/kg	0.46	--	1	01/16/16 09:00	01/18/16 20:42	EPA 3050B	1,6010C	PS
Beryllium, Total	0.43		mg/kg	0.23	--	1	01/16/16 09:00	01/18/16 20:42	EPA 3050B	1,6010C	PS
Cadmium, Total	ND		mg/kg	0.46	--	1	01/16/16 09:00	01/18/16 20:42	EPA 3050B	1,6010C	PS
Chromium, Total	3.0		mg/kg	0.46	--	1	01/16/16 09:00	01/18/16 20:42	EPA 3050B	1,6010C	PS
Copper, Total	14		mg/kg	0.46	--	1	01/16/16 09:00	01/18/16 20:42	EPA 3050B	1,6010C	PS
Lead, Total	94		mg/kg	2.3	--	1	01/16/16 09:00	01/18/16 20:42	EPA 3050B	1,6010C	PS
Mercury, Total	0.13		mg/kg	0.08	--	1	01/16/16 10:10	01/18/16 16:04	EPA 7471B	1,7471B	DB
Nickel, Total	2.3		mg/kg	1.2	--	1	01/16/16 09:00	01/18/16 20:42	EPA 3050B	1,6010C	PS
Selenium, Total	ND		mg/kg	0.93	--	1	01/16/16 09:00	01/18/16 20:42	EPA 3050B	1,6010C	PS
Silver, Total	ND		mg/kg	0.46	--	1	01/16/16 09:00	01/18/16 20:42	EPA 3050B	1,6010C	PS
Thallium, Total	ND		mg/kg	0.93	--	1	01/16/16 09:00	01/18/16 20:42	EPA 3050B	1,6010C	PS
Zinc, Total	41		mg/kg	2.3	--	1	01/16/16 09:00	01/18/16 20:42	EPA 3050B	1,6010C	PS





Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

## Method Blank Analysis Batch Quality Control

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Westborough Lab for sample(s): 01-03,15-16 Batch: WG857857-1									
Mercury, Total	ND	mg/kg	0.08	--	1	01/16/16 10:10	01/18/16 15:43	1,7471B	DB

### Prep Information

Digestion Method: EPA 7471B

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Westborough Lab for sample(s): 01-03,15-16 Batch: WG857878-1									
Antimony, Total	ND	mg/kg	2.0	--	1	01/16/16 09:00	01/18/16 09:50	1,6010C	PS
Arsenic, Total	ND	mg/kg	0.40	--	1	01/16/16 09:00	01/18/16 09:50	1,6010C	PS
Beryllium, Total	ND	mg/kg	0.20	--	1	01/16/16 09:00	01/18/16 09:50	1,6010C	PS
Cadmium, Total	ND	mg/kg	0.40	--	1	01/16/16 09:00	01/18/16 09:50	1,6010C	PS
Chromium, Total	ND	mg/kg	0.40	--	1	01/16/16 09:00	01/18/16 09:50	1,6010C	PS
Copper, Total	ND	mg/kg	0.40	--	1	01/16/16 09:00	01/18/16 09:50	1,6010C	PS
Lead, Total	ND	mg/kg	2.0	--	1	01/16/16 09:00	01/18/16 09:50	1,6010C	PS
Nickel, Total	ND	mg/kg	1.0	--	1	01/16/16 09:00	01/18/16 09:50	1,6010C	PS
Selenium, Total	ND	mg/kg	0.80	--	1	01/16/16 09:00	01/18/16 09:50	1,6010C	PS
Silver, Total	ND	mg/kg	0.40	--	1	01/16/16 09:00	01/18/16 09:50	1,6010C	PS
Thallium, Total	ND	mg/kg	0.80	--	1	01/16/16 09:00	01/18/16 09:50	1,6010C	PS
Zinc, Total	ND	mg/kg	2.0	--	1	01/16/16 09:00	01/18/16 09:50	1,6010C	PS

### Prep Information

Digestion Method: EPA 3050B

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: HOPE MILL

Project Number: P312-001

Lab Number: L1601312

Report Date: 01/21/16

Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
Total Metals - Westborough Lab Associated sample(s): 01-03,15-16 Batch: WG857857-2 SRM Lot Number: D088-540								
Mercury, Total	104		-		72-128	-		
Total Metals - Westborough Lab Associated sample(s): 01-03,15-16 Batch: WG857878-2 SRM Lot Number: D088-540								
Antimony, Total	168		-		1-208	-		
Arsenic, Total	96		-		79-121	-		
Beryllium, Total	93		-		83-117	-		
Cadmium, Total	91		-		83-117	-		
Chromium, Total	92		-		80-120	-		
Copper, Total	90		-		81-118	-		
Lead, Total	87		-		81-117	-		
Nickel, Total	90		-		83-117	-		
Selenium, Total	91		-		78-122	-		
Silver, Total	93		-		75-124	-		
Thallium, Total	90		-		80-120	-		
Zinc, Total	88		-		82-118	-		

### Matrix Spike Analysis Batch Quality Control

**Project Name:** HOPE MILL  
**Project Number:** P312-001

**Lab Number:** L1601312  
**Report Date:** 01/21/16

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Qual	MSD Found	MSD %Recovery	MSD Qual	Recovery Limits	RPD	RPD Qual	RPD Limits
Total Metals - Westborough Lab Associated sample(s): 01-03,15-16 QC Batch ID: WG857857-4 QC Sample: L1600001-48 Client ID: MS Sample												
Mercury, Total	0.52	0.128	0.68	125	Q	-	-		80-120	-		20
Total Metals - Westborough Lab Associated sample(s): 01-03,15-16 QC Batch ID: WG857878-4 QC Sample: L1600001-48 Client ID: MS Sample												
Antimony, Total	ND	39.1	38	97		-	-		75-125	-		20
Arsenic, Total	6.2	9.38	18	126	Q	-	-		75-125	-		20
Beryllium, Total	ND	3.91	5.7	146	Q	-	-		75-125	-		20
Cadmium, Total	ND	3.99	4.5	113		-	-		75-125	-		20
Chromium, Total	390	15.6	390	0	Q	-	-		75-125	-		20
Copper, Total	52	19.5	94	215	Q	-	-		75-125	-		20
Lead, Total	120	39.9	190	176	Q	-	-		75-125	-		20
Nickel, Total	17	39.1	62	115		-	-		75-125	-		20
Selenium, Total	ND	9.38	ND	0	Q	-	-		75-125	-		20
Silver, Total	ND	23.4	29	124		-	-		75-125	-		20
Thallium, Total	ND	9.38	8.9	95		-	-		75-125	-		20
Zinc, Total	92	39.1	150	148	Q	-	-		75-125	-		20

## Lab Duplicate Analysis

Batch Quality Control

**Project Name:** HOPE MILL  
**Project Number:** P312-001

**Lab Number:** L1601312  
**Report Date:** 01/21/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Westborough Lab Associated sample(s): 01-03,15-16 QC Batch ID: WG857857-3 QC Sample: L1600001-48 Client ID: DUP Sample						
Mercury, Total	0.52	0.46	mg/kg	12		20
Total Metals - Westborough Lab Associated sample(s): 01-03,15-16 QC Batch ID: WG857878-3 QC Sample: L1600001-48 Client ID: DUP Sample						
Antimony, Total	ND	ND	mg/kg	NC		20
Arsenic, Total	6.2	5.6	mg/kg	10		20
Beryllium, Total	ND	ND	mg/kg	NC		20
Cadmium, Total	ND	ND	mg/kg	NC		20
Chromium, Total	390	360	mg/kg	8		20
Copper, Total	52	67	mg/kg	25	Q	20
Lead, Total	120	160	mg/kg	29	Q	20
Nickel, Total	17	18	mg/kg	6		20
Selenium, Total	ND	ND	mg/kg	NC		20
Silver, Total	ND	ND	mg/kg	NC		20
Thallium, Total	ND	ND	mg/kg	NC		20
Zinc, Total	92	93	mg/kg	1		20

# **INORGANICS & MISCELLANEOUS**

Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

**SAMPLE RESULTS**

Lab ID: L1601312-01

Date Collected: 01/14/16 12:05

Client ID: ESSTP-19

Date Received: 01/15/16

Sample Location: 1 MILL ST., SCITUATE, RI

Field Prep: Not Specified

Matrix: Soil

**Test Material Information**

Source of Material: Unknown  
 Description of Material: Non-Metallic - Damp Soil  
 Particle Size: Fine  
 Preliminary Burning Time (sec): 120

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	01/17/16 22:00	1,1030	SB



Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

**SAMPLE RESULTS**

Lab ID: L1601312-02

Date Collected: 01/14/16 14:40

Client ID: ESSTP-21

Date Received: 01/15/16

Sample Location: 1 MILL ST., SCITUATE, RI

Field Prep: Not Specified

Matrix: Soil

**Test Material Information**

Source of Material: Unknown  
 Description of Material: Non-Metallic - Damp Soil  
 Particle Size: Fine  
 Preliminary Burning Time (sec): 120

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	01/17/16 22:00	1,1030	SB



Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

**SAMPLE RESULTS**

Lab ID: L1601312-03  
 Client ID: ESSTP-22  
 Sample Location: 1 MILL ST., SCITUATE, RI  
 Matrix: Soil

Date Collected: 01/14/16 13:45  
 Date Received: 01/15/16  
 Field Prep: Not Specified

**Test Material Information**

Source of Material: Unknown  
 Description of Material: Non-Metallic - Damp Soil  
 Particle Size: Fine  
 Preliminary Burning Time (sec): 120

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	01/17/16 22:00	1,1030	SB





Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

## SAMPLE RESULTS

Lab ID: L1601312-01  
 Client ID: ESSTP-19  
 Sample Location: 1 MILL ST., SCITUATE, RI  
 Matrix: Soil

Date Collected: 01/14/16 12:05  
 Date Received: 01/15/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.2		%	0.100	NA	1	-	01/15/16 22:47	30,2540G	RT
Cyanide, Total	ND		mg/kg	1.0	--	1	01/15/16 23:20	01/19/16 12:06	1,9010C/9012B	JO
pH (H)	5.4		SU	-	NA	1	-	01/15/16 19:00	1,9045D	AS
Cyanide, Reactive	ND		mg/kg	10	--	1	01/18/16 13:15	01/18/16 15:45	1,7.3	TL
Sulfide, Reactive	ND		mg/kg	10	--	1	01/18/16 13:15	01/18/16 15:36	1,7.3	TL



Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

## SAMPLE RESULTS

Lab ID: L1601312-02  
 Client ID: ESSTP-21  
 Sample Location: 1 MILL ST., SCITUATE, RI  
 Matrix: Soil

Date Collected: 01/14/16 14:40  
 Date Received: 01/15/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.6		%	0.100	NA	1	-	01/15/16 22:47	30,2540G	RT
Cyanide, Total	ND		mg/kg	1.0	--	1	01/15/16 23:20	01/19/16 12:09	1,9010C/9012B	JO
pH (H)	5.2		SU	-	NA	1	-	01/15/16 19:00	1,9045D	AS
Cyanide, Reactive	ND		mg/kg	10	--	1	01/18/16 13:15	01/18/16 15:46	1,7.3	TL
Sulfide, Reactive	ND		mg/kg	10	--	1	01/18/16 13:15	01/18/16 15:37	1,7.3	TL



Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

## SAMPLE RESULTS

Lab ID: L1601312-03  
 Client ID: ESSTP-22  
 Sample Location: 1 MILL ST., SCITUATE, RI  
 Matrix: Soil

Date Collected: 01/14/16 13:45  
 Date Received: 01/15/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	76.2		%	0.100	NA	1	-	01/15/16 22:47	30,2540G	RT
Cyanide, Total	ND		mg/kg	1.3	--	1	01/15/16 23:20	01/19/16 12:09	1,9010C/9012B	JO
pH (H)	5.4		SU	-	NA	1	-	01/15/16 19:00	1,9045D	AS
Cyanide, Reactive	ND		mg/kg	10	--	1	01/18/16 13:15	01/18/16 15:46	1,7.3	TL
Sulfide, Reactive	ND		mg/kg	10	--	1	01/18/16 13:15	01/18/16 15:37	1,7.3	TL



Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

## SAMPLE RESULTS

Lab ID: L1601312-04  
 Client ID: ESSTP-19  
 Sample Location: 1 MILL ST., SCITUATE, RI  
 Matrix: Soil

Date Collected: 01/14/16 12:08  
 Date Received: 01/15/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.2		%	0.100	NA	1	-	01/15/16 22:47	30,2540G	RT



Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

## SAMPLE RESULTS

Lab ID: L1601312-05  
 Client ID: ESSTP-21  
 Sample Location: 1 MILL ST., SCITUATE, RI  
 Matrix: Soil

Date Collected: 01/14/16 14:42  
 Date Received: 01/15/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.6		%	0.100	NA	1	-	01/15/16 22:47	30,2540G	RT



Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

**SAMPLE RESULTS**

Lab ID: L1601312-06

Date Collected: 01/14/16 13:47

Client ID: ESSTP-22

Date Received: 01/15/16

Sample Location: 1 MILL ST., SCITUATE, RI

Field Prep: Not Specified

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	76.2		%	0.100	NA	1	-	01/15/16 22:47	30,2540G	RT



Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

**SAMPLE RESULTS**

Lab ID: L1601312-07

Date Collected: 01/14/16 13:50

Client ID: ESSTP-22

Date Received: 01/15/16

Sample Location: 1 MILL ST., SCITUATE, RI

Field Prep: Not Specified

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.0		%	0.100	NA	1	-	01/15/16 22:47	30,2540G	RT



Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

## SAMPLE RESULTS

Lab ID: L1601312-08  
 Client ID: FW-1  
 Sample Location: 1 MILL ST., SCITUATE, RI  
 Matrix: Soil

Date Collected: 01/14/16 13:10  
 Date Received: 01/15/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Perchlorate by IC/MS/MS - Westborough Lab										
Perchlorate	ND		ug/kg	0.531	--	1	01/19/16 20:30	01/20/16 21:45	72,6860	SS
General Chemistry - Westborough Lab										
Solids, Total	86.4		%	0.100	NA	1	-	01/15/16 22:47	30,2540G	RT





Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

## SAMPLE RESULTS

Lab ID: L1601312-09  
 Client ID: FW-2  
 Sample Location: 1 MILL ST., SCITUATE, RI  
 Matrix: Soil

Date Collected: 01/14/16 13:25  
 Date Received: 01/15/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Perchlorate by IC/MS/MS - Westborough Lab										
Perchlorate	ND		ug/kg	0.562	--	1	01/19/16 20:30	01/20/16 05:46	72,6860	SS
General Chemistry - Westborough Lab										
Solids, Total	90.8		%	0.100	NA	1	-	01/15/16 22:47	30,2540G	RT



Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

## SAMPLE RESULTS

Lab ID: L1601312-10  
 Client ID: FW-3  
 Sample Location: 1 MILL ST., SCITUATE, RI  
 Matrix: Soil

Date Collected: 01/14/16 13:20  
 Date Received: 01/15/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Perchlorate by IC/MS/MS - Westborough Lab										
Perchlorate	ND		ug/kg	0.505	--	1	01/19/16 20:30	01/20/16 06:13	72,6860	SS
General Chemistry - Westborough Lab										
Solids, Total	85.3		%	0.100	NA	1	-	01/15/16 22:47	30,2540G	RT



Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

## SAMPLE RESULTS

Lab ID: L1601312-11  
 Client ID: FW-4  
 Sample Location: 1 MILL ST., SCITUATE, RI  
 Matrix: Soil

Date Collected: 01/14/16 12:20  
 Date Received: 01/15/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Perchlorate by IC/MS/MS - Westborough Lab										
Perchlorate	ND		ug/kg	0.574	--	1	01/19/16 20:30	01/20/16 06:41	72,6860	SS
General Chemistry - Westborough Lab										
Solids, Total	87.1		%	0.100	NA	1	-	01/15/16 22:47	30,2540G	RT



Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

## SAMPLE RESULTS

Lab ID: L1601312-12  
 Client ID: FW-5  
 Sample Location: 1 MILL ST., SCITUATE, RI  
 Matrix: Soil

Date Collected: 01/14/16 12:30  
 Date Received: 01/15/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Perchlorate by IC/MS/MS - Westborough Lab										
Perchlorate	ND		ug/kg	0.501	--	1	01/19/16 20:30	01/20/16 07:08	72,6860	SS
General Chemistry - Westborough Lab										
Solids, Total	90.7		%	0.100	NA	1	-	01/15/16 22:47	30,2540G	RT



Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

## SAMPLE RESULTS

Lab ID: L1601312-13  
 Client ID: FW-6  
 Sample Location: 1 MILL ST., SCITUATE, RI  
 Matrix: Soil

Date Collected: 01/14/16 12:50  
 Date Received: 01/15/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Perchlorate by IC/MS/MS - Westborough Lab										
Perchlorate	ND		ug/kg	0.446	--	1	01/19/16 20:30	01/20/16 22:12	72,6860	SS
General Chemistry - Westborough Lab										
Solids, Total	90.3		%	0.100	NA	1	-	01/15/16 22:47	30,2540G	RT



Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

## SAMPLE RESULTS

Lab ID: L1601312-14  
 Client ID: FW-8  
 Sample Location: 1 MILL ST., SCITUATE, RI  
 Matrix: Soil

Date Collected: 01/14/16 12:45  
 Date Received: 01/15/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Perchlorate by IC/MS/MS - Westborough Lab										
Perchlorate	ND		ug/kg	0.536	--	1	01/19/16 20:30	01/20/16 08:02	72,6860	SS
General Chemistry - Westborough Lab										
Solids, Total	86.3		%	0.100	NA	1	-	01/15/16 22:47	30,2540G	RT



Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

## SAMPLE RESULTS

Lab ID: L1601312-15  
 Client ID: ESS-27  
 Sample Location: 1 MILL ST., SCITUATE, RI  
 Matrix: Soil

Date Collected: 01/14/16 14:30  
 Date Received: 01/15/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.7		%	0.100	NA	1	-	01/15/16 22:47	30,2540G	RT



Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

## SAMPLE RESULTS

Lab ID: L1601312-16  
 Client ID: ESS-28  
 Sample Location: 1 MILL ST., SCITUATE, RI  
 Matrix: Soil

Date Collected: 01/14/16 14:35  
 Date Received: 01/15/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.9		%	0.100	NA	1	-	01/15/16 22:47	30,2540G	RT





Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

## SAMPLE RESULTS

Lab ID: L1601312-17  
 Client ID: FW-7  
 Sample Location: 1 MILL ST., SCITUATE, RI  
 Matrix: Soil

Date Collected: 01/14/16 12:40  
 Date Received: 01/15/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Perchlorate by IC/MS/MS - Westborough Lab										
Perchlorate	ND		ug/kg	0.434	--	1	01/19/16 20:30	01/20/16 08:29	72,6860	SS
General Chemistry - Westborough Lab										
Solids, Total	85.9		%	0.100	NA	1	-	01/15/16 22:47	30,2540G	RT



Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

**Method Blank Analysis**  
**Batch Quality Control**

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01-03 Batch: WG857832-1									
Cyanide, Total	ND	mg/kg	0.88	--	1	01/15/16 23:20	01/19/16 11:56	1,9010C/9012B	JO
General Chemistry - Westborough Lab for sample(s): 01-03 Batch: WG858139-1									
Cyanide, Reactive	ND	mg/kg	10	--	1	01/18/16 13:15	01/18/16 15:43	1,7.3	TL
General Chemistry - Westborough Lab for sample(s): 01-03 Batch: WG858140-1									
Sulfide, Reactive	ND	mg/kg	10	--	1	01/18/16 13:15	01/18/16 15:34	1,7.3	TL
Perchlorate by IC/MS/MS - Westborough Lab for sample(s): 08-14,17 Batch: WG858607-1									
Perchlorate	ND	ug/kg	0.490	--	1	01/19/16 20:30	01/20/16 20:51	72,6860	SS

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: HOPE MILL

Project Number: P312-001

Lab Number: L1601312

Report Date: 01/21/16

Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
General Chemistry - Westborough Lab Associated sample(s): 01-03 Batch: WG857797-1								
pH	100		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 01-03 Batch: WG857832-2 WG857832-3								
Cyanide, Total	76	Q	88		80-120	18		35
General Chemistry - Westborough Lab Associated sample(s): 01-03 Batch: WG858139-2								
Cyanide, Reactive	68		-		30-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 01-03 Batch: WG858140-2								
Sulfide, Reactive	98		-		60-125	-		40
Perchlorate by IC/MS/MS - Westborough Lab Associated sample(s): 08-14,17 Batch: WG858607-2								
Perchlorate	97		-		80-120	-		20

### Matrix Spike Analysis Batch Quality Control

**Project Name:** HOPE MILL  
**Project Number:** P312-001

**Lab Number:** L1601312  
**Report Date:** 01/21/16

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Qual	MSD Found	MSD %Recovery	MSD Qual	Recovery Limits	RPD	RPD Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG857832-4 WG857832-5 QC Sample: L1601312-01 Client ID: ESSTP-19												
Cyanide, Total	ND	10	9.4	93		9.0	90		65-135	4		35
Perchlorate by IC/MS/MS - Westborough Lab Associated sample(s): 08-14,17 QC Batch ID: WG858607-3 QC Sample: L1601312-08 Client ID: FW-1												
Perchlorate	ND	10.8	10.8	99		-	-		70-130	-		30

## Lab Duplicate Analysis

Batch Quality Control

Project Name: HOPE MILL

Project Number: P312-001

Lab Number: L1601312

Report Date: 01/21/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG857797-2 QC Sample: L1601300-01 Client ID: DUP Sample						
pH	7.1	7.1	SU	0		5
General Chemistry - Westborough Lab Associated sample(s): 01-17 QC Batch ID: WG857829-1 QC Sample: L1601142-01 Client ID: DUP Sample						
Solids, Total	73.9	73.0	%	1		20
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG858139-3 QC Sample: L1601312-01 Client ID: ESSTP-19						
Cyanide, Reactive	ND	ND	mg/kg	NC		40
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG858140-3 QC Sample: L1601312-01 Client ID: ESSTP-19						
Sulfide, Reactive	ND	ND	mg/kg	NC		40
Perchlorate by IC/MS/MS - Westborough Lab Associated sample(s): 08-14,17 QC Batch ID: WG858607-4 QC Sample: L1601312-08 Client ID: FW-1						
Perchlorate	ND	ND	ug/kg	NC		30

Project Name: HOPE MILL

Lab Number: L1601312

Project Number: P312-001

Report Date: 01/21/16

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: 01/15/2016 17:59

## Cooler Information Custody Seal

## Cooler

A Absent

## Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1601312-01A	Glass 500ml/16oz unpreserved	A	N/A	2.4	Y	Absent	8270TCL(14),BE-TI(180),IGNIT-1030(14),REACTS(14),TCN-9010(14),AS-TI(180),AG-TI(180),CR-TI(180),NI-TI(180),TL-TI(180),CU-TI(180),PB-TI(180),PH-9045(1),SB-TI(180),SE-TI(180),ZN-TI(180),PEST-8081(14),HG-T(28),PCB-8082-3540C(14),REACTCN(14),TPH-DRO-D(14),CD-TI(180)
L1601312-01B	Glass 250ml/8oz unpreserved	A	N/A	2.4	Y	Absent	8270TCL(14),BE-TI(180),IGNIT-1030(14),REACTS(14),TCN-9010(14),AS-TI(180),AG-TI(180),CR-TI(180),NI-TI(180),TL-TI(180),CU-TI(180),PB-TI(180),PH-9045(1),SB-TI(180),SE-TI(180),ZN-TI(180),PEST-8081(14),HG-T(28),PCB-8082-3540C(14),REACTCN(14),TPH-DRO-D(14),CD-TI(180)
L1601312-01C	Plastic 2oz unpreserved for TS	A	N/A	2.4	Y	Absent	TS(7)
L1601312-02A	Glass 500ml/16oz unpreserved	A	N/A	2.4	Y	Absent	8270TCL(14),BE-TI(180),IGNIT-1030(14),REACTS(14),TCN-9010(14),AS-TI(180),AG-TI(180),CR-TI(180),NI-TI(180),TL-TI(180),CU-TI(180),PB-TI(180),PH-9045(1),SB-TI(180),SE-TI(180),ZN-TI(180),PEST-8081(14),HG-T(28),PCB-8082-3540C(14),REACTCN(14),TPH-DRO-D(14),CD-TI(180)

\*Values in parentheses indicate holding time in days



Project Name: HOPE MILL

Project Number: P312-001

Lab Number: L1601312

Report Date: 01/21/16

## Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1601312-02B	Glass 250ml/8oz unpreserved	A	N/A	2.4	Y	Absent	8270TCL(14),BE-TI(180),IGNIT-1030(14),REACTS(14),TCN-9010(14),AS-TI(180),AG-TI(180),CR-TI(180),NI-TI(180),TL-TI(180),CU-TI(180),PB-TI(180),PH-9045(1),SB-TI(180),SE-TI(180),ZN-TI(180),PEST-8081(14),HG-T(28),PCB-8082-3540C(14),REACTCN(14),TPH-DRO-D(14),CD-TI(180)
L1601312-02C	Plastic 2oz unpreserved for TS	A	N/A	2.4	Y	Absent	TS(7)
L1601312-03A	Glass 500ml/16oz unpreserved	A	N/A	2.4	Y	Absent	8270TCL(14),BE-TI(180),IGNIT-1030(14),REACTS(14),TCN-9010(14),AS-TI(180),AG-TI(180),CR-TI(180),NI-TI(180),TL-TI(180),CU-TI(180),PB-TI(180),PH-9045(1),SB-TI(180),SE-TI(180),ZN-TI(180),PEST-8081(14),HG-T(28),PCB-8082-3540C(14),REACTCN(14),TPH-DRO-D(14),CD-TI(180)
L1601312-03B	Glass 250ml/8oz unpreserved	A	N/A	2.4	Y	Absent	8270TCL(14),BE-TI(180),IGNIT-1030(14),REACTS(14),TCN-9010(14),AS-TI(180),AG-TI(180),CR-TI(180),NI-TI(180),TL-TI(180),CU-TI(180),PB-TI(180),PH-9045(1),SB-TI(180),SE-TI(180),ZN-TI(180),PEST-8081(14),HG-T(28),PCB-8082-3540C(14),REACTCN(14),TPH-DRO-D(14),CD-TI(180)
L1601312-03C	Plastic 2oz unpreserved for TS	A	N/A	2.4	Y	Absent	TS(7)
L1601312-04A	Vial MeOH preserved	A	N/A	2.4	Y	Absent	8260HLW(14)
L1601312-04B	Vial water preserved	A	N/A	2.4	Y	Absent	8260HLW(14)
L1601312-04C	Vial water preserved	A	N/A	2.4	Y	Absent	8260HLW(14)
L1601312-05A	Vial MeOH preserved	A	N/A	2.4	Y	Absent	8260HLW(14)
L1601312-05B	Vial water preserved	A	N/A	2.4	Y	Absent	8260HLW(14)
L1601312-05C	Vial water preserved	A	N/A	2.4	Y	Absent	8260HLW(14)
L1601312-06A	Vial MeOH preserved	A	N/A	2.4	Y	Absent	8260HLW(14)
L1601312-06B	Vial water preserved	A	N/A	2.4	Y	Absent	8260HLW(14)
L1601312-06C	Vial water preserved	A	N/A	2.4	Y	Absent	8260HLW(14)
L1601312-07A	Glass 250ml/8oz unpreserved	A	N/A	2.4	Y	Absent	TS(7),TPH-DRO-D(14)
L1601312-08A	Glass 60mL/2oz unpreserved	A	N/A	2.4	Y	Absent	PERC-6860(28)
L1601312-08B	Plastic 2oz unpreserved for TS	A	N/A	2.4	Y	Absent	TS(7)
L1601312-09A	Glass 60mL/2oz unpreserved	A	N/A	2.4	Y	Absent	PERC-6860(28)
L1601312-09B	Plastic 2oz unpreserved for TS	A	N/A	2.4	Y	Absent	TS(7)

\*Values in parentheses indicate holding time in days



Project Name: HOPE MILL

Project Number: P312-001

Lab Number: L1601312

Report Date: 01/21/16

**Container Information**

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1601312-10A	Glass 60mL/2oz unpreserved	A	N/A	2.4	Y	Absent	PERC-6860(28)
L1601312-10B	Plastic 2oz unpreserved for TS	A	N/A	2.4	Y	Absent	TS(7)
L1601312-11A	Glass 60mL/2oz unpreserved	A	N/A	2.4	Y	Absent	PERC-6860(28)
L1601312-11B	Plastic 2oz unpreserved for TS	A	N/A	2.4	Y	Absent	TS(7)
L1601312-12A	Glass 60mL/2oz unpreserved	A	N/A	2.4	Y	Absent	PERC-6860(28)
L1601312-12B	Plastic 2oz unpreserved for TS	A	N/A	2.4	Y	Absent	TS(7)
L1601312-13A	Glass 60mL/2oz unpreserved	A	N/A	2.4	Y	Absent	PERC-6860(28)
L1601312-13B	Plastic 2oz unpreserved for TS	A	N/A	2.4	Y	Absent	TS(7)
L1601312-14A	Glass 120ml/4oz unpreserved	A	N/A	2.4	Y	Absent	PERC-6860(28),TS(7)
L1601312-15A	Glass 120ml/4oz unpreserved	A	N/A	2.4	Y	Absent	BE-TI(180),AS-TI(180),AG-TI(180),8270TCL-PAH(14),CR-TI(180),NI-TI(180),TL-TI(180),TS(7),CU-TI(180),PB-TI(180),SB-TI(180),SE-TI(180),ZN-TI(180),HG-T(28),CD-TI(180)
L1601312-16A	Glass 60mL/2oz unpreserved	A	N/A	2.4	Y	Absent	BE-TI(180),AS-TI(180),AG-TI(180),8270TCL-PAH(14),CR-TI(180),NI-TI(180),TL-TI(180),TS(7),CU-TI(180),PB-TI(180),SB-TI(180),SE-TI(180),ZN-TI(180),HG-T(28),CD-TI(180)
L1601312-17A	Glass 60mL/2oz unpreserved	A	N/A	2.4	Y	Absent	PERC-6860(28)
L1601312-17B	Plastic 2oz unpreserved for TS	A	N/A	2.4	Y	Absent	TS(7)

**Container Comments**

L1601312-15A

\*Values in parentheses indicate holding time in days





**Project Name:** HOPE MILL  
**Project Number:** P312-001

**Lab Number:** L1601312  
**Report Date:** 01/21/16

## GLOSSARY

### Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCS D	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

### Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

### Terms

**Total:** With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

**Analytical Method:** Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

### Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

**Report Format:** Data Usability Report



**Project Name:** HOPE MILL  
**Project Number:** P312-001

**Lab Number:** L1601312  
**Report Date:** 01/21/16

#### Data Qualifiers

- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reporting limit (RL) for the sample.

**Project Name:** HOPE MILL  
**Project Number:** P312-001

**Lab Number:** L1601312  
**Report Date:** 01/21/16

## REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.
- 30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.
- 72 Perchlorate in Water, Soils and Solid Wastes using Ion Chromatography/Electrospray/Mass Spectrometry - (IC/MS or IC/MS/MS). EPA 6860, 2005.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



## Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

### Westborough Facility

**EPA 524.2:** 1,2-Dibromo-3-chloropropane, 1,2-Dibromoethane, m/p-xylene, o-xylene  
**EPA 624:** 2-Butanone (MEK), 1,4-Dioxane, tert-Amylmethyl Ether, tert-Butyl Alcohol, m/p-xylene, o-xylene  
**EPA 625:** Aniline, Benzoic Acid, Benzyl Alcohol, 4-Chloroaniline, 3-Methylphenol, 4-Methylphenol.  
**EPA 1010A:** NPW: Ignitability  
**EPA 6010C:** NPW: Strontium; SCM: Strontium  
**EPA 8151A:** NPW: 2,4-DB, Dicamba, Dichloroprop, MCPA, MCPP; SCM: 2,4-DB, Dichloroprop, MCPA, MCPP  
**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene, Isopropanol; SCM: Iodomethane (methyl iodide), Methyl methacrylate (soil); 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.  
**EPA 8270D:** NPW: Pentachloronitrobenzene, 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Pentachloronitrobenzene, 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine.  
**EPA 9010:** NPW: Amenable Cyanide Distillation, Total Cyanide Distillation  
**EPA 9038:** NPW: Sulfate  
**EPA 9050A:** NPW: Specific Conductance  
**EPA 9056:** NPW: Chloride, Nitrate, Sulfate  
**EPA 9065:** NPW: Phenols  
**EPA 9251:** NPW: Chloride  
**SM3500:** NPW: Ferrous Iron  
**SM4500:** NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.  
**SM5310C:** DW: Dissolved Organic Carbon

### Mansfield Facility

**EPA 8270D:** NPW: Biphenyl; SCM: Biphenyl  
**EPA 2540D:** TSS  
**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

### Drinking Water

**EPA 200.8:** Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; **EPA 200.7:** Ba,Be,Ca,Cd,Cr,Cu,Na; **EPA 245.1:** Mercury;  
**EPA 300.0:** Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**  
**EPA 332:** Perchlorate.  
**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.**

### Non-Potable Water

**EPA 200.8:** Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;  
**EPA 200.7:** Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn;  
**EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC, SM426C, SM4500NH3-BH, EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.**  
**EPA 624:** Volatile Halocarbons & Aromatics,  
**EPA 608:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs  
**EPA 625:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.  
**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.











## ANALYTICAL REPORT

Lab Number:	L1601425
Client:	ESS Group, Inc. 100 Fifth Avenue 5th Floor Waltham, MA 02451
ATTN:	Craig Paradis
Phone:	(781) 419-7714
Project Name:	HOPE MILL
Project Number:	P312-001
Report Date:	01/21/16

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), VA (460195), MD (348), IL (200077), NC (666), TX (T104704476), DOD (L2217), USDA (Permit #P-330-11-00240).

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Eight Walkup Drive, Westborough, MA 01581-1019  
508-898-9220 (Fax) 508-898-9193 800-624-9220 - [www.alphalab.com](http://www.alphalab.com)



**Project Name:** HOPE MILL  
**Project Number:** P312-001

**Lab Number:** L1601425  
**Report Date:** 01/21/16

<b>Alpha Sample ID</b>	<b>Client ID</b>	<b>Matrix</b>	<b>Sample Location</b>	<b>Collection Date/Time</b>	<b>Receive Date</b>
L1601425-01	SSP-8	WATER	1 MILL ST., SCITUATE, RI	01/15/16 12:30	01/15/16
L1601425-02	SSP-7	WATER	1 MILL ST., SCITUATE, RI	01/15/16 13:30	01/15/16



**Project Name:** HOPE MILL  
**Project Number:** P312-001

**Lab Number:** L1601425  
**Report Date:** 01/21/16

### Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

#### HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

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**Project Name:** HOPE MILL  
**Project Number:** P312-001

**Lab Number:** L1601425  
**Report Date:** 01/21/16

### Case Narrative (continued)

#### Semivolatile Organics

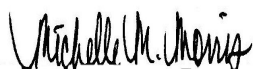
The WG858636-2/-3 LCS/LCSD recoveries, associated with L1601425-01 and -02, are below the acceptance criteria for benzidine (5%/0%) and pyridine (LCS at 9%); however, they have been identified as "difficult" analytes. The results of the associated samples are reported.

#### Petroleum Hydrocarbon Quantitation

WG858548: An LCS/LCSD was performed in lieu of a Laboratory Duplicate due to insufficient sample volume available for analysis.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:



Michelle M. Morris

Title: Technical Director/Representative

Date: 01/21/16

# ORGANICS

# SEMIVOLATILES

Project Name: HOPE MILL

Lab Number: L1601425

Project Number: P312-001

Report Date: 01/21/16

## SAMPLE RESULTS

Lab ID: L1601425-01  
 Client ID: SSP-8  
 Sample Location: 1 MILL ST., SCITUATE, RI  
 Matrix: Water  
 Analytical Method: 1,8270D  
 Analytical Date: 01/21/16 12:31  
 Analyst: RC

Date Collected: 01/15/16 12:30  
 Date Received: 01/15/16  
 Field Prep: Not Specified  
 Extraction Method: EPA 3510C  
 Extraction Date: 01/20/16 02:44

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Semivolatile Organics by GC/MS - Westborough Lab</b>						
Benzidine	ND		ug/l	20	--	1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	--	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	--	1
1,2-Dichlorobenzene	ND		ug/l	2.0	--	1
1,3-Dichlorobenzene	ND		ug/l	2.0	--	1
1,4-Dichlorobenzene	ND		ug/l	2.0	--	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	--	1
2,4-Dinitrotoluene	ND		ug/l	5.0	--	1
2,6-Dinitrotoluene	ND		ug/l	5.0	--	1
Azobenzene	ND		ug/l	2.0	--	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	--	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	--	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	--	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	--	1
Hexachlorocyclopentadiene	ND		ug/l	20	--	1
Isophorone	ND		ug/l	5.0	--	1
Nitrobenzene	ND		ug/l	2.0	--	1
NDPA/DPA	ND		ug/l	2.0	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	--	1
Butyl benzyl phthalate	ND		ug/l	5.0	--	1
Di-n-butylphthalate	ND		ug/l	5.0	--	1
Di-n-octylphthalate	ND		ug/l	5.0	--	1
Diethyl phthalate	ND		ug/l	5.0	--	1
Dimethyl phthalate	ND		ug/l	5.0	--	1
Aniline	ND		ug/l	2.0	--	1
4-Chloroaniline	ND		ug/l	5.0	--	1
2-Nitroaniline	ND		ug/l	5.0	--	1
3-Nitroaniline	ND		ug/l	5.0	--	1
4-Nitroaniline	ND		ug/l	5.0	--	1
Dibenzofuran	ND		ug/l	2.0	--	1

Project Name: HOPE MILL

Lab Number: L1601425

Project Number: P312-001

Report Date: 01/21/16

## SAMPLE RESULTS

Lab ID: L1601425-01

Date Collected: 01/15/16 12:30

Client ID: SSP-8

Date Received: 01/15/16

Sample Location: 1 MILL ST., SCITUATE, RI

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
n-Nitrosodimethylamine	ND		ug/l	2.0	--	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	--	1
p-Chloro-m-cresol	ND		ug/l	2.0	--	1
2-Chlorophenol	ND		ug/l	2.0	--	1
2,4-Dichlorophenol	ND		ug/l	5.0	--	1
2,4-Dimethylphenol	ND		ug/l	5.0	--	1
2-Nitrophenol	ND		ug/l	10	--	1
4-Nitrophenol	ND		ug/l	10	--	1
2,4-Dinitrophenol	ND		ug/l	20	--	1
4,6-Dinitro-o-cresol	ND		ug/l	10	--	1
Phenol	ND		ug/l	5.0	--	1
2-Methylphenol	ND		ug/l	5.0	--	1
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	--	1
2,4,5-Trichlorophenol	ND		ug/l	5.0	--	1
Benzoic Acid	ND		ug/l	50	--	1
Benzyl Alcohol	ND		ug/l	2.0	--	1
Carbazole	ND		ug/l	2.0	--	1
Pyridine	ND		ug/l	5.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	52		21-120
Phenol-d6	36		10-120
Nitrobenzene-d5	79		23-120
2-Fluorobiphenyl	72		15-120
2,4,6-Tribromophenol	72		10-120
4-Terphenyl-d14	78		41-149

Project Name: HOPE MILL

Lab Number: L1601425

Project Number: P312-001

Report Date: 01/21/16

## SAMPLE RESULTS

Lab ID: L1601425-01  
 Client ID: SSP-8  
 Sample Location: 1 MILL ST., SCITUATE, RI  
 Matrix: Water  
 Analytical Method: 1,8270D-SIM  
 Analytical Date: 01/21/16 10:41  
 Analyst: KV

Date Collected: 01/15/16 12:30  
 Date Received: 01/15/16  
 Field Prep: Not Specified  
 Extraction Method: EPA 3510C  
 Extraction Date: 01/20/16 02:44

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Semivolatile Organics by GC/MS-SIM - Westborough Lab</b>						
Acenaphthene	ND		ug/l	0.10	--	1
2-Chloronaphthalene	ND		ug/l	0.20	--	1
Fluoranthene	ND		ug/l	0.20	--	1
Hexachlorobutadiene	ND		ug/l	0.50	--	1
Naphthalene	ND		ug/l	0.20	--	1
Benzo(a)anthracene	ND		ug/l	0.20	--	1
Benzo(a)pyrene	ND		ug/l	0.20	--	1
Benzo(b)fluoranthene	ND		ug/l	0.20	--	1
Benzo(k)fluoranthene	ND		ug/l	0.20	--	1
Chrysene	ND		ug/l	0.20	--	1
Acenaphthylene	ND		ug/l	0.20	--	1
Anthracene	ND		ug/l	0.20	--	1
Benzo(ghi)perylene	ND		ug/l	0.20	--	1
Fluorene	ND		ug/l	0.20	--	1
Phenanthrene	ND		ug/l	0.20	--	1
Dibenzo(a,h)anthracene	ND		ug/l	0.20	--	1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.20	--	1
Pyrene	ND		ug/l	0.20	--	1
1-Methylnaphthalene	ND		ug/l	0.20	--	1
2-Methylnaphthalene	ND		ug/l	0.20	--	1
Pentachlorophenol	ND		ug/l	0.80	--	1
Hexachlorobenzene	ND		ug/l	0.80	--	1
Hexachloroethane	ND		ug/l	0.80	--	1

**Project Name:** HOPE MILL**Lab Number:** L1601425**Project Number:** P312-001**Report Date:** 01/21/16**SAMPLE RESULTS**

Lab ID: L1601425-01

Date Collected: 01/15/16 12:30

Client ID: SSP-8

Date Received: 01/15/16

Sample Location: 1 MILL ST., SCITUATE, RI

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Semivolatile Organics by GC/MS-SIM - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	47		21-120
Phenol-d6	38		10-120
Nitrobenzene-d5	84		23-120
2-Fluorobiphenyl	72		15-120
2,4,6-Tribromophenol	79		10-120
4-Terphenyl-d14	78		41-149



Project Name: HOPE MILL

Lab Number: L1601425

Project Number: P312-001

Report Date: 01/21/16

## SAMPLE RESULTS

Lab ID: L1601425-02  
 Client ID: SSP-7  
 Sample Location: 1 MILL ST., SCITUATE, RI  
 Matrix: Water  
 Analytical Method: 1,8270D  
 Analytical Date: 01/21/16 12:58  
 Analyst: RC

Date Collected: 01/15/16 13:30  
 Date Received: 01/15/16  
 Field Prep: Not Specified  
 Extraction Method: EPA 3510C  
 Extraction Date: 01/20/16 02:44

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Semivolatile Organics by GC/MS - Westborough Lab</b>						
Benzidine	ND		ug/l	20	--	1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	--	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	--	1
1,2-Dichlorobenzene	ND		ug/l	2.0	--	1
1,3-Dichlorobenzene	ND		ug/l	2.0	--	1
1,4-Dichlorobenzene	ND		ug/l	2.0	--	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	--	1
2,4-Dinitrotoluene	ND		ug/l	5.0	--	1
2,6-Dinitrotoluene	ND		ug/l	5.0	--	1
Azobenzene	ND		ug/l	2.0	--	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	--	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	--	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	--	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	--	1
Hexachlorocyclopentadiene	ND		ug/l	20	--	1
Isophorone	ND		ug/l	5.0	--	1
Nitrobenzene	ND		ug/l	2.0	--	1
NDPA/DPA	ND		ug/l	2.0	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	--	1
Butyl benzyl phthalate	ND		ug/l	5.0	--	1
Di-n-butylphthalate	ND		ug/l	5.0	--	1
Di-n-octylphthalate	ND		ug/l	5.0	--	1
Diethyl phthalate	ND		ug/l	5.0	--	1
Dimethyl phthalate	ND		ug/l	5.0	--	1
Aniline	ND		ug/l	2.0	--	1
4-Chloroaniline	ND		ug/l	5.0	--	1
2-Nitroaniline	ND		ug/l	5.0	--	1
3-Nitroaniline	ND		ug/l	5.0	--	1
4-Nitroaniline	ND		ug/l	5.0	--	1
Dibenzofuran	ND		ug/l	2.0	--	1

Project Name: HOPE MILL

Lab Number: L1601425

Project Number: P312-001

Report Date: 01/21/16

## SAMPLE RESULTS

Lab ID: L1601425-02

Date Collected: 01/15/16 13:30

Client ID: SSP-7

Date Received: 01/15/16

Sample Location: 1 MILL ST., SCITUATE, RI

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
n-Nitrosodimethylamine	ND		ug/l	2.0	--	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	--	1
p-Chloro-m-cresol	ND		ug/l	2.0	--	1
2-Chlorophenol	ND		ug/l	2.0	--	1
2,4-Dichlorophenol	ND		ug/l	5.0	--	1
2,4-Dimethylphenol	ND		ug/l	5.0	--	1
2-Nitrophenol	ND		ug/l	10	--	1
4-Nitrophenol	ND		ug/l	10	--	1
2,4-Dinitrophenol	ND		ug/l	20	--	1
4,6-Dinitro-o-cresol	ND		ug/l	10	--	1
Phenol	ND		ug/l	5.0	--	1
2-Methylphenol	ND		ug/l	5.0	--	1
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	--	1
2,4,5-Trichlorophenol	ND		ug/l	5.0	--	1
Benzoic Acid	ND		ug/l	50	--	1
Benzyl Alcohol	ND		ug/l	2.0	--	1
Carbazole	ND		ug/l	2.0	--	1
Pyridine	ND		ug/l	5.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	49		21-120
Phenol-d6	37		10-120
Nitrobenzene-d5	79		23-120
2-Fluorobiphenyl	83		15-120
2,4,6-Tribromophenol	76		10-120
4-Terphenyl-d14	83		41-149

Project Name: HOPE MILL

Lab Number: L1601425

Project Number: P312-001

Report Date: 01/21/16

## SAMPLE RESULTS

Lab ID: L1601425-02  
 Client ID: SSP-7  
 Sample Location: 1 MILL ST., SCITUATE, RI  
 Matrix: Water  
 Analytical Method: 1,8270D-SIM  
 Analytical Date: 01/21/16 11:46  
 Analyst: KV

Date Collected: 01/15/16 13:30  
 Date Received: 01/15/16  
 Field Prep: Not Specified  
 Extraction Method: EPA 3510C  
 Extraction Date: 01/20/16 02:44

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Semivolatile Organics by GC/MS-SIM - Westborough Lab</b>						
Acenaphthene	ND		ug/l	0.10	--	1
2-Chloronaphthalene	ND		ug/l	0.20	--	1
Fluoranthene	ND		ug/l	0.20	--	1
Hexachlorobutadiene	ND		ug/l	0.50	--	1
Naphthalene	ND		ug/l	0.20	--	1
Benzo(a)anthracene	ND		ug/l	0.20	--	1
Benzo(a)pyrene	ND		ug/l	0.20	--	1
Benzo(b)fluoranthene	ND		ug/l	0.20	--	1
Benzo(k)fluoranthene	ND		ug/l	0.20	--	1
Chrysene	ND		ug/l	0.20	--	1
Acenaphthylene	ND		ug/l	0.20	--	1
Anthracene	ND		ug/l	0.20	--	1
Benzo(ghi)perylene	ND		ug/l	0.20	--	1
Fluorene	ND		ug/l	0.20	--	1
Phenanthrene	ND		ug/l	0.20	--	1
Dibenzo(a,h)anthracene	ND		ug/l	0.20	--	1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.20	--	1
Pyrene	ND		ug/l	0.20	--	1
1-Methylnaphthalene	ND		ug/l	0.20	--	1
2-Methylnaphthalene	ND		ug/l	0.20	--	1
Pentachlorophenol	ND		ug/l	0.80	--	1
Hexachlorobenzene	ND		ug/l	0.80	--	1
Hexachloroethane	ND		ug/l	0.80	--	1

**Project Name:** HOPE MILL**Lab Number:** L1601425**Project Number:** P312-001**Report Date:** 01/21/16**SAMPLE RESULTS**

Lab ID: L1601425-02

Date Collected: 01/15/16 13:30

Client ID: SSP-7

Date Received: 01/15/16

Sample Location: 1 MILL ST., SCITUATE, RI

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Semivolatile Organics by GC/MS-SIM - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	48		21-120
Phenol-d6	40		10-120
Nitrobenzene-d5	90		23-120
2-Fluorobiphenyl	83		15-120
2,4,6-Tribromophenol	85		10-120
4-Terphenyl-d14	86		41-149

Project Name: HOPE MILL

Lab Number: L1601425

Project Number: P312-001

Report Date: 01/21/16

### Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D  
 Analytical Date: 01/20/16 20:59  
 Analyst: RC

Extraction Method: EPA 3510C  
 Extraction Date: 01/20/16 02:44

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG858636-1					
Acenaphthene	ND		ug/l	2.0	--
Benzidine	ND		ug/l	20	--
1,2,4-Trichlorobenzene	ND		ug/l	5.0	--
Hexachlorobenzene	ND		ug/l	2.0	--
Bis(2-chloroethyl)ether	ND		ug/l	2.0	--
2-Chloronaphthalene	ND		ug/l	2.0	--
1,2-Dichlorobenzene	ND		ug/l	2.0	--
1,3-Dichlorobenzene	ND		ug/l	2.0	--
1,4-Dichlorobenzene	ND		ug/l	2.0	--
3,3'-Dichlorobenzidine	ND		ug/l	5.0	--
2,4-Dinitrotoluene	ND		ug/l	5.0	--
2,6-Dinitrotoluene	ND		ug/l	5.0	--
Azobenzene	ND		ug/l	2.0	--
Fluoranthene	ND		ug/l	2.0	--
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	--
4-Bromophenyl phenyl ether	ND		ug/l	2.0	--
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	--
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	--
Hexachlorobutadiene	ND		ug/l	2.0	--
Hexachlorocyclopentadiene	ND		ug/l	20	--
Hexachloroethane	ND		ug/l	2.0	--
Isophorone	ND		ug/l	5.0	--
Naphthalene	ND		ug/l	2.0	--
Nitrobenzene	ND		ug/l	2.0	--
NDPA/DPA	ND		ug/l	2.0	--
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	--
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	--
Butyl benzyl phthalate	ND		ug/l	5.0	--
Di-n-butylphthalate	ND		ug/l	5.0	--

**Project Name:** HOPE MILL  
**Project Number:** P312-001

**Lab Number:** L1601425  
**Report Date:** 01/21/16

**Method Blank Analysis**  
**Batch Quality Control**

**Analytical Method:** 1,8270D  
**Analytical Date:** 01/20/16 20:59  
**Analyst:** RC

**Extraction Method:** EPA 3510C  
**Extraction Date:** 01/20/16 02:44

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG858636-1					
Di-n-octylphthalate	ND		ug/l	5.0	--
Diethyl phthalate	ND		ug/l	5.0	--
Dimethyl phthalate	ND		ug/l	5.0	--
Benzo(a)anthracene	ND		ug/l	2.0	--
Benzo(a)pyrene	ND		ug/l	2.0	--
Benzo(b)fluoranthene	ND		ug/l	2.0	--
Benzo(k)fluoranthene	ND		ug/l	2.0	--
Chrysene	ND		ug/l	2.0	--
Acenaphthylene	ND		ug/l	2.0	--
Anthracene	ND		ug/l	2.0	--
Benzo(ghi)perylene	ND		ug/l	2.0	--
Fluorene	ND		ug/l	2.0	--
Phenanthrene	ND		ug/l	2.0	--
Dibenzo(a,h)anthracene	ND		ug/l	2.0	--
Indeno(1,2,3-cd)pyrene	ND		ug/l	2.0	--
Pyrene	ND		ug/l	2.0	--
Biphenyl	ND		ug/l	2.0	--
Aniline	ND		ug/l	2.0	--
4-Chloroaniline	ND		ug/l	5.0	--
1-Methylnaphthalene	ND		ug/l	2.0	--
2-Nitroaniline	ND		ug/l	5.0	--
3-Nitroaniline	ND		ug/l	5.0	--
4-Nitroaniline	ND		ug/l	5.0	--
Dibenzofuran	ND		ug/l	2.0	--
2-Methylnaphthalene	ND		ug/l	2.0	--
n-Nitrosodimethylamine	ND		ug/l	2.0	--
2,4,6-Trichlorophenol	ND		ug/l	5.0	--
p-Chloro-m-cresol	ND		ug/l	2.0	--
2-Chlorophenol	ND		ug/l	2.0	--

Project Name: HOPE MILL

Lab Number: L1601425

Project Number: P312-001

Report Date: 01/21/16

**Method Blank Analysis  
Batch Quality Control**

Analytical Method: 1,8270D  
 Analytical Date: 01/20/16 20:59  
 Analyst: RC

Extraction Method: EPA 3510C  
 Extraction Date: 01/20/16 02:44

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG858636-1					
2,4-Dichlorophenol	ND		ug/l	5.0	--
2,4-Dimethylphenol	ND		ug/l	5.0	--
2-Nitrophenol	ND		ug/l	10	--
4-Nitrophenol	ND		ug/l	10	--
2,4-Dinitrophenol	ND		ug/l	20	--
4,6-Dinitro-o-cresol	ND		ug/l	10	--
Pentachlorophenol	ND		ug/l	10	--
Phenol	ND		ug/l	5.0	--
2-Methylphenol	ND		ug/l	5.0	--
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	--
2,4,5-Trichlorophenol	ND		ug/l	5.0	--
Benzoic Acid	ND		ug/l	50	--
Benzyl Alcohol	ND		ug/l	2.0	--
Carbazole	ND		ug/l	2.0	--
Pyridine	ND		ug/l	5.0	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	39		21-120
Phenol-d6	30		10-120
Nitrobenzene-d5	60		23-120
2-Fluorobiphenyl	44		15-120
2,4,6-Tribromophenol	67		10-120
4-Terphenyl-d14	63		41-149

Project Name: HOPE MILL

Lab Number: L1601425

Project Number: P312-001

Report Date: 01/21/16

**Method Blank Analysis  
Batch Quality Control**

Analytical Method: 1,8270D-SIM  
 Analytical Date: 01/20/16 12:27  
 Analyst: KV

Extraction Method: EPA 3510C  
 Extraction Date: 01/20/16 02:44

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01-02 Batch: WG858637-1					
Acenaphthene	ND		ug/l	0.10	--
2-Chloronaphthalene	ND		ug/l	0.20	--
Fluoranthene	ND		ug/l	0.20	--
Hexachlorobutadiene	ND		ug/l	0.50	--
Naphthalene	ND		ug/l	0.20	--
Benzo(a)anthracene	ND		ug/l	0.20	--
Benzo(a)pyrene	ND		ug/l	0.20	--
Benzo(b)fluoranthene	ND		ug/l	0.20	--
Benzo(k)fluoranthene	ND		ug/l	0.20	--
Chrysene	ND		ug/l	0.20	--
Acenaphthylene	ND		ug/l	0.20	--
Anthracene	ND		ug/l	0.20	--
Benzo(ghi)perylene	ND		ug/l	0.20	--
Fluorene	ND		ug/l	0.20	--
Phenanthrene	ND		ug/l	0.20	--
Dibenzo(a,h)anthracene	ND		ug/l	0.20	--
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.20	--
Pyrene	ND		ug/l	0.20	--
1-Methylnaphthalene	ND		ug/l	0.20	--
2-Methylnaphthalene	ND		ug/l	0.20	--
Pentachlorophenol	ND		ug/l	0.80	--
Hexachlorobenzene	ND		ug/l	0.80	--
Hexachloroethane	ND		ug/l	0.80	--



Project Name: HOPE MILL

Lab Number: L1601425

Project Number: P312-001

Report Date: 01/21/16

**Method Blank Analysis  
Batch Quality Control**

Analytical Method: 1,8270D-SIM  
 Analytical Date: 01/20/16 12:27  
 Analyst: KV

Extraction Method: EPA 3510C  
 Extraction Date: 01/20/16 02:44

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01-02 Batch: WG858637-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	52		21-120
Phenol-d6	41		10-120
Nitrobenzene-d5	81		23-120
2-Fluorobiphenyl	61		15-120
2,4,6-Tribromophenol	104		10-120
4-Terphenyl-d14	93		41-149

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: HOPE MILL

Project Number: P312-001

Lab Number: L1601425

Report Date: 01/21/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG858636-2 WG858636-3								
Acenaphthene	71		55		37-111	25		30
Benzidine	5	Q	0	Q	10-75	170	Q	30
1,2,4-Trichlorobenzene	54		50		39-98	8		30
Hexachlorobenzene	107		76		40-140	34	Q	30
Bis(2-chloroethyl)ether	75		84		40-140	11		30
2-Chloronaphthalene	70		59		40-140	17		30
1,2-Dichlorobenzene	49		59		40-140	19		30
1,3-Dichlorobenzene	44		55		40-140	22		30
1,4-Dichlorobenzene	45		57		36-97	24		30
3,3'-Dichlorobenzidine	62		40		40-140	43	Q	30
2,4-Dinitrotoluene	111	Q	80		24-96	32	Q	30
2,6-Dinitrotoluene	119		90		40-140	28		30
Azobenzene	95		76		40-140	22		30
Fluoranthene	103		77		40-140	29		30
4-Chlorophenyl phenyl ether	82		63		40-140	26		30
4-Bromophenyl phenyl ether	95		72		40-140	28		30
Bis(2-chloroisopropyl)ether	77		78		40-140	1		30
Bis(2-chloroethoxy)methane	95		87		40-140	9		30
Hexachlorobutadiene	52		50		40-140	4		30
Hexachlorocyclopentadiene	32	Q	37	Q	40-140	14		30
Hexachloroethane	44		53		40-140	19		30

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: HOPE MILL

Project Number: P312-001

Lab Number: L1601425

Report Date: 01/21/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG858636-2 WG858636-3								
Isophorone	96		89		40-140	8		30
Naphthalene	60		55		40-140	9		30
Nitrobenzene	80		103		40-140	25		30
NDPA/DPA	97		72		40-140	30		30
n-Nitrosodi-n-propylamine	94		85		29-132	10		30
Bis(2-ethylhexyl)phthalate	99		76		40-140	26		30
Butyl benzyl phthalate	99		77		40-140	25		30
Di-n-butylphthalate	102		76		40-140	29		30
Di-n-octylphthalate	96		81		40-140	17		30
Diethyl phthalate	104		81		40-140	25		30
Dimethyl phthalate	102		84		40-140	19		30
Benzo(a)anthracene	97		79		40-140	20		30
Benzo(a)pyrene	104		78		40-140	29		30
Benzo(b)fluoranthene	104		85		40-140	20		30
Benzo(k)fluoranthene	104		73		40-140	35	Q	30
Chrysene	102		73		40-140	33	Q	30
Acenaphthylene	78		70		45-123	11		30
Anthracene	95		72		40-140	28		30
Benzo(ghi)perylene	94		82		40-140	14		30
Fluorene	85		68		40-140	22		30
Phenanthrene	96		72		40-140	29		30

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: HOPE MILL

Project Number: P312-001

Lab Number: L1601425

Report Date: 01/21/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG858636-2 WG858636-3								
Dibenzo(a,h)anthracene	94		76		40-140	21		30
Indeno(1,2,3-cd)pyrene	92		81		40-140	13		30
Pyrene	100		72		26-127	33	Q	30
Biphenyl	66		51		40-140	26		30
Aniline	27	Q	18	Q	40-140	40	Q	30
4-Chloroaniline	67		55		40-140	20		30
1-Methylnaphthalene	64		58		41-103	10		30
2-Nitroaniline	111		98		52-143	12		30
3-Nitroaniline	75		45		25-145	50	Q	30
4-Nitroaniline	90		75		51-143	18		30
Dibenzofuran	77		62		40-140	22		30
2-Methylnaphthalene	63		89		40-140	34	Q	30
n-Nitrosodimethylamine	39		50		22-74	25		30
2,4,6-Trichlorophenol	103		88		30-130	16		30
p-Chloro-m-cresol	101	Q	94		23-97	7		30
2-Chlorophenol	76		83		27-123	9		30
2,4-Dichlorophenol	95		91		30-130	4		30
2,4-Dimethylphenol	56		55		30-130	2		30
2-Nitrophenol	93		93		30-130	0		30
4-Nitrophenol	82	Q	51		10-80	47	Q	30
2,4-Dinitrophenol	79		75		20-130	5		30

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: HOPE MILL

Project Number: P312-001

Lab Number: L1601425

Report Date: 01/21/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG858636-2 WG858636-3								
4,6-Dinitro-o-cresol	103		78		20-164	28		30
Pentachlorophenol	99		80		9-103	21		30
Phenol	41		50		12-110	20		30
2-Methylphenol	75		80		30-130	6		30
3-Methylphenol/4-Methylphenol	77		79		30-130	3		30
2,4,5-Trichlorophenol	108		94		30-130	14		30
Benzoic Acid	25		35		10-164	33	Q	30
Benzyl Alcohol	75		83		26-116	10		30
Carbazole	99		77		55-144	25		30
Pyridine	9	Q	10		10-66	12		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	50		63		21-120
Phenol-d6	43		50		10-120
Nitrobenzene-d5	83		87		23-120
2-Fluorobiphenyl	76		66		15-120
2,4,6-Tribromophenol	107		73		10-120
4-Terphenyl-d14	96		68		41-149

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: HOPE MILL

Project Number: P312-001

Lab Number: L1601425

Report Date: 01/21/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01-02 Batch: WG858637-2 WG858637-3								
Acenaphthene	82		70		37-111	16		40
2-Chloronaphthalene	79		67		40-140	16		40
Fluoranthene	98		88		40-140	11		40
Hexachlorobutadiene	62		49		40-140	23		40
Naphthalene	74		61		40-140	19		40
Benzo(a)anthracene	95		84		40-140	12		40
Benzo(a)pyrene	107		95		40-140	12		40
Benzo(b)fluoranthene	114		98		40-140	15		40
Benzo(k)fluoranthene	87		81		40-140	7		40
Chrysene	92		82		40-140	11		40
Acenaphthylene	87		76		40-140	13		40
Anthracene	91		80		40-140	13		40
Benzo(ghi)perylene	99		88		40-140	12		40
Fluorene	92		79		40-140	15		40
Phenanthrene	90		80		40-140	12		40
Dibenzo(a,h)anthracene	106		95		40-140	11		40
Indeno(1,2,3-cd)Pyrene	101		90		40-140	12		40
Pyrene	90		81		26-127	11		40
1-Methylnaphthalene	78		66		40-140	17		40
2-Methylnaphthalene	76		65		40-140	16		40
Pentachlorophenol	103		90		9-103	13		40

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: HOPE MILL

Project Number: P312-001

Lab Number: L1601425

Report Date: 01/21/16

Parameter	LCS		LCSD		%Recovery Limits	RPD	RPD	
	%Recovery	Qual	%Recovery	Qual			Qual	Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01-02 Batch: WG858637-2 WG858637-3								
Hexachlorobenzene	83		74		40-140	11		40
Hexachloroethane	62		48		40-140	25		40

Surrogate	LCS		LCSD		Acceptance Criteria
	%Recovery	Qual	%Recovery	Qual	
2-Fluorophenol	57		47		21-120
Phenol-d6	46		38		10-120
Nitrobenzene-d5	86		72		23-120
2-Fluorobiphenyl	76		69		15-120
2,4,6-Tribromophenol	120		104		10-120
4-Terphenyl-d14	96		86		41-149

# PETROLEUM HYDROCARBONS



**Project Name:** HOPE MILL**Lab Number:** L1601425**Project Number:** P312-001**Report Date:** 01/21/16**SAMPLE RESULTS**

**Lab ID:** L1601425-01  
**Client ID:** SSP-8  
**Sample Location:** 1 MILL ST., SCITUATE, RI  
**Matrix:** Water  
**Analytical Method:** 1,8015C(M)  
**Analytical Date:** 01/20/16 14:19  
**Analyst:** DG

**Date Collected:** 01/15/16 12:30  
**Date Received:** 01/15/16  
**Field Prep:** Not Specified  
**Extraction Method:** EPA 3510C  
**Extraction Date:** 01/19/16 16:24

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH	ND		ug/l	500	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	84		40-140

**Project Name:** HOPE MILL**Lab Number:** L1601425**Project Number:** P312-001**Report Date:** 01/21/16**SAMPLE RESULTS**

**Lab ID:** L1601425-02  
**Client ID:** SSP-7  
**Sample Location:** 1 MILL ST., SCITUATE, RI  
**Matrix:** Water  
**Analytical Method:** 1,8015C(M)  
**Analytical Date:** 01/20/16 14:55  
**Analyst:** DG

**Date Collected:** 01/15/16 13:30  
**Date Received:** 01/15/16  
**Field Prep:** Not Specified  
**Extraction Method:** EPA 3510C  
**Extraction Date:** 01/19/16 16:24

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Petroleum Hydrocarbon Quantitation - Westborough Lab						
------------------------------------------------------	--	--	--	--	--	--

TPH	ND		ug/l	500	--	1
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Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	90		40-140

Project Name: HOPE MILL

Lab Number: L1601425

Project Number: P312-001

Report Date: 01/21/16

**Method Blank Analysis  
Batch Quality Control**

Analytical Method: 1,8015C(M)  
 Analytical Date: 01/20/16 10:39  
 Analyst: DG

Extraction Method: EPA 3510C  
 Extraction Date: 01/19/16 16:24

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbon Quantitation - Westborough Lab for sample(s): 01-02 Batch: WG858548-1					
TPH	ND		ug/l	500	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	94		40-140

### Lab Control Sample Analysis Batch Quality Control

**Project Name:** HOPE MILL  
**Project Number:** P312-001

**Lab Number:** L1601425  
**Report Date:** 01/21/16

<b>Parameter</b>	<b>LCS %Recovery</b>	<b>Qual</b>	<b>LCSD %Recovery</b>	<b>Qual</b>	<b>%Recovery Limits</b>	<b>RPD</b>	<b>Qual</b>	<b>RPD Limits</b>
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 01-02 Batch: WG858548-2 WG858548-3								
TPH	90		94		40-140	4		40

<b>Surrogate</b>	<b>LCS %Recovery</b>	<b>Qual</b>	<b>LCSD %Recovery</b>	<b>Qual</b>	<b>Acceptance Criteria</b>
o-Terphenyl	88		89		40-140

## METALS

**Project Name:** HOPE MILL  
**Project Number:** P312-001

**Lab Number:** L1601425  
**Report Date:** 01/21/16

**SAMPLE RESULTS**

Lab ID: L1601425-01  
 Client ID: SSP-8  
 Sample Location: 1 MILL ST., SCITUATE, RI  
 Matrix: Water

Date Collected: 01/15/16 12:30  
 Date Received: 01/15/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
<b>Total Metals - Westborough Lab</b>											
Antimony, Total	ND		mg/l	0.0020	--	1	01/19/16 08:50	01/19/16 18:00	EPA 3005A	1,6020A	TT
Arsenic, Total	ND		mg/l	0.0005	--	1	01/19/16 08:50	01/19/16 18:00	EPA 3005A	1,6020A	TT
Barium, Total	0.0088		mg/l	0.0005	--	1	01/19/16 08:50	01/19/16 18:00	EPA 3005A	1,6020A	TT
Beryllium, Total	ND		mg/l	0.0005	--	1	01/19/16 08:50	01/19/16 18:00	EPA 3005A	1,6020A	TT
Cadmium, Total	ND		mg/l	0.0002	--	1	01/19/16 08:50	01/19/16 18:00	EPA 3005A	1,6020A	TT
Chromium, Total	ND		mg/l	0.0010	--	1	01/19/16 08:50	01/19/16 18:00	EPA 3005A	1,6020A	TT
Copper, Total	ND		mg/l	0.0010	--	1	01/19/16 08:50	01/19/16 18:00	EPA 3005A	1,6020A	TT
Lead, Total	ND		mg/l	0.0005	--	1	01/19/16 08:50	01/19/16 18:00	EPA 3005A	1,6020A	TT
Manganese, Total	0.2563		mg/l	0.0010	--	1	01/19/16 08:50	01/19/16 18:00	EPA 3005A	1,6020A	TT
Mercury, Total	ND		mg/l	0.00020	--	1	01/19/16 10:41	01/19/16 22:45	EPA 7470A	1,7470A	DB
Nickel, Total	0.0022		mg/l	0.0020	--	1	01/19/16 08:50	01/19/16 18:00	EPA 3005A	1,6020A	TT
Selenium, Total	ND		mg/l	0.005	--	1	01/19/16 08:50	01/19/16 18:00	EPA 3005A	1,6020A	TT
Silver, Total	ND		mg/l	0.0004	--	1	01/19/16 08:50	01/19/16 18:00	EPA 3005A	1,6020A	TT
Thallium, Total	ND		mg/l	0.0005	--	1	01/19/16 08:50	01/19/16 18:00	EPA 3005A	1,6020A	TT
Vanadium, Total	ND		mg/l	0.0050	--	1	01/19/16 08:50	01/19/16 18:00	EPA 3005A	1,6020A	TT
Zinc, Total	0.1555		mg/l	0.0100	--	1	01/19/16 08:50	01/19/16 18:00	EPA 3005A	1,6020A	TT



**Project Name:** HOPE MILL  
**Project Number:** P312-001

**Lab Number:** L1601425  
**Report Date:** 01/21/16

**SAMPLE RESULTS**

Lab ID: L1601425-02  
 Client ID: SSP-7  
 Sample Location: 1 MILL ST., SCITUATE, RI  
 Matrix: Water

Date Collected: 01/15/16 13:30  
 Date Received: 01/15/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
<b>Total Metals - Westborough Lab</b>											
Antimony, Total	ND		mg/l	0.0020	--	1	01/19/16 08:50	01/19/16 18:03	EPA 3005A	1,6020A	TT
Arsenic, Total	0.0010		mg/l	0.0005	--	1	01/19/16 08:50	01/19/16 18:03	EPA 3005A	1,6020A	TT
Barium, Total	0.0250		mg/l	0.0005	--	1	01/19/16 08:50	01/19/16 18:03	EPA 3005A	1,6020A	TT
Beryllium, Total	ND		mg/l	0.0005	--	1	01/19/16 08:50	01/19/16 18:03	EPA 3005A	1,6020A	TT
Cadmium, Total	0.0002		mg/l	0.0002	--	1	01/19/16 08:50	01/19/16 18:03	EPA 3005A	1,6020A	TT
Chromium, Total	ND		mg/l	0.0010	--	1	01/19/16 08:50	01/19/16 18:03	EPA 3005A	1,6020A	TT
Copper, Total	ND		mg/l	0.0010	--	1	01/19/16 08:50	01/19/16 18:03	EPA 3005A	1,6020A	TT
Lead, Total	0.0015		mg/l	0.0005	--	1	01/19/16 08:50	01/19/16 18:03	EPA 3005A	1,6020A	TT
Manganese, Total	0.2429		mg/l	0.0010	--	1	01/19/16 08:50	01/19/16 18:03	EPA 3005A	1,6020A	TT
Mercury, Total	ND		mg/l	0.00020	--	1	01/19/16 10:41	01/19/16 22:46	EPA 7470A	1,7470A	DB
Nickel, Total	ND		mg/l	0.0020	--	1	01/19/16 08:50	01/19/16 18:03	EPA 3005A	1,6020A	TT
Selenium, Total	ND		mg/l	0.005	--	1	01/19/16 08:50	01/19/16 18:03	EPA 3005A	1,6020A	TT
Silver, Total	ND		mg/l	0.0004	--	1	01/19/16 08:50	01/19/16 18:03	EPA 3005A	1,6020A	TT
Thallium, Total	ND		mg/l	0.0004	--	1	01/19/16 08:50	01/19/16 18:03	EPA 3005A	1,6020A	TT
Vanadium, Total	ND		mg/l	0.0050	--	1	01/19/16 08:50	01/19/16 18:03	EPA 3005A	1,6020A	TT
Zinc, Total	ND		mg/l	0.0100	--	1	01/19/16 08:50	01/19/16 18:03	EPA 3005A	1,6020A	TT



**Project Name:** HOPE MILL  
**Project Number:** P312-001

**Lab Number:** L1601425  
**Report Date:** 01/21/16

## Method Blank Analysis Batch Quality Control

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
<b>Total Metals - Westborough Lab for sample(s): 01-02 Batch: WG858351-1</b>									
Antimony, Total	ND	mg/l	0.0020	--	1	01/19/16 08:50	01/19/16 17:07	1,6020A	TT
Arsenic, Total	ND	mg/l	0.0005	--	1	01/19/16 08:50	01/19/16 17:07	1,6020A	TT
Barium, Total	ND	mg/l	0.0005	--	1	01/19/16 08:50	01/19/16 17:07	1,6020A	TT
Beryllium, Total	ND	mg/l	0.0005	--	1	01/19/16 08:50	01/19/16 17:07	1,6020A	TT
Cadmium, Total	ND	mg/l	0.0002	--	1	01/19/16 08:50	01/19/16 17:07	1,6020A	TT
Chromium, Total	ND	mg/l	0.0010	--	1	01/19/16 08:50	01/19/16 17:07	1,6020A	TT
Copper, Total	ND	mg/l	0.0010	--	1	01/19/16 08:50	01/19/16 17:07	1,6020A	TT
Lead, Total	ND	mg/l	0.0005	--	1	01/19/16 08:50	01/19/16 17:07	1,6020A	TT
Manganese, Total	ND	mg/l	0.0010	--	1	01/19/16 08:50	01/19/16 17:07	1,6020A	TT
Nickel, Total	ND	mg/l	0.0020	--	1	01/19/16 08:50	01/19/16 17:07	1,6020A	TT
Selenium, Total	ND	mg/l	0.005	--	1	01/19/16 08:50	01/19/16 17:07	1,6020A	TT
Silver, Total	ND	mg/l	0.0004	--	1	01/19/16 08:50	01/19/16 17:07	1,6020A	TT
Thallium, Total	ND	mg/l	0.0005	--	1	01/19/16 08:50	01/19/16 17:07	1,6020A	TT
Vanadium, Total	ND	mg/l	0.0050	--	1	01/19/16 08:50	01/19/16 17:07	1,6020A	TT
Zinc, Total	ND	mg/l	0.0100	--	1	01/19/16 08:50	01/19/16 17:07	1,6020A	TT

### Prep Information

Digestion Method: EPA 3005A

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
<b>Total Metals - Westborough Lab for sample(s): 01-02 Batch: WG858435-1</b>									
Mercury, Total	ND	mg/l	0.00020	--	1	01/19/16 10:41	01/19/16 22:23	1,7470A	DB

### Prep Information

Digestion Method: EPA 7470A





## Lab Control Sample Analysis

### Batch Quality Control

Project Name: HOPE MILL

Project Number: P312-001

Lab Number: L1601425

Report Date: 01/21/16

Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
Total Metals - Westborough Lab Associated sample(s): 01-02 Batch: WG858351-2								
Antimony, Total	95		-		80-120	-		
Arsenic, Total	96		-		80-120	-		
Barium, Total	97		-		80-120	-		
Beryllium, Total	102		-		80-120	-		
Cadmium, Total	96		-		80-120	-		
Chromium, Total	100		-		80-120	-		
Copper, Total	100		-		80-120	-		
Lead, Total	100		-		80-120	-		
Manganese, Total	102		-		80-120	-		
Nickel, Total	98		-		80-120	-		
Selenium, Total	109		-		80-120	-		
Silver, Total	94		-		80-120	-		
Thallium, Total	96		-		80-120	-		
Vanadium, Total	96		-		80-120	-		
Zinc, Total	91		-		80-120	-		
Total Metals - Westborough Lab Associated sample(s): 01-02 Batch: WG858435-2								
Mercury, Total	86		-		80-120	-		

### Matrix Spike Analysis Batch Quality Control

**Project Name:** HOPE MILL  
**Project Number:** P312-001

**Lab Number:** L1601425  
**Report Date:** 01/21/16

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Qual	MSD Found	MSD %Recovery	MSD Qual	Recovery Limits	RPD	RPD Qual	RPD Limits
Total Metals - Westborough Lab Associated sample(s): 01-02    QC Batch ID: WG858351-4    QC Sample: L1601454-02    Client ID: MS Sample												
Antimony, Total	0.0021	0.5	0.5725	114	-	-	-	-	75-125	-	-	20
Arsenic, Total	0.0039	0.12	0.1309	106	-	-	-	-	75-125	-	-	20
Barium, Total	0.0298	2	2.243	111	-	-	-	-	75-125	-	-	20
Beryllium, Total	ND	0.05	0.0537	107	-	-	-	-	75-125	-	-	20
Cadmium, Total	0.0003	0.051	0.0571	111	-	-	-	-	75-125	-	-	20
Chromium, Total	0.0013	0.2	0.2122	105	-	-	-	-	75-125	-	-	20
Copper, Total	0.0021	0.25	0.2536	101	-	-	-	-	75-125	-	-	20
Lead, Total	0.0018	0.51	0.5622	110	-	-	-	-	75-125	-	-	20
Manganese, Total	0.4392	0.5	0.9806	108	-	-	-	-	75-125	-	-	20
Nickel, Total	0.0028	0.5	0.4996	99	-	-	-	-	75-125	-	-	20
Selenium, Total	ND	0.12	0.124	103	-	-	-	-	75-125	-	-	20
Silver, Total	ND	0.05	0.0507	101	-	-	-	-	75-125	-	-	20
Thallium, Total	ND	0.12	0.1173	98	-	-	-	-	75-125	-	-	20
Vanadium, Total	ND	0.5	0.4866	97	-	-	-	-	75-125	-	-	20
Zinc, Total	0.0471	0.5	0.5133	93	-	-	-	-	75-125	-	-	20
Total Metals - Westborough Lab Associated sample(s): 01-02    QC Batch ID: WG858435-4    QC Sample: L1601460-15    Client ID: MS Sample												
Mercury, Total	ND	0.005	0.00404	81	-	-	-	-	75-125	-	-	20

## Lab Duplicate Analysis

Batch Quality Control

Project Name: HOPE MILL

Project Number: P312-001

Lab Number: L1601425

Report Date: 01/21/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
<b>Total Metals - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG858351-3 QC Sample: L1601454-02 Client ID: DUP Sample</b>						
Lead, Total	0.0018	0.0020	mg/l	12		20
Nickel, Total	0.0028	0.0028	mg/l	2		20
Zinc, Total	0.0471	0.0488	mg/l	4		20
<b>Total Metals - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG858435-3 QC Sample: L1601460-15 Client ID: DUP Sample</b>						
Mercury, Total	ND	ND	mg/l	NC		20

# **INORGANICS & MISCELLANEOUS**

Project Name: HOPE MILL

Lab Number: L1601425

Project Number: P312-001

Report Date: 01/21/16

## SAMPLE RESULTS

Lab ID: L1601425-01  
 Client ID: SSP-8  
 Sample Location: 1 MILL ST., SCITUATE, RI  
 Matrix: Water

Date Collected: 01/15/16 12:30  
 Date Received: 01/15/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Perchlorate by IC-MS-MS - Westborough Lab										
Perchlorate	0.335		ug/l	0.050	--	1	-	01/19/16 05:49	71,332.0	SS
General Chemistry - Westborough Lab										
Cyanide, Total	ND		mg/l	0.005	--	1	01/19/16 07:55	01/19/16 15:39	1,9010C/9012B	JO



Project Name: HOPE MILL

Lab Number: L1601425

Project Number: P312-001

Report Date: 01/21/16

**SAMPLE RESULTS**

Lab ID: L1601425-02  
 Client ID: SSP-7  
 Sample Location: 1 MILL ST., SCITUATE, RI  
 Matrix: Water

Date Collected: 01/15/16 13:30  
 Date Received: 01/15/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
<b>Perchlorate by IC-MS-MS - Westborough Lab</b>										
Perchlorate	0.455		ug/l	0.050	--	1	-	01/19/16 14:25	71,332.0	SS
<b>General Chemistry - Westborough Lab</b>										
Cyanide, Total	ND		mg/l	0.005	--	1	01/19/16 07:55	01/19/16 15:41	1,9010C/9012B	JO



Project Name: HOPE MILL

Lab Number: L1601425

Project Number: P312-001

Report Date: 01/21/16

**Method Blank Analysis**  
**Batch Quality Control**

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Perchlorate by IC-MS-MS - Westborough Lab for sample(s): 01-02 Batch: WG858248-1									
Perchlorate	ND	ug/l	0.050	--	1	-	01/19/16 02:12	71,332.0	SS
General Chemistry - Westborough Lab for sample(s): 01-02 Batch: WG858349-1									
Cyanide, Total	ND	mg/l	0.005	--	1	01/19/16 07:55	01/19/16 15:26	1,9010C/9012B	JO

## Lab Control Sample Analysis

Batch Quality Control

Project Name: HOPE MILL

Project Number: P312-001

Lab Number: L1601425

Report Date: 01/21/16

Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
Perchlorate by IC-MS-MS - Westborough Lab Associated sample(s): 01-02 Batch: WG858248-2								
Perchlorate	106		-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01-02 Batch: WG858349-2 WG858349-3								
Cyanide, Total	109		113		85-115	4		20



### Matrix Spike Analysis Batch Quality Control

**Project Name:** HOPE MILL  
**Project Number:** P312-001

**Lab Number:** L1601425  
**Report Date:** 01/21/16

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Qual	MSD Found	MSD %Recovery	MSD Qual	Recovery Limits	RPD	RPD Qual	RPD Limits
Perchlorate by IC-MS-MS - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG858248-3 QC Sample: L1601425-01 Client ID: SSP-8												
Perchlorate	0.335	1	1.36	102	-	-	-	-	80-120	-	-	20
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG858349-4 WG858349-5 QC Sample: L1601425-01 Client ID: SSP-8												
Cyanide, Total	ND	0.2	0.184	92	0.189	94	94	94	80-120	3	3	20

**Lab Duplicate Analysis**  
Batch Quality Control

Project Name: HOPE MILL

Project Number: P312-001

Lab Number: L1601425

Report Date: 01/21/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perchlorate by IC-MS-MS - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG858248-4 QC Sample: L1601425-01 Client ID: SSP-8						
Perchlorate	0.335	0.334	ug/l	0		20

Project Name: HOPE MILL

Lab Number: L1601425

Project Number: P312-001

Report Date: 01/21/16

## Sample Receipt and Container Information

Were project specific reporting limits specified? YES

## Cooler Information Custody Seal

## Cooler

A Absent

## Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1601425-01A	Bacteria Cup unpreserved	A	N/A	3.1	Y	Absent	PERC-332(28)
L1601425-01B	Plastic 250ml HNO3 preserved	A	<2	3.1	Y	Absent	BA-6020T(180),SE-6020T(180),TL-6020T(180),CR-6020T(180),NI-6020T(180),CU-6020T(180),ZN-6020T(180),PB-6020T(180),BE-6020T(180),MN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),CD-6020T(180),HG-T(28)
L1601425-01C	Plastic 250ml HNO3 preserved	A	<2	3.1	Y	Absent	BA-6020T(180),SE-6020T(180),TL-6020T(180),CR-6020T(180),NI-6020T(180),CU-6020T(180),ZN-6020T(180),PB-6020T(180),BE-6020T(180),MN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),CD-6020T(180),HG-T(28)
L1601425-01D	Plastic 250ml NaOH preserved	A	>12	3.1	Y	Absent	TCN-9010(14)
L1601425-01E	Amber 1000ml unpreserved	A	7	3.1	Y	Absent	TPH-DRO-D(7)
L1601425-01F	Amber 1000ml unpreserved	A	7	3.1	Y	Absent	TPH-DRO-D(7)
L1601425-01G	Amber 1000ml unpreserved	A	7	3.1	Y	Absent	8270TCL-SIM(7)
L1601425-01H	Amber 1000ml unpreserved	A	7	3.1	Y	Absent	8270TCL-SIM(7)
L1601425-02A	Bacteria Cup unpreserved	A	N/A	3.1	Y	Absent	PERC-332(28)
L1601425-02B	Plastic 250ml HNO3 preserved	A	<2	3.1	Y	Absent	BA-6020T(180),SE-6020T(180),TL-6020T(180),CR-6020T(180),NI-6020T(180),CU-6020T(180),ZN-6020T(180),PB-6020T(180),BE-6020T(180),MN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),CD-6020T(180),HG-T(28)
L1601425-02C	Plastic 250ml HNO3 preserved	A	<2	3.1	Y	Absent	BA-6020T(180),SE-6020T(180),TL-6020T(180),CR-6020T(180),NI-6020T(180),CU-6020T(180),ZN-6020T(180),PB-6020T(180),BE-6020T(180),MN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),CD-6020T(180),HG-T(28)
L1601425-02D	Plastic 250ml NaOH preserved	A	>12	3.1	Y	Absent	TCN-9010(14)

\*Values in parentheses indicate holding time in days

Project Name: HOPE MILL

Project Number: P312-001

Lab Number: L1601425

Report Date: 01/21/16

**Container Information**

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1601425-02E	Amber 1000ml unpreserved	A	7	3.1	Y	Absent	TPH-DRO-D(7)
L1601425-02F	Amber 1000ml unpreserved	A	7	3.1	Y	Absent	TPH-DRO-D(7)
L1601425-02G	Amber 1000ml unpreserved	A	7	3.1	Y	Absent	8270TCL(7),8270TCL-SIM(7)
L1601425-02H	Amber 1000ml unpreserved	A	7	3.1	Y	Absent	8270TCL(7),8270TCL-SIM(7)

\*Values in parentheses indicate holding time in days



**Project Name:** HOPE MILL  
**Project Number:** P312-001

**Lab Number:** L1601425  
**Report Date:** 01/21/16

## GLOSSARY

### Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCS D	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

### Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

### Terms

**Total:** With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

**Analytical Method:** Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

### Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

**Report Format:** Data Usability Report



**Project Name:** HOPE MILL  
**Project Number:** P312-001

**Lab Number:** L1601425  
**Report Date:** 01/21/16

#### Data Qualifiers

- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reporting limit (RL) for the sample.

**Project Name:** HOPE MILL  
**Project Number:** P312-001

**Lab Number:** L1601425  
**Report Date:** 01/21/16

## REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.
- 71 Determination of Perchlorate in Drinking Water by Ion Chromatography with Suppressed Conductivity and Electrospray Ionization Mass Spectrometry. EPA Method 332.0, EPA/600/R-05/049. Revision 1.0, March 2005.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



## Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

### Westborough Facility

**EPA 524.2:** 1,2-Dibromo-3-chloropropane, 1,2-Dibromoethane, m/p-xylene, o-xylene  
**EPA 624:** 2-Butanone (MEK), 1,4-Dioxane, tert-Amylmethyl Ether, tert-Butyl Alcohol, m/p-xylene, o-xylene  
**EPA 625:** Aniline, Benzoic Acid, Benzyl Alcohol, 4-Chloroaniline, 3-Methylphenol, 4-Methylphenol.  
**EPA 1010A:** NPW: Ignitability  
**EPA 6010C:** NPW: Strontium; SCM: Strontium  
**EPA 8151A:** NPW: 2,4-DB, Dicamba, Dichloroprop, MCPA, MCPP; SCM: 2,4-DB, Dichloroprop, MCPA, MCPP  
**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene, Isopropanol; SCM: Iodomethane (methyl iodide), Methyl methacrylate (soil); 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.  
**EPA 8270D:** NPW: Pentachloronitrobenzene, 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Pentachloronitrobenzene, 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine.  
**EPA 9010:** NPW: Amenable Cyanide Distillation, Total Cyanide Distillation  
**EPA 9038:** NPW: Sulfate  
**EPA 9050A:** NPW: Specific Conductance  
**EPA 9056:** NPW: Chloride, Nitrate, Sulfate  
**EPA 9065:** NPW: Phenols  
**EPA 9251:** NPW: Chloride  
**SM3500:** NPW: Ferrous Iron  
**SM4500:** NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.  
**SM5310C:** DW: Dissolved Organic Carbon

### Mansfield Facility

**EPA 8270D:** NPW: Biphenyl; SCM: Biphenyl  
**EPA 2540D:** TSS  
**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

### Drinking Water

**EPA 200.8:** Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; **EPA 200.7:** Ba,Be,Ca,Cd,Cr,Cu,Na; **EPA 245.1:** Mercury;  
**EPA 300.0:** Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C,**  
**SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**  
**EPA 332:** Perchlorate.  
**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.**

### Non-Potable Water

**EPA 200.8:** Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;  
**EPA 200.7:** Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn;  
**EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC,**  
**SM426C, SM4500NH3-BH, EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO3-F,**  
**EPA 353.2:** Nitrate-N, **SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4,**  
**SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.**  
**EPA 624:** Volatile Halocarbons & Aromatics,  
**EPA 608:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT,  
 Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs  
**EPA 625:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.  
**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.







## ANALYTICAL REPORT

Lab Number:	L1602071
Client:	ESS Group, Inc. 100 Fifth Avenue 5th Floor Waltham, MA 02451
ATTN:	Craig Paradis
Phone:	(781) 419-7714
Project Name:	HOPE MILL
Project Number:	P312-001
Report Date:	01/29/16

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), VA (460195), MD (348), IL (200077), NC (666), TX (T104704476), DOD (L2217), USDA (Permit #P-330-11-00240).

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Eight Walkup Drive, Westborough, MA 01581-1019  
508-898-9220 (Fax) 508-898-9193 800-624-9220 - [www.alphalab.com](http://www.alphalab.com)



**Project Name:** HOPE MILL  
**Project Number:** P312-001

**Lab Number:** L1602071  
**Report Date:** 01/29/16

<b>Alpha Sample ID</b>	<b>Client ID</b>	<b>Matrix</b>	<b>Sample Location</b>	<b>Collection Date/Time</b>	<b>Receive Date</b>
L1602071-01	ESSTP-19	SOIL	1 MILL ST, SCITUATE, RI	01/14/16 12:05	01/15/16
L1602071-02	ESSTP-21	SOIL	1 MILL ST, SCITUATE, RI	01/14/16 14:40	01/15/16
L1602071-03	ESSTP-22	SOIL	1 MILL ST, SCITUATE, RI	01/14/16 13:45	01/15/16
L1602071-04	ESS-27	SOIL	1 MILL ST, SCITUATE, RI	01/14/16 14:30	01/15/16
L1602071-05	ESS-28	SOIL	1 MILL ST, SCITUATE, RI	01/14/16 14:35	01/15/16

**Project Name:** HOPE MILL  
**Project Number:** P312-001

**Lab Number:** L1602071  
**Report Date:** 01/29/16

### Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

#### HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:

 Cristin Walker

Title: Technical Director/Representative

Date: 01/29/16

## METALS

Project Name: HOPE MILL

Lab Number: L1602071

Project Number: P312-001

Report Date: 01/29/16

**SAMPLE RESULTS**

Lab ID: L1602071-01

Date Collected: 01/14/16 12:05

Client ID: ESSTP-19

Date Received: 01/15/16

Sample Location: 1 MILL ST, SCITUATE, RI

Field Prep: Not Specified

Matrix: Soil

TCLP/SPLP Ext. Date: 01/27/16 00:26

Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
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## SPLP Metals by EPA 1312 - Westborough Lab

Lead, SPLP	ND		mg/l	0.0100	--	1	01/27/16 18:59	01/28/16 15:47	EPA 3015	1,6010C	PS
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Project Name: HOPE MILL

Lab Number: L1602071

Project Number: P312-001

Report Date: 01/29/16

## SAMPLE RESULTS

Lab ID: L1602071-01

Date Collected: 01/14/16 12:05

Client ID: ESSTP-19

Date Received: 01/15/16

Sample Location: 1 MILL ST, SCITUATE, RI

Field Prep: Not Specified

Matrix: Soil

Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
<b>Total Metals - Westborough Lab</b>											
Barium, Total	20		mg/kg	0.42	--	1	01/16/16 09:00	01/18/16 20:26	EPA 3050B	1,6010C	PS
Manganese, Total	56		mg/kg	0.42	--	1	01/16/16 09:00	01/18/16 20:26	EPA 3050B	1,6010C	PS
Vanadium, Total	5.6		mg/kg	0.42	--	1	01/16/16 09:00	01/18/16 20:26	EPA 3050B	1,6010C	PS



Project Name: HOPE MILL

Lab Number: L1602071

Project Number: P312-001

Report Date: 01/29/16

**SAMPLE RESULTS**

Lab ID: L1602071-02

Date Collected: 01/14/16 14:40

Client ID: ESSTP-21

Date Received: 01/15/16

Sample Location: 1 MILL ST, SCITUATE, RI

Field Prep: Not Specified

Matrix: Soil

TCLP/SPLP Ext. Date: 01/27/16 00:26

Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
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## SPLP Metals by EPA 1312 - Westborough Lab

Lead, SPLP	ND		mg/l	0.0100	--	1	01/27/16 18:59	01/28/16 15:00	EPA 3015	1,6010C	PS
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Project Name: HOPE MILL

Lab Number: L1602071

Project Number: P312-001

Report Date: 01/29/16

## SAMPLE RESULTS

Lab ID: L1602071-02

Date Collected: 01/14/16 14:40

Client ID: ESSTP-21

Date Received: 01/15/16

Sample Location: 1 MILL ST, SCITUATE, RI

Field Prep: Not Specified

Matrix: Soil

Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
<b>Total Metals - Westborough Lab</b>											
Barium, Total	17		mg/kg	0.43	--	1	01/16/16 09:00	01/18/16 20:30	EPA 3050B	1,6010C	PS
Manganese, Total	88		mg/kg	0.43	--	1	01/16/16 09:00	01/18/16 20:30	EPA 3050B	1,6010C	PS
Vanadium, Total	3.6		mg/kg	0.43	--	1	01/16/16 09:00	01/18/16 20:30	EPA 3050B	1,6010C	PS



Project Name: HOPE MILL

Lab Number: L1602071

Project Number: P312-001

Report Date: 01/29/16

**SAMPLE RESULTS**

Lab ID: L1602071-03  
 Client ID: ESSTP-22  
 Sample Location: 1 MILL ST, SCITUATE, RI  
 Matrix: Soil  
 Percent Solids: 76%

Date Collected: 01/14/16 13:45  
 Date Received: 01/15/16  
 Field Prep: Not Specified  
 TCLP/SPLP Ext. Date: 01/27/16 00:26

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
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**SPLP Metals by EPA 1312 - Westborough Lab**

Beryllium, SPLP	ND		mg/l	0.0050	--	1	01/27/16 18:59	01/28/16 15:05	EPA 3015	1,6010C	PS
Lead, SPLP	ND		mg/l	0.0100	--	1	01/27/16 18:59	01/28/16 15:05	EPA 3015	1,6010C	PS



Project Name: HOPE MILL

Lab Number: L1602071

Project Number: P312-001

Report Date: 01/29/16

## SAMPLE RESULTS

Lab ID: L1602071-03

Date Collected: 01/14/16 13:45

Client ID: ESSTP-22

Date Received: 01/15/16

Sample Location: 1 MILL ST, SCITUATE, RI

Field Prep: Not Specified

Matrix: Soil

Percent Solids: 76%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
<b>Total Metals - Westborough Lab</b>											
Barium, Total	13		mg/kg	0.51	--	1	01/16/16 09:00	01/18/16 20:34	EPA 3050B	1,6010C	PS
Manganese, Total	100		mg/kg	0.51	--	1	01/16/16 09:00	01/18/16 20:34	EPA 3050B	1,6010C	PS
Vanadium, Total	6.9		mg/kg	0.51	--	1	01/16/16 09:00	01/18/16 20:34	EPA 3050B	1,6010C	PS



Project Name: HOPE MILL

Lab Number: L1602071

Project Number: P312-001

Report Date: 01/29/16

**SAMPLE RESULTS**

Lab ID: L1602071-04

Date Collected: 01/14/16 14:30

Client ID: ESS-27

Date Received: 01/15/16

Sample Location: 1 MILL ST, SCITUATE, RI

Field Prep: Not Specified

Matrix: Soil

TCLP/SPLP Ext. Date: 01/27/16 00:26

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
SPLP Metals by EPA 1312 - Westborough Lab											
Lead, SPLP	ND		mg/l	0.0100	--	1	01/27/16 18:59	01/28/16 15:52	EPA 3015	1,6010C	PS



Project Name: HOPE MILL

Lab Number: L1602071

Project Number: P312-001

Report Date: 01/29/16

**SAMPLE RESULTS**

Lab ID: L1602071-05

Date Collected: 01/14/16 14:35

Client ID: ESS-28

Date Received: 01/15/16

Sample Location: 1 MILL ST, SCITUATE, RI

Field Prep: Not Specified

Matrix: Soil

TCLP/SPLP Ext. Date: 01/27/16 00:26

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
SPLP Metals by EPA 1312 - Westborough Lab											
Lead, SPLP	0.0127		mg/l	0.0100	--	1	01/27/16 18:59	01/28/16 15:56	EPA 3015	1,6010C	PS



**Project Name:** HOPE MILL  
**Project Number:** P312-001

**Lab Number:** L1602071  
**Report Date:** 01/29/16

## Method Blank Analysis Batch Quality Control

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Westborough Lab for sample(s): 01-03 Batch: WG857878-1									
Barium, Total	ND	mg/kg	0.40	--	1	01/16/16 09:00	01/18/16 09:50	1,6010C	PS
Manganese, Total	ND	mg/kg	0.40	--	1	01/16/16 09:00	01/18/16 09:50	1,6010C	PS
Vanadium, Total	ND	mg/kg	0.40	--	1	01/16/16 09:00	01/18/16 09:50	1,6010C	PS

### Prep Information

Digestion Method: EPA 3050B

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
SPLP Metals by EPA 1312 - Westborough Lab for sample(s): 01-05 Batch: WG860791-1									
Beryllium, SPLP	ND	mg/l	0.0050	--	1	01/27/16 18:59	01/28/16 12:43	1,6010C	PS
Lead, SPLP	ND	mg/l	0.0100	--	1	01/27/16 18:59	01/28/16 12:43	1,6010C	PS

### Prep Information

Digestion Method: EPA 3015  
TCLP/SPLP Extraction Date: 01/27/16 00:26

## Lab Control Sample Analysis

### Batch Quality Control

Project Name: HOPE MILL

Project Number: P312-001

Lab Number: L1602071

Report Date: 01/29/16

Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
Total Metals - Westborough Lab Associated sample(s): 01-03 Batch: WG857878-2 SRM Lot Number: D088-540								
Barium, Total	88		-		83-117	-		
Manganese, Total	91		-		81-118	-		
Vanadium, Total	93		-		78-122	-		
SPLP Metals by EPA 1312 - Westborough Lab Associated sample(s): 01-05 Batch: WG860791-2								
Beryllium, SPLP	92		-		80-120	-		
Lead, SPLP	106		-		80-120	-		

### Matrix Spike Analysis Batch Quality Control

**Project Name:** HOPE MILL  
**Project Number:** P312-001

**Lab Number:** L1602071  
**Report Date:** 01/29/16

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG857878-4 QC Sample: L1600001-48 Client ID: MS Sample												
Barium, Total	8100	156	12000	2490	Q	-	-		75-125	-		20
Manganese, Total	93	39.1	170	197	Q	-	-		75-125	-		20
Vanadium, Total	35	39.1	95	153	Q	-	-		75-125	-		20
SPLP Metals by EPA 1312 - Westborough Lab Associated sample(s): 01-05 QC Batch ID: WG860791-4 QC Sample: L1601614-02 Client ID: MS Sample												
Beryllium, SPLP	ND	0.05	0.0443	89		-	-		75-125	-		20
Lead, SPLP	0.0432	0.51	0.552	100		-	-		75-125	-		20



## Lab Duplicate Analysis

Batch Quality Control

Project Name: HOPE MILL

Project Number: P312-001

Lab Number: L1602071

Report Date: 01/29/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG857878-3 QC Sample: L1600001-48 Client ID: DUP Sample						
Barium, Total	8100	11000	mg/kg	30	Q	20
Manganese, Total	93	100	mg/kg	7		20
Vanadium, Total	35	46	mg/kg	27	Q	20
SPLP Metals by EPA 1312 - Westborough Lab Associated sample(s): 01-05 QC Batch ID: WG860791-3 QC Sample: L1601614-02 Client ID: DUP Sample						
Lead, SPLP	0.0432	0.0417	mg/l	4		20

# **INORGANICS & MISCELLANEOUS**

Project Name: HOPE MILL

Lab Number: L1602071

Project Number: P312-001

Report Date: 01/29/16

## SAMPLE RESULTS

Lab ID: L1602071-01  
 Client ID: ESSTP-19  
 Sample Location: 1 MILL ST, SCITUATE, RI  
 Matrix: Soil

Date Collected: 01/14/16 12:05  
 Date Received: 01/15/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.2		%	0.100	NA	1	-	01/15/16 22:47	30,2540G	RT



Project Name: HOPE MILL

Lab Number: L1602071

Project Number: P312-001

Report Date: 01/29/16

## SAMPLE RESULTS

Lab ID: L1602071-02

Date Collected: 01/14/16 14:40

Client ID: ESSTP-21

Date Received: 01/15/16

Sample Location: 1 MILL ST, SCITUATE, RI

Field Prep: Not Specified

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.6		%	0.100	NA	1	-	01/15/16 22:47	30,2540G	RT



**Project Name:** HOPE MILL

**Lab Number:** L1602071

**Project Number:** P312-001

**Report Date:** 01/29/16

**SAMPLE RESULTS**

**Lab ID:** L1602071-03

**Date Collected:** 01/14/16 13:45

**Client ID:** ESSTP-22

**Date Received:** 01/15/16

**Sample Location:** 1 MILL ST, SCITUATE, RI

**Field Prep:** Not Specified

**Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	76.2		%	0.100	NA	1	-	01/15/16 22:47	30,2540G	RT



## Lab Duplicate Analysis

Batch Quality Control

Project Name: HOPE MILL

Project Number: P312-001

Lab Number: L1602071

Report Date: 01/29/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG857829-1 QC Sample: L1601142-01 Client ID: DUP Sample						
Solids, Total	73.9	73.0	%	1		20

Project Name: HOPE MILL

Lab Number: L1602071

Project Number: P312-001

Report Date: 01/29/16

**Sample Receipt and Container Information**

Were project specific reporting limits specified? YES

**Cooler Information Custody Seal****Cooler**

A Absent

**Container Information**

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1602071-01A	Glass 250ml/8oz unpreserved	A	N/A	2.4	Y	Absent	-
L1602071-01X	Plastic 120ml HNO3 preserved spl	A	<2	2.4	Y	Absent	PB-PI(180)
L1602071-01X9	Tumble Vessel	A	N/A	2.4	Y	Absent	-
L1602071-02A	Glass 250ml/8oz unpreserved	A	N/A	2.4	Y	Absent	-
L1602071-02X	Plastic 120ml HNO3 preserved spl	A	<2	2.4	Y	Absent	PB-PI(180)
L1602071-02X9	Tumble Vessel	A	N/A	2.4	Y	Absent	-
L1602071-03A	Glass 250ml/8oz unpreserved	A	N/A	2.4	Y	Absent	-
L1602071-03X	Plastic 120ml HNO3 preserved spl	A	<2	2.4	Y	Absent	BE-PI(180),PB-PI(180)
L1602071-03X9	Tumble Vessel	A	N/A	2.4	Y	Absent	-
L1602071-04A	Glass 120ml/4oz unpreserved	A	N/A	2.4	Y	Absent	-
L1602071-04X	Plastic 120ml HNO3 preserved spl	A	<2	2.4	Y	Absent	PB-PI(180)
L1602071-04X9	Tumble Vessel	A	N/A	2.4	Y	Absent	-
L1602071-05A	Glass 120ml/4oz unpreserved	A	N/A	2.4	Y	Absent	-
L1602071-05X	Plastic 120ml HNO3 preserved spl	A	<2	2.4	Y	Absent	PB-PI(180)
L1602071-05X9	Tumble Vessel	A	N/A	2.4	Y	Absent	-

\*Values in parentheses indicate holding time in days

**Project Name:** HOPE MILL  
**Project Number:** P312-001

**Lab Number:** L1602071  
**Report Date:** 01/29/16

## GLOSSARY

### Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCS D	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MS D	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

### Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

### Terms

**Total:** With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

**Analytical Method:** Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

### Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

**Report Format:** Data Usability Report





**Project Name:** HOPE MILL  
**Project Number:** P312-001

**Lab Number:** L1602071  
**Report Date:** 01/29/16

#### **Data Qualifiers**

- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reporting limit (RL) for the sample.

**Project Name:** HOPE MILL  
**Project Number:** P312-001

**Lab Number:** L1602071  
**Report Date:** 01/29/16

## REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.
- 30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



## Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

### Westborough Facility

**EPA 524.2:** 1,2-Dibromo-3-chloropropane, 1,2-Dibromoethane, m/p-xylene, o-xylene  
**EPA 624:** 2-Butanone (MEK), 1,4-Dioxane, tert-Amylmethyl Ether, tert-Butyl Alcohol, m/p-xylene, o-xylene  
**EPA 625:** Aniline, Benzoic Acid, Benzyl Alcohol, 4-Chloroaniline, 3-Methylphenol, 4-Methylphenol.  
**EPA 1010A:** NPW: Ignitability  
**EPA 6010C:** NPW: Strontium; SCM: Strontium  
**EPA 8151A:** NPW: 2,4-DB, Dicamba, Dichloroprop, MCPA, MCPP; SCM: 2,4-DB, Dichloroprop, MCPA, MCPP  
**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene, Isopropanol; SCM: Iodomethane (methyl iodide), Methyl methacrylate (soil); 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.  
**EPA 8270D:** NPW: Pentachloronitrobenzene, 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Pentachloronitrobenzene, 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine.  
**EPA 9010:** NPW: Amenable Cyanide Distillation, Total Cyanide Distillation  
**EPA 9038:** NPW: Sulfate  
**EPA 9050A:** NPW: Specific Conductance  
**EPA 9056:** NPW: Chloride, Nitrate, Sulfate  
**EPA 9065:** NPW: Phenols  
**EPA 9251:** NPW: Chloride  
**SM3500:** NPW: Ferrous Iron  
**SM4500:** NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.  
**SM5310C:** DW: Dissolved Organic Carbon

### Mansfield Facility

**EPA 8270D:** NPW: Biphenyl; SCM: Biphenyl  
**EPA 2540D:** TSS  
**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

### Drinking Water

**EPA 200.8:** Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; **EPA 200.7:** Ba,Be,Ca,Cd,Cr,Cu,Na; **EPA 245.1:** Mercury;  
**EPA 300.0:** Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C,**  
**SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**  
**EPA 332:** Perchlorate.  
**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.**

### Non-Potable Water

**EPA 200.8:** Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;  
**EPA 200.7:** Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn;  
**EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC,**  
**SM426C, SM4500NH3-BH, EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO3-F,**  
**EPA 353.2:** Nitrate-N, **SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4,**  
**SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.**  
**EPA 624:** Volatile Halocarbons & Aromatics,  
**EPA 608:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT,  
 Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs  
**EPA 625:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.  
**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.



# CHAIN OF CUSTODY

PAGE 1 OF 2

Date Rec'd in Lab: 1-15-16

ALPHA Job #: L1601312

8 Walkup Drive  
 Westboro, MA 01581  
 Tel: 508-898-9220

320 Forbes Blvd  
 Mansfield, MA 02048  
 Tel: 508-822-9300

### Project Information

Project Name: HOPE MILL

### Report Information - Data Deliverables

ADEX  EMAIL

### Billing Information

Same as Client info PO #:

### Client Information

Client: ESS GROUP, INC.

Project Location: 1 MILL ST, SCITATE KI

Address: 100 FIFTH AVE

Project #: P312-001

WORTHAM, MA

Project Manager: CRAG PALADIS

Phone: 508-641-0124

ALPHA Quote #:

Email: bchapman@essgroup.com

### Turn-Around Time

Standard  RUSH (only confirmed if pre-approved!)

Date Due: 1/22/16

### Regulatory Requirements & Project Information Requirements

Yes  No MA MCP Analytical Methods  Yes  No CT RCP Analytical Methods  
 Yes  No Matrix Spike Required on this SDG? (Required for MCP Inorganics)  
 Yes  No GW1 Standards (Info Required for Metals & EPH with Targets)  
 Yes  No NPDES RGP  
 Other State /Fed Program RIDEM R-RS Criteria RDEC-SOL GA LEACH. CRITERIA

Additional Project Information:  
⊗ RUN ON METALS THAT ARE 20X RCRA TCLP ONLY.  
⊗ RUN ON METALS THAT ARE 20X RIDEM GA LEACH CRITERIA ONLY.  
- CALL BILL CHAPMAN (508-641-0124) -

**SPLP-BE**

**Total Ba, Mn, V, SPLP-PB**

<input checked="" type="checkbox"/> VOC: E-0080 E-024 E-024.2	<input checked="" type="checkbox"/> ANA: SIS	<input checked="" type="checkbox"/> METALS: PAH S220P	<input checked="" type="checkbox"/> METALS: MCP T3 MCP T4 RCPT 5	<input checked="" type="checkbox"/> EPH: Ranges & Targets RCPT 6	<input checked="" type="checkbox"/> PCB: Ranges & Targets RCPT 7	<input checked="" type="checkbox"/> PEST: Ranges & Targets RCPT 8	<input checked="" type="checkbox"/> P-Only: Fingerprint RCPT 9	<input checked="" type="checkbox"/> HDE: 9010	<input checked="" type="checkbox"/> P-MEMTS (EX)	<input checked="" type="checkbox"/> P-MEMTS	<input checked="" type="checkbox"/> PH Reactivity: Chromium	<input checked="" type="checkbox"/> F-Grade	<input checked="" type="checkbox"/> VANADIUM	<input checked="" type="checkbox"/> BARIUM	<input checked="" type="checkbox"/> MANGANESE
---------------------------------------------------------------	----------------------------------------------	-------------------------------------------------------	------------------------------------------------------------------	------------------------------------------------------------------	------------------------------------------------------------------	-------------------------------------------------------------------	----------------------------------------------------------------	-----------------------------------------------	--------------------------------------------------	---------------------------------------------	-------------------------------------------------------------	---------------------------------------------	----------------------------------------------	--------------------------------------------	-----------------------------------------------

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler Initials	ANALYSIS															Sample Comments	TOTAL # BOTTLES
		Date	Time			VOC	ANA	METALS	METALS	EPH	PCB	PEST	P-Only	HDE	P-MEMTS	P-MEMTS	PH Reactivity	F-Grade	Vanadium	Barium		
<b>02071</b> - 01	BSSTP-19	1/14/16	1205	S	WMC	X	X	X	X	X	X	X	X	X	X	X	X	X	X	3-5 FEET	3	
02	BSSTP-21	↓	1440	S	WMC	X	X	X	X	X	X	X	X	X	X	X	X	X	X	3-4 FEET	3	
03	BSSTP-22	↓	1345	S	WMC	X	X	X	X	X	X	X	X	X	X	X	X	X	X	3-5 FEET	3	
04	ESSTP-19	↓	1208	S	WMC	X	X	X	X	X	X	X	X	X	X	X	X	X	X	3-5 FEET	3	
05	BSSTP-21	↓	1442	S	WMC	X	X	X	X	X	X	X	X	X	X	X	X	X	X	3-4 FEET	3	
06	BSSTP-22	↓	1347	S	WMC	X	X	X	X	X	X	X	X	X	X	X	X	X	X	3-5 FEET	3	
07	ESSTP-22	↓	1350	S	WMC	X	X	X	X	X	X	X	X	X	X	X	X	X	X	9-FOOT	1	

**Container Type**  
 P= Plastic  
 A= Amber glass  
 V= Vial  
 G= Glass  
 B= Bacteria cup  
 C= Cube  
 O= Other  
 E= Encore  
 D= BOD Bottle

**Preservative**  
 A= None  
 B= HCl  
 C= HNO<sub>3</sub>  
 D= H<sub>2</sub>SO<sub>4</sub>  
 E= NaOH  
 F= MeOH  
 G= NaHSO<sub>4</sub>  
 H= Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>  
 I= Ascorbic Acid  
 J= NH<sub>4</sub>Cl  
 K= Zn Acetate  
 O= Other

Container Type	V	G	G	G	G	G	G
Preservative	F/O	A	A	A	A	A	A

O = DEIONIZED WATER

Relinquished By:	Date/Time	Received By:	Date/Time
<u>Craig G. Paradis</u>	<u>1/15/16 11:15</u>	<u>[Signature]</u>	<u>1/15/16 11:15</u>
	<u>1/15/16 1545</u>	<u>[Signature]</u>	<u>1/15/16 1545</u>

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.  
 FORM NO. 01-01 (rev. 12-Mar-2012)







*CERTIFICATE OF ANALYSIS*

Craig Paradis  
ESS Group, Inc. (MA)  
100 Fifth Avenue, 5th Floor  
Waltham, MA 02451

**RE: Hope Mill (P312)**  
**ESS Laboratory Work Order Number: 1609117**

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard  
Laboratory Director

**REVIEWED**

*By ESS Laboratory at 11:45 am, Sep 14, 2016*

**Analytical Summary**

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with NELAC Standards, A2LA and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609117

**SAMPLE RECEIPT**

The following samples were received on September 07, 2016 for the analyses specified on the enclosed Chain of Custody Record.

**Low Level VOA vials were frozen by ESS Laboratory on September 7, 2016 at 17:25.**

**Samples for pH and ORP were requested outside of the holding time.**

<u>Lab Number</u>	<u>Sample Name</u>	<u>Matrix</u>	<u>Analysis</u>
1609117-01	ESS-30 (3-8)	Soil	6010C, 6020A, 7196A, 7471B, 8081B, 8082A, 8100M, 8260B Low, 8270D, 9014, Calc
1609117-02	ESS-31 (3-8)	Soil	6010C, 6020A, 7196A, 7471B, 8081B, 8082A, 8100M, 8260B Low, 8270D, 9014, Calc
1609117-03	ESS-32 (3-8)	Soil	6010C, 6020A, 7196A, 7471B, 8081B, 8082A, 8100M, 8260B Low, 8270D, 9014, Calc
1609117-04	ESS-33 (3-8)	Soil	6010C, 6020A, 7196A, 7471B, 8081B, 8082A, 8100M, 8260B Low, 8270D, 9014, Calc
1609117-05	ESS-34 (3-8)	Soil	6010C, 6020A, 7196A, 7471B, 8081B, 8082A, 8100M, 8260B Low, 8270D, 9014, Calc
1609117-06	ESS-35 (3-8)	Soil	6010C, 6020A, 7196A, 7471B, 8081B, 8082A, 8100M, 8260B Low, 8270D, 9014, Calc
1609117-07	COMP-1	Soil	6010C, 6020A, 7196A, 7471B, 8081B, 8082A, 8100M, 8260B Low, 8270D, 9014, Calc
1609117-08	COMP-2	Soil	6010C, 6020A, 7196A, 7471B, 8081B, 8082A, 8100M, 8260B Low, 8270D, 9014, Calc
1609117-09	ESS-47 (8.5)	Soil	8260B Low
1609117-10	ESS-36 (3-8)	Soil	6010C, 6020A, 7196A, 7471B, 8081B, 8082A, 8100M, 8260B Low, 8270D, 9014, Calc
1609117-11	ESS-38 (3-8)	Soil	6010C, 6020A, 7196A, 7471B, 8081B, 8082A, 8100M, 8260B Low, 8270D, 9014, Calc
1609117-12	ESS-37 (3-8)	Soil	6010C, 6020A, 7196A, 7471B, 8081B, 8082A, 8100M, 8260B Low, 8270D, 9014, Calc
1609117-13	COMP-3	Soil	6010C, 6020A, 7196A, 7471B, 8081B, 8082A, 8100M, 8260B Low, 8270D, 9014, Calc
1609117-14	ESS-46 (8)	Soil	8260B Low





*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609117

**PROJECT NARRATIVE**

**5035/8260B Volatile Organic Compounds / Low Level**

CI60938-BS1 Blank Spike recovery is above upper control limit (B+).

1,4-Dioxane (145% @ 70-130%)

CI60938-BSD1 Blank Spike recovery is above upper control limit (B+).

1,4-Dioxane (144% @ 70-130%)

**8081B Organochlorine Pesticides**

CZI0092-CCV2 Continuing Calibration %Diff/Drift is above control limit (CD+).

Decachlorobiphenyl (22% @ 20%), Tetrachloro-m-xylene [2C] (21% @ 20%)

**8100M Total Petroleum Hydrocarbons**

CI60817-BSD1 Relative percent difference for duplicate is outside of criteria (D+).

Total Petroleum Hydrocarbons (46% @ 25%)

**8270D Semi-Volatile Organic Compounds**

CI60635-BS1 Blank Spike recovery is below lower control limit (B-).

Benzoic Acid (32% @ 40-140%)

CI60635-BSD1 Blank Spike recovery is below lower control limit (B-).

Benzoic Acid (32% @ 40-140%)

CI60818-BS1 Blank Spike recovery is below lower control limit (B-).

3,3'-Dichlorobenzidine (38% @ 40-140%), Hexachlorocyclopentadiene (% @ 40-140%)

CI60818-BSD1 Blank Spike recovery is below lower control limit (B-).

3,3'-Dichlorobenzidine (7% @ 40-140%), Hexachlorocyclopentadiene (% @ 40-140%)

CI60818-BSD1 Relative percent difference for duplicate is outside of criteria (D+).

2,4-Dinitrophenol (31% @ 30%), 3,3'-Dichlorobenzidine (141% @ 30%), Benzoic Acid (59% @ 30%),  
Hexachlorocyclopentadiene (200% @ 30%), Pentachlorophenol (47% @ 30%)

CZI0072-CCV1 Calibration required quadratic regression (Q).

2,4-Dinitrophenol (54% @ 80-120%), 4-Nitrophenol (99% @ 80-120%), Benzoic Acid (34% @ 80-120%)

CZI0072-CCV1 Continuing Calibration %Diff/Drift is above control limit (CD+).

Benzyl Alcohol (22% @ 20%)

CZI0072-CCV1 Continuing Calibration %Diff/Drift is below control limit (CD-).

2,4-Dinitrophenol (46% @ 20%), 4,6-Dinitro-2-Methylphenol (33% @ 20%), Benzoic Acid (66% @  
20%), Hexachlorocyclopentadiene (22% @ 20%), N-Nitrosodimethylamine (30% @ 20%)

CZI0096-CCV1 Calibration required quadratic regression (Q).

2,4-Dinitrophenol (97% @ 80-120%), Benzoic Acid (95% @ 80-120%), Di-n-octylphthalate (99% @  
80-120%)

CZI0143-CCV1 Calibration required quadratic regression (Q).

2,4-Dinitrophenol (141% @ 80-120%), Benzoic Acid (111% @ 80-120%), Di-n-octylphthalate (88% @  
80-120%)

CZI0143-CCV1 Continuing Calibration %Diff/Drift is above control limit (CD+).

2,4-Dinitrophenol (41% @ 20%), 4,6-Dinitro-2-Methylphenol (23% @ 20%), Benzo(g,h,i)perylene (32%  
@ 20%), Dibenzo(a,h)Anthracene (28% @ 20%), Indeno(1,2,3-cd)Pyrene (27% @ 20%)





*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)

Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609117

**No other observations noted.**

**End of Project Narrative.**

**DATA USABILITY LINKS**

[Definitions of Quality Control Parameters](#)

[Semivolatile Organics Internal Standard Information](#)

[Semivolatile Organics Surrogate Information](#)

[Volatile Organics Internal Standard Information](#)

[Volatile Organics Surrogate Information](#)

[EPH and VPH Alkane Lists](#)



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609117

**CURRENT SW-846 METHODOLOGY VERSIONS**

**Analytical Methods**

- 1010A - Flashpoint
- 6010C - ICP
- 6020A - ICP MS
- 7010 - Graphite Furnace
- 7196A - Hexavalent Chromium
- 7470A - Aqueous Mercury
- 7471B - Solid Mercury
- 8011 - EDB/DBCP/TCP
- 8015D - GRO/DRO
- 8081B - Pesticides
- 8082A - PCB
- 8100M - TPH
- 8151A - Herbicides
- 8260B - VOA
- 8270D - SVOA
- 8270D SIM - SVOA Low Level
- 9014 - Cyanide
- 9038 - Sulfate
- 9040C - Aqueous pH
- 9045D - Solid pH (Corrosivity)
- 9050A - Specific Conductance
- 9056A - Anions (IC)
- 9060A - TOC
- 9095B - Paint Filter
- MADEP 04-1.1 - EPH / VPH

**Prep Methods**

- 3005A - Aqueous ICP Digestion
- 3020A - Aqueous Graphite Furnace / ICP MS Digestion
- 3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
- 3060A - Solid Hexavalent Chromium Digestion
- 3510C - Separatory Funnel Extraction
- 3520C - Liquid / Liquid Extraction
- 3540C - Manual Soxhlet Extraction
- 3541 - Automated Soxhlet Extraction
- 3546 - Microwave Extraction
- 3580A - Waste Dilution
- 5030B - Aqueous Purge and Trap
- 5030C - Aqueous Purge and Trap
- 5035 - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-30 (3-8)  
Date Sampled: 09/07/16 09:30  
Percent Solids: 90

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-01  
Sample Matrix: Soil  
Units: mg/kg dry

Extraction Method: 3050B

**Total Metals**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Antimony	ND (0.53)		6020A		20	NAR	09/12/16 12:39	2.1	100	CI60906
Arsenic	ND (2.66)		6010C		1	KJK	09/09/16 22:21	2.1	100	CI60906
<b>Barium</b>	<b>16.7</b> (2.66)		6010C		1	KJK	09/09/16 22:21	2.1	100	CI60906
<b>Beryllium</b>	<b>0.45</b> (0.12)		6010C		1	KJK	09/09/16 22:21	2.1	100	CI60906
Cadmium	ND (0.53)		6010C		1	KJK	09/09/16 22:21	2.1	100	CI60906
<b>Chromium</b>	<b>3.85</b> (1.06)		6010C		1	KJK	09/09/16 22:21	2.1	100	CI60906
<b>Chromium (III)</b>	<b>3.85</b> (1.06)		Calc		1	EEM	09/12/16 14:30	1	1	[CALC]
Copper	ND (2.66)		6010C		1	KJK	09/09/16 22:21	2.1	100	CI60906
Lead	ND (5.31)		6010C		1	KJK	09/09/16 22:21	2.1	100	CI60906
<b>Manganese</b>	<b>103</b> (1.06)		6010C		1	KJK	09/09/16 22:21	2.1	100	CI60906
Mercury	ND (0.032)		7471B		1	KJK	09/09/16 11:31	0.69	40	CI60844
<b>Nickel</b>	<b>3.78</b> (2.66)		6010C		1	KJK	09/09/16 22:21	2.1	100	CI60906
Selenium	ND (0.53)		6020A		20	NAR	09/12/16 12:39	2.1	100	CI60906
Silver	ND (0.53)		6010C		1	KJK	09/09/16 22:21	2.1	100	CI60906
Thallium	ND (0.53)		6020A		20	NAR	09/12/16 12:39	2.1	100	CI60906
<b>Vanadium</b>	<b>7.23</b> (1.06)		6010C		1	KJK	09/09/16 22:21	2.1	100	CI60906
<b>Zinc</b>	<b>27.4</b> (2.66)		6010C		1	KJK	09/09/16 22:21	2.1	100	CI60906



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-30 (3-8)  
Date Sampled: 09/07/16 09:30  
Percent Solids: 90  
Initial Volume: 6.9  
Final Volume: 10  
Extraction Method: 5035

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-01  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: MD

**5035/8260B Volatile Organic Compounds / Low Level**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
1,1,1-Trichloroethane	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
1,1,2,2-Tetrachloroethane	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
1,1,2-Trichloroethane	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
1,1-Dichloroethane	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
1,1-Dichloroethene	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
1,1-Dichloropropene	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
1,2,3-Trichlorobenzene	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
1,2,3-Trichloropropane	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
1,2,4-Trichlorobenzene	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
1,2,4-Trimethylbenzene	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
1,2-Dibromo-3-Chloropropane	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
1,2-Dibromoethane	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
1,2-Dichlorobenzene	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
1,2-Dichloroethane	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
1,2-Dichloropropane	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
1,3,5-Trimethylbenzene	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
1,3-Dichlorobenzene	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
1,3-Dichloropropane	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
1,4-Dichlorobenzene	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
1,4-Dioxane	ND (0.0809)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
1-Chlorohexane	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
2,2-Dichloropropane	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
2-Butanone	ND (0.0404)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
2-Chlorotoluene	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
2-Hexanone	ND (0.0404)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
4-Chlorotoluene	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
4-Isopropyltoluene	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
4-Methyl-2-Pentanone	ND (0.0404)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
Acetone	ND (0.0404)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
Benzene	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
Bromobenzene	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-30 (3-8)  
Date Sampled: 09/07/16 09:30  
Percent Solids: 90  
Initial Volume: 6.9  
Final Volume: 10  
Extraction Method: 5035

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-01  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: MD

**5035/8260B Volatile Organic Compounds / Low Level**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
Bromodichloromethane	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
Bromoform	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
Bromomethane	ND (0.0081)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
Carbon Disulfide	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
Carbon Tetrachloride	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
Chlorobenzene	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
Chloroethane	ND (0.0081)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
Chloroform	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
Chloromethane	ND (0.0081)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
cis-1,2-Dichloroethene	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
cis-1,3-Dichloropropene	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
Dibromochloromethane	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
Dibromomethane	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
Dichlorodifluoromethane	ND (0.0081)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
Diethyl Ether	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
Di-isopropyl ether	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
Ethyl tertiary-butyl ether	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
Ethylbenzene	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
Hexachlorobutadiene	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
Isopropylbenzene	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
Methyl tert-Butyl Ether	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
Methylene Chloride	ND (0.0202)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
Naphthalene	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
n-Butylbenzene	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
n-Propylbenzene	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
sec-Butylbenzene	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
Styrene	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
tert-Butylbenzene	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
Tertiary-amyl methyl ether	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
Tetrachloroethene	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
Tetrahydrofuran	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-30 (3-8)  
Date Sampled: 09/07/16 09:30  
Percent Solids: 90  
Initial Volume: 6.9  
Final Volume: 10  
Extraction Method: 5035

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-01  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: MD

**5035/8260B Volatile Organic Compounds / Low Level**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Toluene	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
trans-1,2-Dichloroethene	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
trans-1,3-Dichloropropene	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
Trichloroethene	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
Trichlorofluoromethane	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
Vinyl Acetate	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
Vinyl Chloride	ND (0.0081)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
Xylene O	ND (0.0040)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
Xylene P,M	ND (0.0081)		8260B Low		1	09/10/16 0:05	CZI0131	CI60938
Xylenes (Total)	ND (0.0081)		8260B Low		1	09/10/16 0:05		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>88 %</i>		<i>70-130</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>91 %</i>		<i>70-130</i>
<i>Surrogate: Dibromofluoromethane</i>	<i>89 %</i>		<i>70-130</i>
<i>Surrogate: Toluene-d8</i>	<i>94 %</i>		<i>70-130</i>



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-30 (3-8)  
Date Sampled: 09/07/16 09:30  
Percent Solids: 90  
Initial Volume: 19.4  
Final Volume: 5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-01  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: IBM  
Prepared: 9/8/16 10:08

**8081B Organochlorine Pesticides**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Chlordane (Total)	ND (0.0345)		8081B		1	09/08/16 13:01	CZI0092	CI60713
Dieldrin	ND (0.0029)		8081B		1	09/08/16 13:01	CZI0092	CI60713

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	78 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	74 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	68 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	67 %		30-150



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-30 (3-8)  
Date Sampled: 09/07/16 09:30  
Percent Solids: 90  
Initial Volume: 19.2  
Final Volume: 10  
Extraction Method: 3540C

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-01  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: SMR  
Prepared: 9/7/16 18:03

**8082A Polychlorinated Biphenyls (PCB)**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.0581)		8082A		1	09/08/16 17:59		CI60709
Aroclor 1221	ND (0.0581)		8082A		1	09/08/16 17:59		CI60709
Aroclor 1232	ND (0.0581)		8082A		1	09/08/16 17:59		CI60709
Aroclor 1242	ND (0.0581)		8082A		1	09/08/16 17:59		CI60709
Aroclor 1248	ND (0.0581)		8082A		1	09/08/16 17:59		CI60709
Aroclor 1254	ND (0.0581)		8082A		1	09/08/16 17:59		CI60709
Aroclor 1260	ND (0.0581)		8082A		1	09/08/16 17:59		CI60709
Aroclor 1262	ND (0.0581)		8082A		1	09/08/16 17:59		CI60709
Aroclor 1268	ND (0.0581)		8082A		1	09/08/16 17:59		CI60709

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	73 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	85 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	69 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	77 %		30-150





*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-30 (3-8)  
Date Sampled: 09/07/16 09:30  
Percent Solids: 90  
Initial Volume: 20.1  
Final Volume: 1  
Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-01  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: DPS  
Prepared: 9/7/16 16:59

**8100M Total Petroleum Hydrocarbons**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Total Petroleum Hydrocarbons	ND (41.6)		8100M		1	09/09/16 9:42	CZI0103	CI60712
		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				
<i>Surrogate: O-Terphenyl</i>		86 %		40-140				



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-30 (3-8)  
Date Sampled: 09/07/16 09:30  
Percent Solids: 90  
Initial Volume: 15  
Final Volume: 0.5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-01  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: TJ  
Prepared: 9/7/16 16:59

**8270D Semi-Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1-Biphenyl	ND (0.372)		8270D		1	09/12/16 12:50	CZI0143	CI60635
1,2,4-Trichlorobenzene	ND (0.372)		8270D		1	09/12/16 12:50	CZI0143	CI60635
1,2-Dichlorobenzene	ND (0.372)		8270D		1	09/12/16 12:50	CZI0143	CI60635
1,3-Dichlorobenzene	ND (0.372)		8270D		1	09/12/16 12:50	CZI0143	CI60635
1,4-Dichlorobenzene	ND (0.372)		8270D		1	09/12/16 12:50	CZI0143	CI60635
2,3,4,6-Tetrachlorophenol	ND (1.86)		8270D		1	09/12/16 12:50	CZI0143	CI60635
2,4,5-Trichlorophenol	ND (0.372)		8270D		1	09/12/16 12:50	CZI0143	CI60635
2,4,6-Trichlorophenol	ND (0.372)		8270D		1	09/12/16 12:50	CZI0143	CI60635
2,4-Dichlorophenol	ND (0.372)		8270D		1	09/12/16 12:50	CZI0143	CI60635
2,4-Dimethylphenol	ND (0.372)		8270D		1	09/12/16 12:50	CZI0143	CI60635
2,4-Dinitrophenol	ND (1.86)		8270D		1	09/12/16 12:50	CZI0143	CI60635
2,4-Dinitrotoluene	ND (0.372)		8270D		1	09/12/16 12:50	CZI0143	CI60635
2,6-Dinitrotoluene	ND (0.372)		8270D		1	09/12/16 12:50	CZI0143	CI60635
2-Chloronaphthalene	ND (0.372)		8270D		1	09/12/16 12:50	CZI0143	CI60635
2-Chlorophenol	ND (0.372)		8270D		1	09/12/16 12:50	CZI0143	CI60635
2-Methylnaphthalene	ND (0.372)		8270D		1	09/12/16 12:50	CZI0143	CI60635
2-Methylphenol	ND (0.372)		8270D		1	09/12/16 12:50	CZI0143	CI60635
2-Nitroaniline	ND (0.372)		8270D		1	09/12/16 12:50	CZI0143	CI60635
2-Nitrophenol	ND (0.372)		8270D		1	09/12/16 12:50	CZI0143	CI60635
3,3'-Dichlorobenzidine	ND (0.744)		8270D		1	09/12/16 12:50	CZI0143	CI60635
3+4-Methylphenol	ND (0.744)		8270D		1	09/12/16 12:50	CZI0143	CI60635
3-Nitroaniline	ND (0.372)		8270D		1	09/12/16 12:50	CZI0143	CI60635
4,6-Dinitro-2-Methylphenol	ND (1.86)		8270D		1	09/12/16 12:50	CZI0143	CI60635
4-Bromophenyl-phenylether	ND (0.372)		8270D		1	09/12/16 12:50	CZI0143	CI60635
4-Chloro-3-Methylphenol	ND (0.372)		8270D		1	09/12/16 12:50	CZI0143	CI60635
4-Chloroaniline	ND (0.744)		8270D		1	09/12/16 12:50	CZI0143	CI60635
4-Chloro-phenyl-phenyl ether	ND (0.372)		8270D		1	09/12/16 12:50	CZI0143	CI60635
4-Nitroaniline	ND (0.372)		8270D		1	09/12/16 12:50	CZI0143	CI60635
4-Nitrophenol	ND (1.86)		8270D		1	09/12/16 12:50	CZI0143	CI60635
Acenaphthene	ND (0.372)		8270D		1	09/12/16 12:50	CZI0143	CI60635
Acenaphthylene	ND (0.372)		8270D		1	09/12/16 12:50	CZI0143	CI60635
Acetophenone	ND (0.744)		8270D		1	09/12/16 12:50	CZI0143	CI60635



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-30 (3-8)  
Date Sampled: 09/07/16 09:30  
Percent Solids: 90  
Initial Volume: 15  
Final Volume: 0.5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-01  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: TJ  
Prepared: 9/7/16 16:59

**8270D Semi-Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aniline	ND (0.744)		8270D		1	09/12/16 12:50	CZI0143	CI60635
Anthracene	ND (0.372)		8270D		1	09/12/16 12:50	CZI0143	CI60635
Azobenzene	ND (0.372)		8270D		1	09/12/16 12:50	CZI0143	CI60635
Benzo(a)anthracene	ND (0.372)		8270D		1	09/12/16 12:50	CZI0143	CI60635
Benzo(a)pyrene	ND (0.186)		8270D		1	09/12/16 12:50	CZI0143	CI60635
Benzo(b)fluoranthene	ND (0.372)		8270D		1	09/12/16 12:50	CZI0143	CI60635
Benzo(g,h,i)perylene	ND (0.372)		8270D		1	09/12/16 12:50	CZI0143	CI60635
Benzo(k)fluoranthene	ND (0.372)		8270D		1	09/12/16 12:50	CZI0143	CI60635
Benzoic Acid	ND (1.86)		8270D		1	09/12/16 12:50	CZI0143	CI60635
Benzyl Alcohol	ND (0.372)		8270D		1	09/12/16 12:50	CZI0143	CI60635
bis(2-Chloroethoxy)methane	ND (0.372)		8270D		1	09/12/16 12:50	CZI0143	CI60635
bis(2-Chloroethyl)ether	ND (0.372)		8270D		1	09/12/16 12:50	CZI0143	CI60635
bis(2-chloroisopropyl)Ether	ND (0.372)		8270D		1	09/12/16 12:50	CZI0143	CI60635
bis(2-Ethylhexyl)phthalate	ND (0.372)		8270D		1	09/12/16 12:50	CZI0143	CI60635
Butylbenzylphthalate	ND (0.372)		8270D		1	09/12/16 12:50	CZI0143	CI60635
Carbazole	ND (0.372)		8270D		1	09/12/16 12:50	CZI0143	CI60635
Chrysene	ND (0.186)		8270D		1	09/12/16 12:50	CZI0143	CI60635
Dibenzo(a,h)Anthracene	ND (0.186)		8270D		1	09/12/16 12:50	CZI0143	CI60635
Dibenzofuran	ND (0.372)		8270D		1	09/12/16 12:50	CZI0143	CI60635
Diethylphthalate	ND (0.372)		8270D		1	09/12/16 12:50	CZI0143	CI60635
Dimethylphthalate	ND (0.372)		8270D		1	09/12/16 12:50	CZI0143	CI60635
Di-n-butylphthalate	ND (0.372)		8270D		1	09/12/16 12:50	CZI0143	CI60635
Di-n-octylphthalate	ND (0.372)		8270D		1	09/12/16 12:50	CZI0143	CI60635
Fluoranthene	ND (0.372)		8270D		1	09/12/16 12:50	CZI0143	CI60635
Fluorene	ND (0.372)		8270D		1	09/12/16 12:50	CZI0143	CI60635
Hexachlorobenzene	ND (0.186)		8270D		1	09/12/16 12:50	CZI0143	CI60635
Hexachlorobutadiene	ND (0.372)		8270D		1	09/12/16 12:50	CZI0143	CI60635
Hexachlorocyclopentadiene	ND (1.86)		8270D		1	09/12/16 12:50	CZI0143	CI60635
Hexachloroethane	ND (0.372)		8270D		1	09/12/16 12:50	CZI0143	CI60635
Indeno(1,2,3-cd)Pyrene	ND (0.372)		8270D		1	09/12/16 12:50	CZI0143	CI60635
Isophorone	ND (0.372)		8270D		1	09/12/16 12:50	CZI0143	CI60635
Naphthalene	ND (0.372)		8270D		1	09/12/16 12:50	CZI0143	CI60635



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
 Client Project ID: Hope Mill  
 Client Sample ID: ESS-30 (3-8)  
 Date Sampled: 09/07/16 09:30  
 Percent Solids: 90  
 Initial Volume: 15  
 Final Volume: 0.5  
 Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
 ESS Laboratory Sample ID: 1609117-01  
 Sample Matrix: Soil  
 Units: mg/kg dry  
 Analyst: TJ  
 Prepared: 9/7/16 16:59

**8270D Semi-Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Nitrobenzene	ND (0.372)		8270D		1	09/12/16 12:50	CZI0143	CI60635
N-Nitrosodimethylamine	ND (0.372)		8270D		1	09/12/16 12:50	CZI0143	CI60635
N-Nitroso-Di-n-Propylamine	ND (0.372)		8270D		1	09/12/16 12:50	CZI0143	CI60635
N-nitrosodiphenylamine	ND (0.372)		8270D		1	09/12/16 12:50	CZI0143	CI60635
Pentachlorophenol	ND (1.86)		8270D		1	09/12/16 12:50	CZI0143	CI60635
Phenanthrene	ND (0.372)		8270D		1	09/12/16 12:50	CZI0143	CI60635
Phenol	ND (0.372)		8270D		1	09/12/16 12:50	CZI0143	CI60635
Pyrene	ND (0.372)		8270D		1	09/12/16 12:50	CZI0143	CI60635
Pyridine	ND (1.86)		8270D		1	09/12/16 12:50	CZI0143	CI60635

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	60 %		30-130
<i>Surrogate: 2,4,6-Tribromophenol</i>	88 %		30-130
<i>Surrogate: 2-Chlorophenol-d4</i>	64 %		30-130
<i>Surrogate: 2-Fluorobiphenyl</i>	65 %		30-130
<i>Surrogate: 2-Fluorophenol</i>	58 %		30-130
<i>Surrogate: Nitrobenzene-d5</i>	68 %		30-130
<i>Surrogate: Phenol-d6</i>	68 %		30-130
<i>Surrogate: p-Terphenyl-d14</i>	73 %		30-130



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-30 (3-8)  
Date Sampled: 09/07/16 09:30  
Percent Solids: 90

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-01  
Sample Matrix: Soil

**Classical Chemistry**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>	<u>Batch</u>
Hexavalent Chromium	ND (0.4)		7196A		1	EEM	09/12/16 14:30	mg/kg dry	CI61224
Total Cyanide	ND (1.09)		9014		1	JLK	09/09/16 17:25	mg/kg dry	CI60931



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-31 (3-8)  
Date Sampled: 09/07/16 10:20  
Percent Solids: 89

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-02  
Sample Matrix: Soil  
Units: mg/kg dry

Extraction Method: 3050B

**Total Metals**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Antimony	0.45 (0.37)		6020A		20	NAR	09/12/16 13:08	3.02	100	CI60906
Arsenic	3.65 (1.86)		6010C		1	KJK	09/09/16 22:41	3.02	100	CI60906
Barium	16.7 (1.86)		6010C		1	KJK	09/09/16 22:41	3.02	100	CI60906
Beryllium	0.59 (0.08)		6010C		1	KJK	09/09/16 22:41	3.02	100	CI60906
Cadmium	ND (0.37)		6010C		1	KJK	09/09/16 22:41	3.02	100	CI60906
Chromium	ND (0.75)		6010C		1	KJK	09/09/16 22:41	3.02	100	CI60906
Chromium (III)	ND (0.75)		Calc		1	EEM	09/12/16 14:30	1	1	[CALC]
Copper	6.61 (1.86)		6010C		1	KJK	09/09/16 22:41	3.02	100	CI60906
Lead	62.3 (3.73)		6010C		1	KJK	09/09/16 22:41	3.02	100	CI60906
Manganese	132 (0.75)		6010C		1	KJK	09/09/16 22:41	3.02	100	CI60906
Mercury	0.068 (0.030)		7471B		1	KJK	09/09/16 11:41	0.74	40	CI60844
Nickel	2.44 (1.86)		6010C		1	KJK	09/09/16 22:41	3.02	100	CI60906
Selenium	0.54 (0.37)		6020A		20	NAR	09/12/16 13:08	3.02	100	CI60906
Silver	ND (0.37)		6010C		1	KJK	09/09/16 22:41	3.02	100	CI60906
Thallium	ND (0.37)		6020A		20	NAR	09/12/16 13:08	3.02	100	CI60906
Vanadium	3.27 (0.75)		6010C		1	KJK	09/09/16 22:41	3.02	100	CI60906
Zinc	42.6 (1.86)		6010C		1	KJK	09/09/16 22:41	3.02	100	CI60906



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-31 (3-8)  
Date Sampled: 09/07/16 10:20  
Percent Solids: 89  
Initial Volume: 7.5  
Final Volume: 10  
Extraction Method: 5035

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-02  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: MD

**5035/8260B Volatile Organic Compounds / Low Level**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
1,1,1-Trichloroethane	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
1,1,2,2-Tetrachloroethane	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
1,1,2-Trichloroethane	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
1,1-Dichloroethane	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
1,1-Dichloroethene	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
1,1-Dichloropropene	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
1,2,3-Trichlorobenzene	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
1,2,3-Trichloropropane	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
1,2,4-Trichlorobenzene	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
1,2,4-Trimethylbenzene	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
1,2-Dibromo-3-Chloropropane	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
1,2-Dibromoethane	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
1,2-Dichlorobenzene	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
1,2-Dichloroethane	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
1,2-Dichloropropane	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
1,3,5-Trimethylbenzene	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
1,3-Dichlorobenzene	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
1,3-Dichloropropane	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
1,4-Dichlorobenzene	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
1,4-Dioxane	ND (0.0750)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
1-Chlorohexane	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
2,2-Dichloropropane	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
2-Butanone	ND (0.0375)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
2-Chlorotoluene	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
2-Hexanone	ND (0.0375)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
4-Chlorotoluene	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
4-Isopropyltoluene	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
4-Methyl-2-Pentanone	ND (0.0375)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
<b>Acetone</b>	<b>0.0429</b> (0.0375)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
Benzene	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
Bromobenzene	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938





*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-31 (3-8)  
Date Sampled: 09/07/16 10:20  
Percent Solids: 89  
Initial Volume: 7.5  
Final Volume: 10  
Extraction Method: 5035

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-02  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: MD

**5035/8260B Volatile Organic Compounds / Low Level**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
Bromodichloromethane	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
Bromoform	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
Bromomethane	ND (0.0075)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
Carbon Disulfide	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
Carbon Tetrachloride	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
Chlorobenzene	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
Chloroethane	ND (0.0075)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
Chloroform	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
Chloromethane	ND (0.0075)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
cis-1,2-Dichloroethene	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
cis-1,3-Dichloropropene	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
Dibromochloromethane	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
Dibromomethane	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
Dichlorodifluoromethane	ND (0.0075)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
Diethyl Ether	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
Di-isopropyl ether	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
Ethyl tertiary-butyl ether	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
Ethylbenzene	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
Hexachlorobutadiene	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
Isopropylbenzene	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
Methyl tert-Butyl Ether	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
Methylene Chloride	ND (0.0188)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
Naphthalene	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
n-Butylbenzene	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
n-Propylbenzene	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
sec-Butylbenzene	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
Styrene	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
tert-Butylbenzene	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
Tertiary-amyl methyl ether	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
Tetrachloroethene	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
Tetrahydrofuran	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938





*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-31 (3-8)  
Date Sampled: 09/07/16 10:20  
Percent Solids: 89  
Initial Volume: 7.5  
Final Volume: 10  
Extraction Method: 5035

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-02  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: MD

**5035/8260B Volatile Organic Compounds / Low Level**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Toluene	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
trans-1,2-Dichloroethene	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
trans-1,3-Dichloropropene	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
Trichloroethene	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
Trichlorofluoromethane	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
Vinyl Acetate	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
Vinyl Chloride	ND (0.0075)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
Xylene O	ND (0.0038)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
Xylene P,M	ND (0.0075)		8260B Low		1	09/10/16 0:32	CZI0131	CI60938
Xylenes (Total)	ND (0.0075)		8260B Low		1	09/10/16 0:32		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	89 %		70-130
<i>Surrogate: 4-Bromofluorobenzene</i>	91 %		70-130
<i>Surrogate: Dibromofluoromethane</i>	89 %		70-130
<i>Surrogate: Toluene-d8</i>	94 %		70-130



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-31 (3-8)  
Date Sampled: 09/07/16 10:20  
Percent Solids: 89  
Initial Volume: 19.5  
Final Volume: 5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-02  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: IBM  
Prepared: 9/8/16 10:08

**8081B Organochlorine Pesticides**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Chlordane (Total)	ND (0.0346)		8081B		1	09/08/16 13:30	CZI0092	CI60713
Dieldrin	ND (0.0029)		8081B		1	09/08/16 13:30	CZI0092	CI60713

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	90 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	85 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	82 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	85 %		30-150



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-31 (3-8)  
Date Sampled: 09/07/16 10:20  
Percent Solids: 89  
Initial Volume: 20.4  
Final Volume: 10  
Extraction Method: 3540C

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-02  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: SMR  
Prepared: 9/7/16 18:03

**8082A Polychlorinated Biphenyls (PCB)**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.0552)		8082A		1	09/08/16 13:35		CI60709
Aroclor 1221	ND (0.0552)		8082A		1	09/08/16 13:35		CI60709
Aroclor 1232	ND (0.0552)		8082A		1	09/08/16 13:35		CI60709
Aroclor 1242	ND (0.0552)		8082A		1	09/08/16 13:35		CI60709
Aroclor 1248	ND (0.0552)		8082A		1	09/08/16 13:35		CI60709
Aroclor 1254	ND (0.0552)		8082A		1	09/08/16 13:35		CI60709
Aroclor 1260	ND (0.0552)		8082A		1	09/08/16 13:35		CI60709
Aroclor 1262	ND (0.0552)		8082A		1	09/08/16 13:35		CI60709
Aroclor 1268	ND (0.0552)		8082A		1	09/08/16 13:35		CI60709

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	80 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	90 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	67 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	84 %		30-150



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-31 (3-8)  
Date Sampled: 09/07/16 10:20  
Percent Solids: 89  
Initial Volume: 20.7  
Final Volume: 1  
Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-02  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: DPS  
Prepared: 9/8/16 14:38

**8100M Total Petroleum Hydrocarbons**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Total Petroleum Hydrocarbons	ND (40.8)		8100M		1	09/09/16 13:01	CZI0103	CI60817
		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				
<i>Surrogate: O-Terphenyl</i>		93 %		40-140				



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-31 (3-8)  
Date Sampled: 09/07/16 10:20  
Percent Solids: 89  
Initial Volume: 15.5  
Final Volume: 0.5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-02  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: TJ  
Prepared: 9/7/16 16:59

**8270D Semi-Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1-Biphenyl	ND (0.363)		8270D		1	09/12/16 13:26	CZI0143	CI60635
1,2,4-Trichlorobenzene	ND (0.363)		8270D		1	09/12/16 13:26	CZI0143	CI60635
1,2-Dichlorobenzene	ND (0.363)		8270D		1	09/12/16 13:26	CZI0143	CI60635
1,3-Dichlorobenzene	ND (0.363)		8270D		1	09/12/16 13:26	CZI0143	CI60635
1,4-Dichlorobenzene	ND (0.363)		8270D		1	09/12/16 13:26	CZI0143	CI60635
2,3,4,6-Tetrachlorophenol	ND (1.82)		8270D		1	09/12/16 13:26	CZI0143	CI60635
2,4,5-Trichlorophenol	ND (0.363)		8270D		1	09/12/16 13:26	CZI0143	CI60635
2,4,6-Trichlorophenol	ND (0.363)		8270D		1	09/12/16 13:26	CZI0143	CI60635
2,4-Dichlorophenol	ND (0.363)		8270D		1	09/12/16 13:26	CZI0143	CI60635
2,4-Dimethylphenol	ND (0.363)		8270D		1	09/12/16 13:26	CZI0143	CI60635
2,4-Dinitrophenol	ND (1.82)		8270D		1	09/12/16 13:26	CZI0143	CI60635
2,4-Dinitrotoluene	ND (0.363)		8270D		1	09/12/16 13:26	CZI0143	CI60635
2,6-Dinitrotoluene	ND (0.363)		8270D		1	09/12/16 13:26	CZI0143	CI60635
2-Chloronaphthalene	ND (0.363)		8270D		1	09/12/16 13:26	CZI0143	CI60635
2-Chlorophenol	ND (0.363)		8270D		1	09/12/16 13:26	CZI0143	CI60635
2-Methylnaphthalene	ND (0.363)		8270D		1	09/12/16 13:26	CZI0143	CI60635
2-Methylphenol	ND (0.363)		8270D		1	09/12/16 13:26	CZI0143	CI60635
2-Nitroaniline	ND (0.363)		8270D		1	09/12/16 13:26	CZI0143	CI60635
2-Nitrophenol	ND (0.363)		8270D		1	09/12/16 13:26	CZI0143	CI60635
3,3'-Dichlorobenzidine	ND (0.726)		8270D		1	09/12/16 13:26	CZI0143	CI60635
3+4-Methylphenol	ND (0.726)		8270D		1	09/12/16 13:26	CZI0143	CI60635
3-Nitroaniline	ND (0.363)		8270D		1	09/12/16 13:26	CZI0143	CI60635
4,6-Dinitro-2-Methylphenol	ND (1.82)		8270D		1	09/12/16 13:26	CZI0143	CI60635
4-Bromophenyl-phenylether	ND (0.363)		8270D		1	09/12/16 13:26	CZI0143	CI60635
4-Chloro-3-Methylphenol	ND (0.363)		8270D		1	09/12/16 13:26	CZI0143	CI60635
4-Chloroaniline	ND (0.726)		8270D		1	09/12/16 13:26	CZI0143	CI60635
4-Chloro-phenyl-phenyl ether	ND (0.363)		8270D		1	09/12/16 13:26	CZI0143	CI60635
4-Nitroaniline	ND (0.363)		8270D		1	09/12/16 13:26	CZI0143	CI60635
4-Nitrophenol	ND (1.82)		8270D		1	09/12/16 13:26	CZI0143	CI60635
Acenaphthene	ND (0.363)		8270D		1	09/12/16 13:26	CZI0143	CI60635
Acenaphthylene	ND (0.363)		8270D		1	09/12/16 13:26	CZI0143	CI60635
Acetophenone	ND (0.726)		8270D		1	09/12/16 13:26	CZI0143	CI60635



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-31 (3-8)  
Date Sampled: 09/07/16 10:20  
Percent Solids: 89  
Initial Volume: 15.5  
Final Volume: 0.5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-02  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: TJ  
Prepared: 9/7/16 16:59

**8270D Semi-Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aniline	ND (0.726)		8270D		1	09/12/16 13:26	CZI0143	CI60635
Anthracene	ND (0.363)		8270D		1	09/12/16 13:26	CZI0143	CI60635
Azobenzene	ND (0.363)		8270D		1	09/12/16 13:26	CZI0143	CI60635
Benzo(a)anthracene	ND (0.363)		8270D		1	09/12/16 13:26	CZI0143	CI60635
<b>Benzo(a)pyrene</b>	<b>0.216</b> (0.182)		8270D		1	09/12/16 13:26	CZI0143	CI60635
Benzo(b)fluoranthene	ND (0.363)		8270D		1	09/12/16 13:26	CZI0143	CI60635
Benzo(g,h,i)perylene	ND (0.363)		8270D		1	09/12/16 13:26	CZI0143	CI60635
Benzo(k)fluoranthene	ND (0.363)		8270D		1	09/12/16 13:26	CZI0143	CI60635
Benzoic Acid	ND (1.82)		8270D		1	09/12/16 13:26	CZI0143	CI60635
Benzyl Alcohol	ND (0.363)		8270D		1	09/12/16 13:26	CZI0143	CI60635
bis(2-Chloroethoxy)methane	ND (0.363)		8270D		1	09/12/16 13:26	CZI0143	CI60635
bis(2-Chloroethyl)ether	ND (0.363)		8270D		1	09/12/16 13:26	CZI0143	CI60635
bis(2-chloroisopropyl)Ether	ND (0.363)		8270D		1	09/12/16 13:26	CZI0143	CI60635
bis(2-Ethylhexyl)phthalate	ND (0.363)		8270D		1	09/12/16 13:26	CZI0143	CI60635
Butylbenzylphthalate	ND (0.363)		8270D		1	09/12/16 13:26	CZI0143	CI60635
Carbazole	ND (0.363)		8270D		1	09/12/16 13:26	CZI0143	CI60635
<b>Chrysene</b>	<b>0.230</b> (0.182)		8270D		1	09/12/16 13:26	CZI0143	CI60635
Dibenzo(a,h)Anthracene	ND (0.182)		8270D		1	09/12/16 13:26	CZI0143	CI60635
Dibenzofuran	ND (0.363)		8270D		1	09/12/16 13:26	CZI0143	CI60635
Diethylphthalate	ND (0.363)		8270D		1	09/12/16 13:26	CZI0143	CI60635
Dimethylphthalate	ND (0.363)		8270D		1	09/12/16 13:26	CZI0143	CI60635
Di-n-butylphthalate	ND (0.363)		8270D		1	09/12/16 13:26	CZI0143	CI60635
Di-n-octylphthalate	ND (0.363)		8270D		1	09/12/16 13:26	CZI0143	CI60635
<b>Fluoranthene</b>	<b>0.579</b> (0.363)		8270D		1	09/12/16 13:26	CZI0143	CI60635
Fluorene	ND (0.363)		8270D		1	09/12/16 13:26	CZI0143	CI60635
Hexachlorobenzene	ND (0.182)		8270D		1	09/12/16 13:26	CZI0143	CI60635
Hexachlorobutadiene	ND (0.363)		8270D		1	09/12/16 13:26	CZI0143	CI60635
Hexachlorocyclopentadiene	ND (1.82)		8270D		1	09/12/16 13:26	CZI0143	CI60635
Hexachloroethane	ND (0.363)		8270D		1	09/12/16 13:26	CZI0143	CI60635
Indeno(1,2,3-cd)Pyrene	ND (0.363)		8270D		1	09/12/16 13:26	CZI0143	CI60635
Isophorone	ND (0.363)		8270D		1	09/12/16 13:26	CZI0143	CI60635
Naphthalene	ND (0.363)		8270D		1	09/12/16 13:26	CZI0143	CI60635



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-31 (3-8)  
Date Sampled: 09/07/16 10:20  
Percent Solids: 89  
Initial Volume: 15.5  
Final Volume: 0.5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-02  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: TJ  
Prepared: 9/7/16 16:59

**8270D Semi-Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Nitrobenzene	ND (0.363)		8270D		1	09/12/16 13:26	CZI0143	CI60635
N-Nitrosodimethylamine	ND (0.363)		8270D		1	09/12/16 13:26	CZI0143	CI60635
N-Nitroso-Di-n-Propylamine	ND (0.363)		8270D		1	09/12/16 13:26	CZI0143	CI60635
N-nitrosodiphenylamine	ND (0.363)		8270D		1	09/12/16 13:26	CZI0143	CI60635
Pentachlorophenol	ND (1.82)		8270D		1	09/12/16 13:26	CZI0143	CI60635
<b>Phenanthrene</b>	<b>0.383</b> (0.363)		8270D		1	09/12/16 13:26	CZI0143	CI60635
Phenol	ND (0.363)		8270D		1	09/12/16 13:26	CZI0143	CI60635
<b>Pyrene</b>	<b>0.415</b> (0.363)		8270D		1	09/12/16 13:26	CZI0143	CI60635
Pyridine	ND (1.82)		8270D		1	09/12/16 13:26	CZI0143	CI60635

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	61 %		30-130
<i>Surrogate: 2,4,6-Tribromophenol</i>	89 %		30-130
<i>Surrogate: 2-Chlorophenol-d4</i>	64 %		30-130
<i>Surrogate: 2-Fluorobiphenyl</i>	65 %		30-130
<i>Surrogate: 2-Fluorophenol</i>	64 %		30-130
<i>Surrogate: Nitrobenzene-d5</i>	68 %		30-130
<i>Surrogate: Phenol-d6</i>	68 %		30-130
<i>Surrogate: p-Terphenyl-d14</i>	75 %		30-130



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-31 (3-8)  
Date Sampled: 09/07/16 10:20  
Percent Solids: 89

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-02  
Sample Matrix: Soil

**Classical Chemistry**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>	<u>Batch</u>
Hexavalent Chromium	ND (0.4)		7196A		1	EEM	09/12/16 14:30	mg/kg dry	CI61224
Total Cyanide	ND (1.08)		9014		1	JLK	09/09/16 17:25	mg/kg dry	CI60931





*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-32 (3-8)  
Date Sampled: 09/07/16 10:00  
Percent Solids: 94

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-03  
Sample Matrix: Soil  
Units: mg/kg dry

Extraction Method: 3050B

**Total Metals**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Antimony	ND (0.47)		6020A		20	NAR	09/12/16 13:14	2.24	100	CI60906
<b>Arsenic</b>	<b>2.48</b> (2.36)		6010C		1	KJK	09/09/16 22:46	2.24	100	CI60906
<b>Barium</b>	<b>14.4</b> (2.36)		6010C		1	KJK	09/09/16 22:46	2.24	100	CI60906
<b>Beryllium</b>	<b>0.59</b> (0.10)		6010C		1	KJK	09/09/16 22:46	2.24	100	CI60906
Cadmium	ND (0.47)		6010C		1	KJK	09/09/16 22:46	2.24	100	CI60906
Chromium	ND (0.95)		6010C		1	KJK	09/09/16 22:46	2.24	100	CI60906
Chromium (III)	ND (0.95)		Calc		1	EEM	09/12/16 14:30	1	1	[CALC]
Copper	ND (2.36)		6010C		1	KJK	09/09/16 22:46	2.24	100	CI60906
<b>Lead</b>	<b>4.90</b> (4.73)		6010C		1	KJK	09/09/16 22:46	2.24	100	CI60906
<b>Manganese</b>	<b>156</b> (0.95)		6010C		1	KJK	09/09/16 22:46	2.24	100	CI60906
Mercury	ND (0.032)		7471B		1	KJK	09/09/16 11:47	0.65	40	CI60844
Nickel	ND (2.36)		6010C		1	KJK	09/09/16 22:46	2.24	100	CI60906
Selenium	ND (0.47)		6020A		20	NAR	09/12/16 13:14	2.24	100	CI60906
Silver	ND (0.47)		6010C		1	KJK	09/09/16 22:46	2.24	100	CI60906
Thallium	ND (0.47)		6020A		20	NAR	09/12/16 13:14	2.24	100	CI60906
<b>Vanadium</b>	<b>2.80</b> (0.95)		6010C		1	KJK	09/09/16 22:46	2.24	100	CI60906
<b>Zinc</b>	<b>31.9</b> (2.36)		6010C		1	KJK	09/09/16 22:46	2.24	100	CI60906



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-32 (3-8)  
Date Sampled: 09/07/16 10:00  
Percent Solids: 94  
Initial Volume: 6.8  
Final Volume: 10  
Extraction Method: 5035

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-03  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: MD

**5035/8260B Volatile Organic Compounds / Low Level**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
1,1,1-Trichloroethane	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
1,1,2,2-Tetrachloroethane	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
1,1,2-Trichloroethane	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
1,1-Dichloroethane	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
1,1-Dichloroethene	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
1,1-Dichloropropene	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
1,2,3-Trichlorobenzene	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
1,2,3-Trichloropropane	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
1,2,4-Trichlorobenzene	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
1,2,4-Trimethylbenzene	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
1,2-Dibromo-3-Chloropropane	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
1,2-Dibromoethane	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
1,2-Dichlorobenzene	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
1,2-Dichloroethane	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
1,2-Dichloropropane	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
1,3,5-Trimethylbenzene	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
1,3-Dichlorobenzene	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
1,3-Dichloropropane	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
1,4-Dichlorobenzene	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
1,4-Dioxane	ND (0.0779)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
1-Chlorohexane	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
2,2-Dichloropropane	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
2-Butanone	ND (0.0389)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
2-Chlorotoluene	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
2-Hexanone	ND (0.0389)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
4-Chlorotoluene	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
4-Isopropyltoluene	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
4-Methyl-2-Pentanone	ND (0.0389)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
Acetone	ND (0.0389)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
Benzene	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
Bromobenzene	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-32 (3-8)  
Date Sampled: 09/07/16 10:00  
Percent Solids: 94  
Initial Volume: 6.8  
Final Volume: 10  
Extraction Method: 5035

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-03  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: MD

**5035/8260B Volatile Organic Compounds / Low Level**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
Bromodichloromethane	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
Bromoform	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
Bromomethane	ND (0.0078)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
Carbon Disulfide	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
Carbon Tetrachloride	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
Chlorobenzene	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
Chloroethane	ND (0.0078)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
Chloroform	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
Chloromethane	ND (0.0078)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
cis-1,2-Dichloroethene	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
cis-1,3-Dichloropropene	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
Dibromochloromethane	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
Dibromomethane	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
Dichlorodifluoromethane	ND (0.0078)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
Diethyl Ether	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
Di-isopropyl ether	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
Ethyl tertiary-butyl ether	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
Ethylbenzene	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
Hexachlorobutadiene	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
Isopropylbenzene	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
Methyl tert-Butyl Ether	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
Methylene Chloride	ND (0.0195)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
Naphthalene	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
n-Butylbenzene	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
n-Propylbenzene	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
sec-Butylbenzene	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
Styrene	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
tert-Butylbenzene	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
Tertiary-amyl methyl ether	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
Tetrachloroethene	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
Tetrahydrofuran	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-32 (3-8)  
Date Sampled: 09/07/16 10:00  
Percent Solids: 94  
Initial Volume: 6.8  
Final Volume: 10  
Extraction Method: 5035

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-03  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: MD

**5035/8260B Volatile Organic Compounds / Low Level**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Toluene	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
trans-1,2-Dichloroethene	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
trans-1,3-Dichloropropene	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
Trichloroethene	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
Trichlorofluoromethane	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
Vinyl Acetate	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
Vinyl Chloride	ND (0.0078)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
Xylene O	ND (0.0039)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
Xylene P,M	ND (0.0078)		8260B Low		1	09/10/16 0:58	CZI0131	CI60938
Xylenes (Total)	ND (0.0078)		8260B Low		1	09/10/16 0:58		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>88 %</i>		<i>70-130</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>91 %</i>		<i>70-130</i>
<i>Surrogate: Dibromofluoromethane</i>	<i>89 %</i>		<i>70-130</i>
<i>Surrogate: Toluene-d8</i>	<i>93 %</i>		<i>70-130</i>



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-32 (3-8)  
Date Sampled: 09/07/16 10:00  
Percent Solids: 94  
Initial Volume: 20.9  
Final Volume: 5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-03  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: IBM  
Prepared: 9/8/16 10:08

**8081B Organochlorine Pesticides**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Chlordane (Total)	ND (0.0304)		8081B		1	09/08/16 13:59	CZI0092	CI60713
Dieldrin	ND (0.0025)		8081B		1	09/08/16 13:59	CZI0092	CI60713

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	84 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	80 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	80 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	78 %		30-150



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-32 (3-8)  
Date Sampled: 09/07/16 10:00  
Percent Solids: 94  
Initial Volume: 19.4  
Final Volume: 10  
Extraction Method: 3540C

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-03  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: SMR  
Prepared: 9/7/16 18:03

**8082A Polychlorinated Biphenyls (PCB)**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.0546)		8082A		1	09/08/16 13:54		CI60709
Aroclor 1221	ND (0.0546)		8082A		1	09/08/16 13:54		CI60709
Aroclor 1232	ND (0.0546)		8082A		1	09/08/16 13:54		CI60709
Aroclor 1242	ND (0.0546)		8082A		1	09/08/16 13:54		CI60709
Aroclor 1248	ND (0.0546)		8082A		1	09/08/16 13:54		CI60709
Aroclor 1254	ND (0.0546)		8082A		1	09/08/16 13:54		CI60709
Aroclor 1260	ND (0.0546)		8082A		1	09/08/16 13:54		CI60709
Aroclor 1262	ND (0.0546)		8082A		1	09/08/16 13:54		CI60709
Aroclor 1268	ND (0.0546)		8082A		1	09/08/16 13:54		CI60709

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	76 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	86 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	73 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	85 %		30-150



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-32 (3-8)  
Date Sampled: 09/07/16 10:00  
Percent Solids: 94  
Initial Volume: 20.1  
Final Volume: 1  
Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-03  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: DPS  
Prepared: 9/8/16 14:38

**8100M Total Petroleum Hydrocarbons**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Total Petroleum Hydrocarbons	ND (39.5)		8100M		1	09/09/16 15:06	CZI0103	CI60817
		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				
<i>Surrogate: O-Terphenyl</i>		<i>95 %</i>		<i>40-140</i>				



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-32 (3-8)  
Date Sampled: 09/07/16 10:00  
Percent Solids: 94  
Initial Volume: 14.8  
Final Volume: 0.5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-03  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: TJ  
Prepared: 9/7/16 16:59

**8270D Semi-Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1-Biphenyl	ND (0.357)		8270D		1	09/12/16 14:03	CZI0143	CI60635
1,2,4-Trichlorobenzene	ND (0.357)		8270D		1	09/12/16 14:03	CZI0143	CI60635
1,2-Dichlorobenzene	ND (0.357)		8270D		1	09/12/16 14:03	CZI0143	CI60635
1,3-Dichlorobenzene	ND (0.357)		8270D		1	09/12/16 14:03	CZI0143	CI60635
1,4-Dichlorobenzene	ND (0.357)		8270D		1	09/12/16 14:03	CZI0143	CI60635
2,3,4,6-Tetrachlorophenol	ND (1.79)		8270D		1	09/12/16 14:03	CZI0143	CI60635
2,4,5-Trichlorophenol	ND (0.357)		8270D		1	09/12/16 14:03	CZI0143	CI60635
2,4,6-Trichlorophenol	ND (0.357)		8270D		1	09/12/16 14:03	CZI0143	CI60635
2,4-Dichlorophenol	ND (0.357)		8270D		1	09/12/16 14:03	CZI0143	CI60635
2,4-Dimethylphenol	ND (0.357)		8270D		1	09/12/16 14:03	CZI0143	CI60635
2,4-Dinitrophenol	ND (1.79)		8270D		1	09/12/16 14:03	CZI0143	CI60635
2,4-Dinitrotoluene	ND (0.357)		8270D		1	09/12/16 14:03	CZI0143	CI60635
2,6-Dinitrotoluene	ND (0.357)		8270D		1	09/12/16 14:03	CZI0143	CI60635
2-Chloronaphthalene	ND (0.357)		8270D		1	09/12/16 14:03	CZI0143	CI60635
2-Chlorophenol	ND (0.357)		8270D		1	09/12/16 14:03	CZI0143	CI60635
2-Methylnaphthalene	ND (0.357)		8270D		1	09/12/16 14:03	CZI0143	CI60635
2-Methylphenol	ND (0.357)		8270D		1	09/12/16 14:03	CZI0143	CI60635
2-Nitroaniline	ND (0.357)		8270D		1	09/12/16 14:03	CZI0143	CI60635
2-Nitrophenol	ND (0.357)		8270D		1	09/12/16 14:03	CZI0143	CI60635
3,3'-Dichlorobenzidine	ND (0.716)		8270D		1	09/12/16 14:03	CZI0143	CI60635
3+4-Methylphenol	ND (0.716)		8270D		1	09/12/16 14:03	CZI0143	CI60635
3-Nitroaniline	ND (0.357)		8270D		1	09/12/16 14:03	CZI0143	CI60635
4,6-Dinitro-2-Methylphenol	ND (1.79)		8270D		1	09/12/16 14:03	CZI0143	CI60635
4-Bromophenyl-phenylether	ND (0.357)		8270D		1	09/12/16 14:03	CZI0143	CI60635
4-Chloro-3-Methylphenol	ND (0.357)		8270D		1	09/12/16 14:03	CZI0143	CI60635
4-Chloroaniline	ND (0.716)		8270D		1	09/12/16 14:03	CZI0143	CI60635
4-Chloro-phenyl-phenyl ether	ND (0.357)		8270D		1	09/12/16 14:03	CZI0143	CI60635
4-Nitroaniline	ND (0.357)		8270D		1	09/12/16 14:03	CZI0143	CI60635
4-Nitrophenol	ND (1.79)		8270D		1	09/12/16 14:03	CZI0143	CI60635
Acenaphthene	ND (0.357)		8270D		1	09/12/16 14:03	CZI0143	CI60635
Acenaphthylene	ND (0.357)		8270D		1	09/12/16 14:03	CZI0143	CI60635
Acetophenone	ND (0.716)		8270D		1	09/12/16 14:03	CZI0143	CI60635





*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-32 (3-8)  
Date Sampled: 09/07/16 10:00  
Percent Solids: 94  
Initial Volume: 14.8  
Final Volume: 0.5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-03  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: TJ  
Prepared: 9/7/16 16:59

**8270D Semi-Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aniline	ND (0.716)		8270D		1	09/12/16 14:03	CZI0143	CI60635
Anthracene	ND (0.357)		8270D		1	09/12/16 14:03	CZI0143	CI60635
Azobenzene	ND (0.357)		8270D		1	09/12/16 14:03	CZI0143	CI60635
Benzo(a)anthracene	ND (0.357)		8270D		1	09/12/16 14:03	CZI0143	CI60635
Benzo(a)pyrene	ND (0.179)		8270D		1	09/12/16 14:03	CZI0143	CI60635
Benzo(b)fluoranthene	ND (0.357)		8270D		1	09/12/16 14:03	CZI0143	CI60635
Benzo(g,h,i)perylene	ND (0.357)		8270D		1	09/12/16 14:03	CZI0143	CI60635
Benzo(k)fluoranthene	ND (0.357)		8270D		1	09/12/16 14:03	CZI0143	CI60635
Benzoic Acid	ND (1.79)		8270D		1	09/12/16 14:03	CZI0143	CI60635
Benzyl Alcohol	ND (0.357)		8270D		1	09/12/16 14:03	CZI0143	CI60635
bis(2-Chloroethoxy)methane	ND (0.357)		8270D		1	09/12/16 14:03	CZI0143	CI60635
bis(2-Chloroethyl)ether	ND (0.357)		8270D		1	09/12/16 14:03	CZI0143	CI60635
bis(2-chloroisopropyl)Ether	ND (0.357)		8270D		1	09/12/16 14:03	CZI0143	CI60635
bis(2-Ethylhexyl)phthalate	ND (0.357)		8270D		1	09/12/16 14:03	CZI0143	CI60635
Butylbenzylphthalate	ND (0.357)		8270D		1	09/12/16 14:03	CZI0143	CI60635
Carbazole	ND (0.357)		8270D		1	09/12/16 14:03	CZI0143	CI60635
Chrysene	ND (0.179)		8270D		1	09/12/16 14:03	CZI0143	CI60635
Dibenzo(a,h)Anthracene	ND (0.179)		8270D		1	09/12/16 14:03	CZI0143	CI60635
Dibenzofuran	ND (0.357)		8270D		1	09/12/16 14:03	CZI0143	CI60635
Diethylphthalate	ND (0.357)		8270D		1	09/12/16 14:03	CZI0143	CI60635
Dimethylphthalate	ND (0.357)		8270D		1	09/12/16 14:03	CZI0143	CI60635
Di-n-butylphthalate	ND (0.357)		8270D		1	09/12/16 14:03	CZI0143	CI60635
Di-n-octylphthalate	ND (0.357)		8270D		1	09/12/16 14:03	CZI0143	CI60635
Fluoranthene	ND (0.357)		8270D		1	09/12/16 14:03	CZI0143	CI60635
Fluorene	ND (0.357)		8270D		1	09/12/16 14:03	CZI0143	CI60635
Hexachlorobenzene	ND (0.179)		8270D		1	09/12/16 14:03	CZI0143	CI60635
Hexachlorobutadiene	ND (0.357)		8270D		1	09/12/16 14:03	CZI0143	CI60635
Hexachlorocyclopentadiene	ND (1.79)		8270D		1	09/12/16 14:03	CZI0143	CI60635
Hexachloroethane	ND (0.357)		8270D		1	09/12/16 14:03	CZI0143	CI60635
Indeno(1,2,3-cd)Pyrene	ND (0.357)		8270D		1	09/12/16 14:03	CZI0143	CI60635
Isophorone	ND (0.357)		8270D		1	09/12/16 14:03	CZI0143	CI60635
Naphthalene	ND (0.357)		8270D		1	09/12/16 14:03	CZI0143	CI60635



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-32 (3-8)  
Date Sampled: 09/07/16 10:00  
Percent Solids: 94  
Initial Volume: 14.8  
Final Volume: 0.5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-03  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: TJ  
Prepared: 9/7/16 16:59

**8270D Semi-Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Nitrobenzene	ND (0.357)		8270D		1	09/12/16 14:03	CZI0143	CI60635
N-Nitrosodimethylamine	ND (0.357)		8270D		1	09/12/16 14:03	CZI0143	CI60635
N-Nitroso-Di-n-Propylamine	ND (0.357)		8270D		1	09/12/16 14:03	CZI0143	CI60635
N-nitrosodiphenylamine	ND (0.357)		8270D		1	09/12/16 14:03	CZI0143	CI60635
Pentachlorophenol	ND (1.79)		8270D		1	09/12/16 14:03	CZI0143	CI60635
Phenanthrene	ND (0.357)		8270D		1	09/12/16 14:03	CZI0143	CI60635
Phenol	ND (0.357)		8270D		1	09/12/16 14:03	CZI0143	CI60635
Pyrene	ND (0.357)		8270D		1	09/12/16 14:03	CZI0143	CI60635
Pyridine	ND (1.79)		8270D		1	09/12/16 14:03	CZI0143	CI60635

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	<i>78 %</i>		<i>30-130</i>
<i>Surrogate: 2,4,6-Tribromophenol</i>	<i>94 %</i>		<i>30-130</i>
<i>Surrogate: 2-Chlorophenol-d4</i>	<i>82 %</i>		<i>30-130</i>
<i>Surrogate: 2-Fluorobiphenyl</i>	<i>79 %</i>		<i>30-130</i>
<i>Surrogate: 2-Fluorophenol</i>	<i>81 %</i>		<i>30-130</i>
<i>Surrogate: Nitrobenzene-d5</i>	<i>86 %</i>		<i>30-130</i>
<i>Surrogate: Phenol-d6</i>	<i>88 %</i>		<i>30-130</i>
<i>Surrogate: p-Terphenyl-d14</i>	<i>83 %</i>		<i>30-130</i>



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-32 (3-8)  
Date Sampled: 09/07/16 10:00  
Percent Solids: 94

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-03  
Sample Matrix: Soil

**Classical Chemistry**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>	<u>Batch</u>
Hexavalent Chromium	ND (0.4)		7196A		1	EEM	09/12/16 14:30	mg/kg dry	CI61224
Total Cyanide	ND (1.01)		9014		1	JLK	09/09/16 17:25	mg/kg dry	CI60931



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-33 (3-8)  
Date Sampled: 09/07/16 11:00  
Percent Solids: 97

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-04  
Sample Matrix: Soil  
Units: mg/kg dry

Extraction Method: 3050B

**Total Metals**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Antimony	ND (0.43)		6020A		20	NAR	09/12/16 13:31	2.39	100	CI60906
Arsenic	ND (6.49)		6010C		3	KJK	09/13/16 18:42	2.39	100	CI60906
<b>Barium</b>	<b>17.2</b> (6.49)		6010C		3	KJK	09/13/16 18:42	2.39	100	CI60906
<b>Beryllium</b>	<b>0.89</b> (0.29)		6010C		3	KJK	09/13/16 18:42	2.39	100	CI60906
Cadmium	ND (1.30)		6010C		3	KJK	09/13/16 18:42	2.39	100	CI60906
Chromium	ND (2.60)		6010C		3	KJK	09/13/16 18:42	2.39	100	CI60906
Chromium (III)	ND (2.60)		Calc		3	EEM	09/13/16 18:42	1	1	[CALC]
Copper	ND (6.49)		6010C		3	KJK	09/13/16 18:42	2.39	100	CI60906
Lead	ND (13.0)		6010C		3	KJK	09/13/16 18:42	2.39	100	CI60906
<b>Manganese</b>	<b>184</b> (2.60)		6010C		3	KJK	09/13/16 18:42	2.39	100	CI60906
Mercury	ND (0.029)		7471B		1	KJK	09/09/16 11:49	0.71	40	CI60844
Nickel	ND (6.49)		6010C		3	KJK	09/13/16 18:42	2.39	100	CI60906
<b>Selenium</b>	<b>0.51</b> (0.43)		6020A		20	NAR	09/12/16 13:31	2.39	100	CI60906
Silver	ND (1.30)		6010C		3	KJK	09/13/16 18:42	2.39	100	CI60906
Thallium	ND (0.43)		6020A		20	NAR	09/12/16 13:31	2.39	100	CI60906
Vanadium	ND (2.60)		6010C		3	KJK	09/13/16 18:42	2.39	100	CI60906
<b>Zinc</b>	<b>59.2</b> (6.49)		6010C		3	KJK	09/13/16 18:42	2.39	100	CI60906



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-33 (3-8)  
Date Sampled: 09/07/16 11:00  
Percent Solids: 97  
Initial Volume: 6.4  
Final Volume: 10  
Extraction Method: 5035

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-04  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: MD

**5035/8260B Volatile Organic Compounds / Low Level**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
1,1,1-Trichloroethane	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
1,1,2,2-Tetrachloroethane	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
1,1,2-Trichloroethane	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
1,1-Dichloroethane	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
1,1-Dichloroethene	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
1,1-Dichloropropene	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
1,2,3-Trichlorobenzene	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
1,2,3-Trichloropropane	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
1,2,4-Trichlorobenzene	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
1,2,4-Trimethylbenzene	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
1,2-Dibromo-3-Chloropropane	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
1,2-Dibromoethane	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
1,2-Dichlorobenzene	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
1,2-Dichloroethane	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
1,2-Dichloropropane	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
1,3,5-Trimethylbenzene	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
1,3-Dichlorobenzene	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
1,3-Dichloropropane	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
1,4-Dichlorobenzene	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
1,4-Dioxane	ND (0.0808)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
1-Chlorohexane	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
2,2-Dichloropropane	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
2-Butanone	ND (0.0404)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
2-Chlorotoluene	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
2-Hexanone	ND (0.0404)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
4-Chlorotoluene	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
4-Isopropyltoluene	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
4-Methyl-2-Pentanone	ND (0.0404)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
Acetone	ND (0.0404)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
Benzene	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
Bromobenzene	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
 Client Project ID: Hope Mill  
 Client Sample ID: ESS-33 (3-8)  
 Date Sampled: 09/07/16 11:00  
 Percent Solids: 97  
 Initial Volume: 6.4  
 Final Volume: 10  
 Extraction Method: 5035

ESS Laboratory Work Order: 1609117  
 ESS Laboratory Sample ID: 1609117-04  
 Sample Matrix: Soil  
 Units: mg/kg dry  
 Analyst: MD

**5035/8260B Volatile Organic Compounds / Low Level**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
Bromodichloromethane	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
Bromoform	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
Bromomethane	ND (0.0081)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
Carbon Disulfide	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
Carbon Tetrachloride	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
Chlorobenzene	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
Chloroethane	ND (0.0081)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
Chloroform	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
Chloromethane	ND (0.0081)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
cis-1,2-Dichloroethene	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
cis-1,3-Dichloropropene	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
Dibromochloromethane	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
Dibromomethane	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
Dichlorodifluoromethane	ND (0.0081)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
Diethyl Ether	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
Di-isopropyl ether	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
Ethyl tertiary-butyl ether	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
Ethylbenzene	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
Hexachlorobutadiene	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
Isopropylbenzene	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
Methyl tert-Butyl Ether	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
Methylene Chloride	ND (0.0202)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
Naphthalene	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
n-Butylbenzene	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
n-Propylbenzene	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
sec-Butylbenzene	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
Styrene	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
tert-Butylbenzene	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
Tertiary-amyl methyl ether	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
Tetrachloroethene	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
Tetrahydrofuran	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-33 (3-8)  
Date Sampled: 09/07/16 11:00  
Percent Solids: 97  
Initial Volume: 6.4  
Final Volume: 10  
Extraction Method: 5035

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-04  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: MD

**5035/8260B Volatile Organic Compounds / Low Level**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Toluene	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
trans-1,2-Dichloroethene	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
trans-1,3-Dichloropropene	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
Trichloroethene	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
Trichlorofluoromethane	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
Vinyl Acetate	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
Vinyl Chloride	ND (0.0081)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
Xylene O	ND (0.0040)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
Xylene P,M	ND (0.0081)		8260B Low		1	09/10/16 1:25	CZI0131	CI60938
Xylenes (Total)	ND (0.0081)		8260B Low		1	09/10/16 1:25		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	89 %		70-130
<i>Surrogate: 4-Bromofluorobenzene</i>	92 %		70-130
<i>Surrogate: Dibromofluoromethane</i>	90 %		70-130
<i>Surrogate: Toluene-d8</i>	92 %		70-130



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-33 (3-8)  
Date Sampled: 09/07/16 11:00  
Percent Solids: 97  
Initial Volume: 19.6  
Final Volume: 5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-04  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: IBM  
Prepared: 9/8/16 10:08

**8081B Organochlorine Pesticides**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Chlordane (Total)	ND (0.0317)		8081B		1	09/08/16 14:27	CZI0092	CI60713
Dieldrin	ND (0.0026)		8081B		1	09/08/16 14:27	CZI0092	CI60713

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	78 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	74 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	63 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	61 %		30-150





*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-33 (3-8)  
Date Sampled: 09/07/16 11:00  
Percent Solids: 97  
Initial Volume: 19.4  
Final Volume: 10  
Extraction Method: 3540C

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-04  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: SMR  
Prepared: 9/7/16 18:03

**8082A Polychlorinated Biphenyls (PCB)**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.0533)		8082A		1	09/08/16 14:13		CI60709
Aroclor 1221	ND (0.0533)		8082A		1	09/08/16 14:13		CI60709
Aroclor 1232	ND (0.0533)		8082A		1	09/08/16 14:13		CI60709
Aroclor 1242	ND (0.0533)		8082A		1	09/08/16 14:13		CI60709
Aroclor 1248	ND (0.0533)		8082A		1	09/08/16 14:13		CI60709
Aroclor 1254	ND (0.0533)		8082A		1	09/08/16 14:13		CI60709
Aroclor 1260	ND (0.0533)		8082A		1	09/08/16 14:13		CI60709
Aroclor 1262	ND (0.0533)		8082A		1	09/08/16 14:13		CI60709
Aroclor 1268	ND (0.0533)		8082A		1	09/08/16 14:13		CI60709

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	<i>79 %</i>		<i>30-150</i>
<i>Surrogate: Decachlorobiphenyl [2C]</i>	<i>90 %</i>		<i>30-150</i>
<i>Surrogate: Tetrachloro-m-xylene</i>	<i>73 %</i>		<i>30-150</i>
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	<i>84 %</i>		<i>30-150</i>



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-33 (3-8)  
Date Sampled: 09/07/16 11:00  
Percent Solids: 97  
Initial Volume: 20.4  
Final Volume: 1  
Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-04  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: ZLC  
Prepared: 9/8/16 14:38

**8100M Total Petroleum Hydrocarbons**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Total Petroleum Hydrocarbons	ND (38.0)		8100M		1	09/09/16 22:48	CZI0119	CI60817
		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				
<i>Surrogate: O-Terphenyl</i>		<i>103 %</i>		<i>40-140</i>				



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-33 (3-8)  
Date Sampled: 09/07/16 11:00  
Percent Solids: 97  
Initial Volume: 14.3  
Final Volume: 0.5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-04  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: TJ  
Prepared: 9/7/16 16:59

**8270D Semi-Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1-Biphenyl	ND (0.361)		8270D		1	09/12/16 14:39	CZI0143	CI60635
1,2,4-Trichlorobenzene	ND (0.361)		8270D		1	09/12/16 14:39	CZI0143	CI60635
1,2-Dichlorobenzene	ND (0.361)		8270D		1	09/12/16 14:39	CZI0143	CI60635
1,3-Dichlorobenzene	ND (0.361)		8270D		1	09/12/16 14:39	CZI0143	CI60635
1,4-Dichlorobenzene	ND (0.361)		8270D		1	09/12/16 14:39	CZI0143	CI60635
2,3,4,6-Tetrachlorophenol	ND (1.81)		8270D		1	09/12/16 14:39	CZI0143	CI60635
2,4,5-Trichlorophenol	ND (0.361)		8270D		1	09/12/16 14:39	CZI0143	CI60635
2,4,6-Trichlorophenol	ND (0.361)		8270D		1	09/12/16 14:39	CZI0143	CI60635
2,4-Dichlorophenol	ND (0.361)		8270D		1	09/12/16 14:39	CZI0143	CI60635
2,4-Dimethylphenol	ND (0.361)		8270D		1	09/12/16 14:39	CZI0143	CI60635
2,4-Dinitrophenol	ND (1.81)		8270D		1	09/12/16 14:39	CZI0143	CI60635
2,4-Dinitrotoluene	ND (0.361)		8270D		1	09/12/16 14:39	CZI0143	CI60635
2,6-Dinitrotoluene	ND (0.361)		8270D		1	09/12/16 14:39	CZI0143	CI60635
2-Chloronaphthalene	ND (0.361)		8270D		1	09/12/16 14:39	CZI0143	CI60635
2-Chlorophenol	ND (0.361)		8270D		1	09/12/16 14:39	CZI0143	CI60635
2-Methylnaphthalene	ND (0.361)		8270D		1	09/12/16 14:39	CZI0143	CI60635
2-Methylphenol	ND (0.361)		8270D		1	09/12/16 14:39	CZI0143	CI60635
2-Nitroaniline	ND (0.361)		8270D		1	09/12/16 14:39	CZI0143	CI60635
2-Nitrophenol	ND (0.361)		8270D		1	09/12/16 14:39	CZI0143	CI60635
3,3'-Dichlorobenzidine	ND (0.724)		8270D		1	09/12/16 14:39	CZI0143	CI60635
3+4-Methylphenol	ND (0.724)		8270D		1	09/12/16 14:39	CZI0143	CI60635
3-Nitroaniline	ND (0.361)		8270D		1	09/12/16 14:39	CZI0143	CI60635
4,6-Dinitro-2-Methylphenol	ND (1.81)		8270D		1	09/12/16 14:39	CZI0143	CI60635
4-Bromophenyl-phenylether	ND (0.361)		8270D		1	09/12/16 14:39	CZI0143	CI60635
4-Chloro-3-Methylphenol	ND (0.361)		8270D		1	09/12/16 14:39	CZI0143	CI60635
4-Chloroaniline	ND (0.724)		8270D		1	09/12/16 14:39	CZI0143	CI60635
4-Chloro-phenyl-phenyl ether	ND (0.361)		8270D		1	09/12/16 14:39	CZI0143	CI60635
4-Nitroaniline	ND (0.361)		8270D		1	09/12/16 14:39	CZI0143	CI60635
4-Nitrophenol	ND (1.81)		8270D		1	09/12/16 14:39	CZI0143	CI60635
Acenaphthene	ND (0.361)		8270D		1	09/12/16 14:39	CZI0143	CI60635
Acenaphthylene	ND (0.361)		8270D		1	09/12/16 14:39	CZI0143	CI60635
Acetophenone	ND (0.724)		8270D		1	09/12/16 14:39	CZI0143	CI60635



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-33 (3-8)  
Date Sampled: 09/07/16 11:00  
Percent Solids: 97  
Initial Volume: 14.3  
Final Volume: 0.5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-04  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: TJ  
Prepared: 9/7/16 16:59

**8270D Semi-Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aniline	ND (0.724)		8270D		1	09/12/16 14:39	CZI0143	CI60635
Anthracene	ND (0.361)		8270D		1	09/12/16 14:39	CZI0143	CI60635
Azobenzene	ND (0.361)		8270D		1	09/12/16 14:39	CZI0143	CI60635
Benzo(a)anthracene	ND (0.361)		8270D		1	09/12/16 14:39	CZI0143	CI60635
Benzo(a)pyrene	ND (0.181)		8270D		1	09/12/16 14:39	CZI0143	CI60635
Benzo(b)fluoranthene	ND (0.361)		8270D		1	09/12/16 14:39	CZI0143	CI60635
Benzo(g,h,i)perylene	ND (0.361)		8270D		1	09/12/16 14:39	CZI0143	CI60635
Benzo(k)fluoranthene	ND (0.361)		8270D		1	09/12/16 14:39	CZI0143	CI60635
Benzoic Acid	ND (1.81)		8270D		1	09/12/16 14:39	CZI0143	CI60635
Benzyl Alcohol	ND (0.361)		8270D		1	09/12/16 14:39	CZI0143	CI60635
bis(2-Chloroethoxy)methane	ND (0.361)		8270D		1	09/12/16 14:39	CZI0143	CI60635
bis(2-Chloroethyl)ether	ND (0.361)		8270D		1	09/12/16 14:39	CZI0143	CI60635
bis(2-chloroisopropyl)Ether	ND (0.361)		8270D		1	09/12/16 14:39	CZI0143	CI60635
bis(2-Ethylhexyl)phthalate	ND (0.361)		8270D		1	09/12/16 14:39	CZI0143	CI60635
Butylbenzylphthalate	ND (0.361)		8270D		1	09/12/16 14:39	CZI0143	CI60635
Carbazole	ND (0.361)		8270D		1	09/12/16 14:39	CZI0143	CI60635
Chrysene	ND (0.181)		8270D		1	09/12/16 14:39	CZI0143	CI60635
Dibenzo(a,h)Anthracene	ND (0.181)		8270D		1	09/12/16 14:39	CZI0143	CI60635
Dibenzofuran	ND (0.361)		8270D		1	09/12/16 14:39	CZI0143	CI60635
Diethylphthalate	ND (0.361)		8270D		1	09/12/16 14:39	CZI0143	CI60635
Dimethylphthalate	ND (0.361)		8270D		1	09/12/16 14:39	CZI0143	CI60635
Di-n-butylphthalate	ND (0.361)		8270D		1	09/12/16 14:39	CZI0143	CI60635
Di-n-octylphthalate	ND (0.361)		8270D		1	09/12/16 14:39	CZI0143	CI60635
Fluoranthene	ND (0.361)		8270D		1	09/12/16 14:39	CZI0143	CI60635
Fluorene	ND (0.361)		8270D		1	09/12/16 14:39	CZI0143	CI60635
Hexachlorobenzene	ND (0.181)		8270D		1	09/12/16 14:39	CZI0143	CI60635
Hexachlorobutadiene	ND (0.361)		8270D		1	09/12/16 14:39	CZI0143	CI60635
Hexachlorocyclopentadiene	ND (1.81)		8270D		1	09/12/16 14:39	CZI0143	CI60635
Hexachloroethane	ND (0.361)		8270D		1	09/12/16 14:39	CZI0143	CI60635
Indeno(1,2,3-cd)Pyrene	ND (0.361)		8270D		1	09/12/16 14:39	CZI0143	CI60635
Isophorone	ND (0.361)		8270D		1	09/12/16 14:39	CZI0143	CI60635
Naphthalene	ND (0.361)		8270D		1	09/12/16 14:39	CZI0143	CI60635



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
 Client Project ID: Hope Mill  
 Client Sample ID: ESS-33 (3-8)  
 Date Sampled: 09/07/16 11:00  
 Percent Solids: 97  
 Initial Volume: 14.3  
 Final Volume: 0.5  
 Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
 ESS Laboratory Sample ID: 1609117-04  
 Sample Matrix: Soil  
 Units: mg/kg dry  
 Analyst: TJ  
 Prepared: 9/7/16 16:59

**8270D Semi-Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Nitrobenzene	ND (0.361)		8270D		1	09/12/16 14:39	CZI0143	CI60635
N-Nitrosodimethylamine	ND (0.361)		8270D		1	09/12/16 14:39	CZI0143	CI60635
N-Nitroso-Di-n-Propylamine	ND (0.361)		8270D		1	09/12/16 14:39	CZI0143	CI60635
N-nitrosodiphenylamine	ND (0.361)		8270D		1	09/12/16 14:39	CZI0143	CI60635
Pentachlorophenol	ND (1.81)		8270D		1	09/12/16 14:39	CZI0143	CI60635
Phenanthrene	ND (0.361)		8270D		1	09/12/16 14:39	CZI0143	CI60635
Phenol	ND (0.361)		8270D		1	09/12/16 14:39	CZI0143	CI60635
Pyrene	ND (0.361)		8270D		1	09/12/16 14:39	CZI0143	CI60635
Pyridine	ND (1.81)		8270D		1	09/12/16 14:39	CZI0143	CI60635

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	74 %		30-130
<i>Surrogate: 2,4,6-Tribromophenol</i>	93 %		30-130
<i>Surrogate: 2-Chlorophenol-d4</i>	77 %		30-130
<i>Surrogate: 2-Fluorobiphenyl</i>	77 %		30-130
<i>Surrogate: 2-Fluorophenol</i>	74 %		30-130
<i>Surrogate: Nitrobenzene-d5</i>	82 %		30-130
<i>Surrogate: Phenol-d6</i>	83 %		30-130
<i>Surrogate: p-Terphenyl-d14</i>	80 %		30-130



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-33 (3-8)  
Date Sampled: 09/07/16 11:00  
Percent Solids: 97

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-04  
Sample Matrix: Soil

**Classical Chemistry**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>	<u>Batch</u>
Hexavalent Chromium	ND (0.4)		7196A		1	EEM	09/12/16 14:30	mg/kg dry	CI61224
Total Cyanide	ND (1.04)		9014		1	JLK	09/09/16 17:25	mg/kg dry	CI60931



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-34 (3-8)  
Date Sampled: 09/07/16 12:00  
Percent Solids: 88

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-05  
Sample Matrix: Soil  
Units: mg/kg dry

Extraction Method: 3050B

**Total Metals**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Antimony	ND (0.47)		6020A		20	NAR	09/12/16 13:37	2.41	100	CI60906
Arsenic	ND (2.37)		6010C		1	KJK	09/09/16 22:54	2.41	100	CI60906
<b>Barium</b>	<b>28.1</b> (2.37)		6010C		1	KJK	09/09/16 22:54	2.41	100	CI60906
<b>Beryllium</b>	<b>0.36</b> (0.10)		6010C		1	KJK	09/09/16 22:54	2.41	100	CI60906
Cadmium	ND (0.47)		6010C		1	KJK	09/09/16 22:54	2.41	100	CI60906
<b>Chromium</b>	<b>1.75</b> (0.95)		6010C		1	KJK	09/09/16 22:54	2.41	100	CI60906
<b>Chromium (III)</b>	<b>1.75</b> (0.95)		Calc		1	EEM	09/12/16 14:30	1	1	[CALC]
<b>Copper</b>	<b>5.48</b> (2.37)		6010C		1	KJK	09/09/16 22:54	2.41	100	CI60906
<b>Lead</b>	<b>26.5</b> (4.74)		6010C		1	KJK	09/09/16 22:54	2.41	100	CI60906
<b>Manganese</b>	<b>51.8</b> (0.95)		6010C		1	KJK	09/09/16 22:54	2.41	100	CI60906
Mercury	ND (0.036)		7471B		1	KJK	09/09/16 11:51	0.63	40	CI60844
<b>Nickel</b>	<b>39.7</b> (2.37)		6010C		1	KJK	09/09/16 22:54	2.41	100	CI60906
<b>Selenium</b>	<b>0.98</b> (0.47)		6020A		20	NAR	09/12/16 13:37	2.41	100	CI60906
Silver	ND (2.37)		6010C		5	BJV	09/12/16 17:15	2.41	100	CI60906
Thallium	ND (0.47)		6020A		20	NAR	09/12/16 13:37	2.41	100	CI60906
<b>Vanadium</b>	<b>187</b> (0.95)		6010C		1	KJK	09/09/16 22:54	2.41	100	CI60906
<b>Zinc</b>	<b>13.3</b> (2.37)		6010C		1	KJK	09/09/16 22:54	2.41	100	CI60906



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-34 (3-8)  
Date Sampled: 09/07/16 12:00  
Percent Solids: 88  
Initial Volume: 5.8  
Final Volume: 10  
Extraction Method: 5035

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-05  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: MD

**5035/8260B Volatile Organic Compounds / Low Level**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
1,1,1-Trichloroethane	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
1,1,2,2-Tetrachloroethane	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
1,1,2-Trichloroethane	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
1,1-Dichloroethane	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
1,1-Dichloroethene	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
1,1-Dichloropropene	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
1,2,3-Trichlorobenzene	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
1,2,3-Trichloropropane	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
1,2,4-Trichlorobenzene	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
1,2,4-Trimethylbenzene	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
1,2-Dibromo-3-Chloropropane	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
1,2-Dibromoethane	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
1,2-Dichlorobenzene	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
1,2-Dichloroethane	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
1,2-Dichloropropane	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
1,3,5-Trimethylbenzene	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
1,3-Dichlorobenzene	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
1,3-Dichloropropane	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
1,4-Dichlorobenzene	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
1,4-Dioxane	ND (0.0984)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
1-Chlorohexane	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
2,2-Dichloropropane	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
2-Butanone	ND (0.0492)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
2-Chlorotoluene	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
2-Hexanone	ND (0.0492)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
4-Chlorotoluene	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
4-Isopropyltoluene	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
4-Methyl-2-Pentanone	ND (0.0492)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
Acetone	ND (0.0492)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
Benzene	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
Bromobenzene	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938





*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-34 (3-8)  
Date Sampled: 09/07/16 12:00  
Percent Solids: 88  
Initial Volume: 5.8  
Final Volume: 10  
Extraction Method: 5035

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-05  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: MD

**5035/8260B Volatile Organic Compounds / Low Level**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
Bromodichloromethane	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
Bromoform	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
Bromomethane	ND (0.0098)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
Carbon Disulfide	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
Carbon Tetrachloride	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
Chlorobenzene	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
Chloroethane	ND (0.0098)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
Chloroform	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
Chloromethane	ND (0.0098)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
cis-1,2-Dichloroethene	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
cis-1,3-Dichloropropene	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
Dibromochloromethane	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
Dibromomethane	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
Dichlorodifluoromethane	ND (0.0098)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
Diethyl Ether	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
Di-isopropyl ether	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
Ethyl tertiary-butyl ether	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
Ethylbenzene	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
Hexachlorobutadiene	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
Isopropylbenzene	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
Methyl tert-Butyl Ether	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
Methylene Chloride	ND (0.0246)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
Naphthalene	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
n-Butylbenzene	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
n-Propylbenzene	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
sec-Butylbenzene	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
Styrene	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
tert-Butylbenzene	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
Tertiary-amyl methyl ether	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
Tetrachloroethene	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
Tetrahydrofuran	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-34 (3-8)  
Date Sampled: 09/07/16 12:00  
Percent Solids: 88  
Initial Volume: 5.8  
Final Volume: 10  
Extraction Method: 5035

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-05  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: MD

**5035/8260B Volatile Organic Compounds / Low Level**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Toluene	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
trans-1,2-Dichloroethene	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
trans-1,3-Dichloropropene	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
Trichloroethene	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
Trichlorofluoromethane	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
Vinyl Acetate	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
Vinyl Chloride	ND (0.0098)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
Xylene O	ND (0.0049)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
Xylene P,M	ND (0.0098)		8260B Low		1	09/10/16 1:51	CZI0131	CI60938
Xylenes (Total)	ND (0.0098)		8260B Low		1	09/10/16 1:51		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>92 %</i>		<i>70-130</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>91 %</i>		<i>70-130</i>
<i>Surrogate: Dibromofluoromethane</i>	<i>92 %</i>		<i>70-130</i>
<i>Surrogate: Toluene-d8</i>	<i>96 %</i>		<i>70-130</i>



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-34 (3-8)  
Date Sampled: 09/07/16 12:00  
Percent Solids: 88  
Initial Volume: 20.2  
Final Volume: 5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-05  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: IBM  
Prepared: 9/8/16 10:08

**8081B Organochlorine Pesticides**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Chlordane (Total)	ND (0.0339)		8081B		1	09/08/16 14:56	CZI0092	CI60713
Dieldrin	ND (0.0028)		8081B		1	09/08/16 14:56	CZI0092	CI60713

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	76 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	73 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	72 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	70 %		30-150



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-34 (3-8)  
Date Sampled: 09/07/16 12:00  
Percent Solids: 88  
Initial Volume: 19.3  
Final Volume: 10  
Extraction Method: 3540C

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-05  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: SMR  
Prepared: 9/7/16 18:03

**8082A Polychlorinated Biphenyls (PCB)**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.0591)		8082A		1	09/08/16 14:32		CI60709
Aroclor 1221	ND (0.0591)		8082A		1	09/08/16 14:32		CI60709
Aroclor 1232	ND (0.0591)		8082A		1	09/08/16 14:32		CI60709
Aroclor 1242	ND (0.0591)		8082A		1	09/08/16 14:32		CI60709
Aroclor 1248	ND (0.0591)		8082A		1	09/08/16 14:32		CI60709
Aroclor 1254	ND (0.0591)		8082A		1	09/08/16 14:32		CI60709
Aroclor 1260	ND (0.0591)		8082A		1	09/08/16 14:32		CI60709
Aroclor 1262	ND (0.0591)		8082A		1	09/08/16 14:32		CI60709
Aroclor 1268	ND (0.0591)		8082A		1	09/08/16 14:32		CI60709

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	76 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	87 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	70 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	81 %		30-150



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-34 (3-8)  
Date Sampled: 09/07/16 12:00  
Percent Solids: 88  
Initial Volume: 19.9  
Final Volume: 1  
Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-05  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: DPS  
Prepared: 9/8/16 14:38

**8100M Total Petroleum Hydrocarbons**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Total Petroleum Hydrocarbons	ND (43.0)		8100M		1	09/09/16 15:46	CZI0103	CI60817
		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				
<i>Surrogate: O-Terphenyl</i>		<i>93 %</i>		<i>40-140</i>				



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-34 (3-8)  
Date Sampled: 09/07/16 12:00  
Percent Solids: 88  
Initial Volume: 14.3  
Final Volume: 0.5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-05  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: IBM  
Prepared: 9/8/16 14:37

**8270D Semi-Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1-Biphenyl	ND (0.399)		8270D		1	09/12/16 15:16	CZI0143	CI60818
1,2,4-Trichlorobenzene	ND (0.399)		8270D		1	09/12/16 15:16	CZI0143	CI60818
1,2-Dichlorobenzene	ND (0.399)		8270D		1	09/12/16 15:16	CZI0143	CI60818
1,3-Dichlorobenzene	ND (0.399)		8270D		1	09/12/16 15:16	CZI0143	CI60818
1,4-Dichlorobenzene	ND (0.399)		8270D		1	09/12/16 15:16	CZI0143	CI60818
2,3,4,6-Tetrachlorophenol	ND (2.00)		8270D		1	09/12/16 15:16	CZI0143	CI60818
2,4,5-Trichlorophenol	ND (0.399)		8270D		1	09/12/16 15:16	CZI0143	CI60818
2,4,6-Trichlorophenol	ND (0.399)		8270D		1	09/12/16 15:16	CZI0143	CI60818
2,4-Dichlorophenol	ND (0.399)		8270D		1	09/12/16 15:16	CZI0143	CI60818
2,4-Dimethylphenol	ND (0.399)		8270D		1	09/12/16 15:16	CZI0143	CI60818
2,4-Dinitrophenol	ND (2.00)		8270D		1	09/12/16 15:16	CZI0143	CI60818
2,4-Dinitrotoluene	ND (0.399)		8270D		1	09/12/16 15:16	CZI0143	CI60818
2,6-Dinitrotoluene	ND (0.399)		8270D		1	09/12/16 15:16	CZI0143	CI60818
2-Chloronaphthalene	ND (0.399)		8270D		1	09/12/16 15:16	CZI0143	CI60818
2-Chlorophenol	ND (0.399)		8270D		1	09/12/16 15:16	CZI0143	CI60818
2-Methylnaphthalene	ND (0.399)		8270D		1	09/12/16 15:16	CZI0143	CI60818
2-Methylphenol	ND (0.399)		8270D		1	09/12/16 15:16	CZI0143	CI60818
2-Nitroaniline	ND (0.399)		8270D		1	09/12/16 15:16	CZI0143	CI60818
2-Nitrophenol	ND (0.399)		8270D		1	09/12/16 15:16	CZI0143	CI60818
3,3'-Dichlorobenzidine	ND (0.799)		8270D		1	09/12/16 15:16	CZI0143	CI60818
3+4-Methylphenol	ND (0.799)		8270D		1	09/12/16 15:16	CZI0143	CI60818
3-Nitroaniline	ND (0.399)		8270D		1	09/12/16 15:16	CZI0143	CI60818
4,6-Dinitro-2-Methylphenol	ND (2.00)		8270D		1	09/12/16 15:16	CZI0143	CI60818
4-Bromophenyl-phenylether	ND (0.399)		8270D		1	09/12/16 15:16	CZI0143	CI60818
4-Chloro-3-Methylphenol	ND (0.399)		8270D		1	09/12/16 15:16	CZI0143	CI60818
4-Chloroaniline	ND (0.799)		8270D		1	09/12/16 15:16	CZI0143	CI60818
4-Chloro-phenyl-phenyl ether	ND (0.399)		8270D		1	09/12/16 15:16	CZI0143	CI60818
4-Nitroaniline	ND (0.399)		8270D		1	09/12/16 15:16	CZI0143	CI60818
4-Nitrophenol	ND (2.00)		8270D		1	09/12/16 15:16	CZI0143	CI60818
Acenaphthene	ND (0.399)		8270D		1	09/12/16 15:16	CZI0143	CI60818
Acenaphthylene	ND (0.399)		8270D		1	09/12/16 15:16	CZI0143	CI60818
Acetophenone	ND (0.799)		8270D		1	09/12/16 15:16	CZI0143	CI60818



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-34 (3-8)  
Date Sampled: 09/07/16 12:00  
Percent Solids: 88  
Initial Volume: 14.3  
Final Volume: 0.5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-05  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: IBM  
Prepared: 9/8/16 14:37

**8270D Semi-Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aniline	ND (0.799)		8270D		1	09/12/16 15:16	CZI0143	CI60818
Anthracene	ND (0.399)		8270D		1	09/12/16 15:16	CZI0143	CI60818
Azobenzene	ND (0.399)		8270D		1	09/12/16 15:16	CZI0143	CI60818
Benzo(a)anthracene	ND (0.399)		8270D		1	09/12/16 15:16	CZI0143	CI60818
<b>Benzo(a)pyrene</b>	<b>0.297</b> (0.200)		8270D		1	09/12/16 15:16	CZI0143	CI60818
Benzo(b)fluoranthene	ND (0.399)		8270D		1	09/12/16 15:16	CZI0143	CI60818
Benzo(g,h,i)perylene	ND (0.399)		8270D		1	09/12/16 15:16	CZI0143	CI60818
Benzo(k)fluoranthene	ND (0.399)		8270D		1	09/12/16 15:16	CZI0143	CI60818
Benzoic Acid	ND (2.00)		8270D		1	09/12/16 15:16	CZI0143	CI60818
Benzyl Alcohol	ND (0.399)		8270D		1	09/12/16 15:16	CZI0143	CI60818
bis(2-Chloroethoxy)methane	ND (0.399)		8270D		1	09/12/16 15:16	CZI0143	CI60818
bis(2-Chloroethyl)ether	ND (0.399)		8270D		1	09/12/16 15:16	CZI0143	CI60818
bis(2-chloroisopropyl)Ether	ND (0.399)		8270D		1	09/12/16 15:16	CZI0143	CI60818
bis(2-Ethylhexyl)phthalate	ND (0.399)		8270D		1	09/12/16 15:16	CZI0143	CI60818
Butylbenzylphthalate	ND (0.399)		8270D		1	09/12/16 15:16	CZI0143	CI60818
Carbazole	ND (0.399)		8270D		1	09/12/16 15:16	CZI0143	CI60818
<b>Chrysene</b>	<b>0.331</b> (0.200)		8270D		1	09/12/16 15:16	CZI0143	CI60818
Dibenzo(a,h)Anthracene	ND (0.200)		8270D		1	09/12/16 15:16	CZI0143	CI60818
Dibenzofuran	ND (0.399)		8270D		1	09/12/16 15:16	CZI0143	CI60818
Diethylphthalate	ND (0.399)		8270D		1	09/12/16 15:16	CZI0143	CI60818
Dimethylphthalate	ND (0.399)		8270D		1	09/12/16 15:16	CZI0143	CI60818
Di-n-butylphthalate	ND (0.399)		8270D		1	09/12/16 15:16	CZI0143	CI60818
Di-n-octylphthalate	ND (0.399)		8270D		1	09/12/16 15:16	CZI0143	CI60818
<b>Fluoranthene</b>	<b>0.754</b> (0.399)		8270D		1	09/12/16 15:16	CZI0143	CI60818
Fluorene	ND (0.399)		8270D		1	09/12/16 15:16	CZI0143	CI60818
Hexachlorobenzene	ND (0.200)		8270D		1	09/12/16 15:16	CZI0143	CI60818
Hexachlorobutadiene	ND (0.399)		8270D		1	09/12/16 15:16	CZI0143	CI60818
Hexachlorocyclopentadiene	ND (2.00)		8270D		1	09/12/16 15:16	CZI0143	CI60818
Hexachloroethane	ND (0.399)		8270D		1	09/12/16 15:16	CZI0143	CI60818
Indeno(1,2,3-cd)Pyrene	ND (0.399)		8270D		1	09/12/16 15:16	CZI0143	CI60818
Isophorone	ND (0.399)		8270D		1	09/12/16 15:16	CZI0143	CI60818
Naphthalene	ND (0.399)		8270D		1	09/12/16 15:16	CZI0143	CI60818





*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-34 (3-8)  
Date Sampled: 09/07/16 12:00  
Percent Solids: 88  
Initial Volume: 14.3  
Final Volume: 0.5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-05  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: IBM  
Prepared: 9/8/16 14:37

**8270D Semi-Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Nitrobenzene	ND (0.399)		8270D		1	09/12/16 15:16	CZI0143	CI60818
N-Nitrosodimethylamine	ND (0.399)		8270D		1	09/12/16 15:16	CZI0143	CI60818
N-Nitroso-Di-n-Propylamine	ND (0.399)		8270D		1	09/12/16 15:16	CZI0143	CI60818
N-nitrosodiphenylamine	ND (0.399)		8270D		1	09/12/16 15:16	CZI0143	CI60818
Pentachlorophenol	ND (2.00)		8270D		1	09/12/16 15:16	CZI0143	CI60818
<b>Phenanthrene</b>	<b>0.640</b> (0.399)		8270D		1	09/12/16 15:16	CZI0143	CI60818
Phenol	ND (0.399)		8270D		1	09/12/16 15:16	CZI0143	CI60818
<b>Pyrene</b>	<b>0.640</b> (0.399)		8270D		1	09/12/16 15:16	CZI0143	CI60818
Pyridine	ND (2.00)		8270D		1	09/12/16 15:16	CZI0143	CI60818

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	68 %		30-130
<i>Surrogate: 2,4,6-Tribromophenol</i>	85 %		30-130
<i>Surrogate: 2-Chlorophenol-d4</i>	73 %		30-130
<i>Surrogate: 2-Fluorobiphenyl</i>	73 %		30-130
<i>Surrogate: 2-Fluorophenol</i>	69 %		30-130
<i>Surrogate: Nitrobenzene-d5</i>	76 %		30-130
<i>Surrogate: Phenol-d6</i>	74 %		30-130
<i>Surrogate: p-Terphenyl-d14</i>	84 %		30-130





*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-34 (3-8)  
Date Sampled: 09/07/16 12:00  
Percent Solids: 88

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-05  
Sample Matrix: Soil

**Classical Chemistry**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>	<u>Batch</u>
Hexavalent Chromium	ND (0.5)		7196A		1	EEM	09/12/16 14:30	mg/kg dry	CI61224
Total Cyanide	ND (1.06)		9014		1	JLK	09/09/16 17:25	mg/kg dry	CI60931



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-35 (3-8)  
Date Sampled: 09/07/16 12:20  
Percent Solids: 93

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-06  
Sample Matrix: Soil  
Units: mg/kg dry

Extraction Method: 3050B

**Total Metals**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Antimony	ND (0.50)		6020A		20	NAR	09/12/16 13:43	2.15	100	CI60906
Arsenic	ND (2.50)		6010C		1	KJK	09/09/16 23:23	2.15	100	CI60906
<b>Barium</b>	<b>24.0</b> (2.50)		6010C		1	KJK	09/09/16 23:23	2.15	100	CI60906
<b>Beryllium</b>	<b>0.47</b> (0.11)		6010C		1	KJK	09/09/16 23:23	2.15	100	CI60906
Cadmium	ND (0.50)		6010C		1	KJK	09/09/16 23:23	2.15	100	CI60906
Chromium	ND (1.00)		6010C		1	KJK	09/09/16 23:23	2.15	100	CI60906
Chromium (III)	ND (1.00)		Calc		1	EEM	09/12/16 14:30	1	1	[CALC]
<b>Copper</b>	<b>5.35</b> (2.50)		6010C		1	KJK	09/09/16 23:23	2.15	100	CI60906
<b>Lead</b>	<b>19.8</b> (5.01)		6010C		1	KJK	09/09/16 23:23	2.15	100	CI60906
<b>Manganese</b>	<b>87.6</b> (1.00)		6010C		1	KJK	09/09/16 23:23	2.15	100	CI60906
<b>Mercury</b>	<b>0.054</b> (0.033)		7471B		1	KJK	09/09/16 11:53	0.65	40	CI60844
<b>Nickel</b>	<b>2.56</b> (2.50)		6010C		1	KJK	09/09/16 23:23	2.15	100	CI60906
Selenium	ND (0.50)		6020A		20	NAR	09/12/16 13:43	2.15	100	CI60906
Silver	ND (0.50)		6010C		1	KJK	09/09/16 23:23	2.15	100	CI60906
Thallium	ND (0.50)		6020A		20	NAR	09/12/16 13:43	2.15	100	CI60906
<b>Vanadium</b>	<b>3.56</b> (1.00)		6010C		1	KJK	09/09/16 23:23	2.15	100	CI60906
<b>Zinc</b>	<b>51.6</b> (2.50)		6010C		1	KJK	09/09/16 23:23	2.15	100	CI60906



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-35 (3-8)  
Date Sampled: 09/07/16 12:20  
Percent Solids: 93  
Initial Volume: 6.7  
Final Volume: 10  
Extraction Method: 5035

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-06  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: MD

**5035/8260B Volatile Organic Compounds / Low Level**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
1,1,1-Trichloroethane	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
1,1,2,2-Tetrachloroethane	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
1,1,2-Trichloroethane	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
1,1-Dichloroethane	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
1,1-Dichloroethene	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
1,1-Dichloropropene	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
1,2,3-Trichlorobenzene	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
1,2,3-Trichloropropane	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
1,2,4-Trichlorobenzene	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
1,2,4-Trimethylbenzene	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
1,2-Dibromo-3-Chloropropane	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
1,2-Dibromoethane	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
1,2-Dichlorobenzene	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
1,2-Dichloroethane	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
1,2-Dichloropropane	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
1,3,5-Trimethylbenzene	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
1,3-Dichlorobenzene	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
1,3-Dichloropropane	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
1,4-Dichlorobenzene	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
1,4-Dioxane	ND (0.0804)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
1-Chlorohexane	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
2,2-Dichloropropane	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
2-Butanone	ND (0.0402)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
2-Chlorotoluene	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
2-Hexanone	ND (0.0402)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
4-Chlorotoluene	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
4-Isopropyltoluene	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
4-Methyl-2-Pentanone	ND (0.0402)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
Acetone	ND (0.0402)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
Benzene	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
Bromobenzene	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-35 (3-8)  
Date Sampled: 09/07/16 12:20  
Percent Solids: 93  
Initial Volume: 6.7  
Final Volume: 10  
Extraction Method: 5035

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-06  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: MD

**5035/8260B Volatile Organic Compounds / Low Level**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
Bromodichloromethane	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
Bromoform	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
Bromomethane	ND (0.0080)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
Carbon Disulfide	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
Carbon Tetrachloride	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
Chlorobenzene	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
Chloroethane	ND (0.0080)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
Chloroform	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
Chloromethane	ND (0.0080)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
cis-1,2-Dichloroethene	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
cis-1,3-Dichloropropene	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
Dibromochloromethane	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
Dibromomethane	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
Dichlorodifluoromethane	ND (0.0080)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
Diethyl Ether	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
Di-isopropyl ether	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
Ethyl tertiary-butyl ether	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
Ethylbenzene	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
Hexachlorobutadiene	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
Isopropylbenzene	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
Methyl tert-Butyl Ether	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
Methylene Chloride	ND (0.0201)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
Naphthalene	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
n-Butylbenzene	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
n-Propylbenzene	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
sec-Butylbenzene	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
Styrene	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
tert-Butylbenzene	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
Tertiary-amyl methyl ether	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
Tetrachloroethene	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
Tetrahydrofuran	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
 Client Project ID: Hope Mill  
 Client Sample ID: ESS-35 (3-8)  
 Date Sampled: 09/07/16 12:20  
 Percent Solids: 93  
 Initial Volume: 6.7  
 Final Volume: 10  
 Extraction Method: 5035

ESS Laboratory Work Order: 1609117  
 ESS Laboratory Sample ID: 1609117-06  
 Sample Matrix: Soil  
 Units: mg/kg dry  
 Analyst: MD

**5035/8260B Volatile Organic Compounds / Low Level**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Toluene	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
trans-1,2-Dichloroethene	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
trans-1,3-Dichloropropene	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
Trichloroethene	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
Trichlorofluoromethane	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
Vinyl Acetate	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
Vinyl Chloride	ND (0.0080)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
Xylene O	ND (0.0040)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
Xylene P,M	ND (0.0080)		8260B Low		1	09/10/16 2:17	CZI0131	CI60938
Xylenes (Total)	ND (0.0080)		8260B Low		1	09/10/16 2:17		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	90 %		70-130
<i>Surrogate: 4-Bromofluorobenzene</i>	91 %		70-130
<i>Surrogate: Dibromofluoromethane</i>	90 %		70-130
<i>Surrogate: Toluene-d8</i>	95 %		70-130



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-35 (3-8)  
Date Sampled: 09/07/16 12:20  
Percent Solids: 93  
Initial Volume: 20.6  
Final Volume: 5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-06  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: IBM  
Prepared: 9/8/16 10:08

**8081B Organochlorine Pesticides**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Chlordane (Total)	ND (0.0314)		8081B		1	09/08/16 15:25	CZI0092	CI60713
Dieldrin	ND (0.0026)		8081B		1	09/08/16 15:25	CZI0092	CI60713

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	77 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	73 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	81 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	67 %		30-150



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-35 (3-8)  
Date Sampled: 09/07/16 12:20  
Percent Solids: 93  
Initial Volume: 19.5  
Final Volume: 10  
Extraction Method: 3540C

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-06  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: SMR  
Prepared: 9/7/16 18:03

**8082A Polychlorinated Biphenyls (PCB)**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.0552)		8082A		1	09/08/16 15:29		CI60709
Aroclor 1221	ND (0.0552)		8082A		1	09/08/16 15:29		CI60709
Aroclor 1232	ND (0.0552)		8082A		1	09/08/16 15:29		CI60709
Aroclor 1242	ND (0.0552)		8082A		1	09/08/16 15:29		CI60709
Aroclor 1248	ND (0.0552)		8082A		1	09/08/16 15:29		CI60709
Aroclor 1254	ND (0.0552)		8082A		1	09/08/16 15:29		CI60709
Aroclor 1260	ND (0.0552)		8082A		1	09/08/16 15:29		CI60709
Aroclor 1262	ND (0.0552)		8082A		1	09/08/16 15:29		CI60709
Aroclor 1268	ND (0.0552)		8082A		1	09/08/16 15:29		CI60709

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	71 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	82 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	66 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	87 %		30-150



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-35 (3-8)  
Date Sampled: 09/07/16 12:20  
Percent Solids: 93  
Initial Volume: 20.9  
Final Volume: 1  
Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-06  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: DPS  
Prepared: 9/8/16 14:38

**8100M Total Petroleum Hydrocarbons**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Total Petroleum Hydrocarbons	47.5 (38.6)		8100M		1	09/09/16 16:26	CZI0103	CI60817
		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				
<i>Surrogate: O-Terphenyl</i>		<i>99 %</i>		<i>40-140</i>				





*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-35 (3-8)  
Date Sampled: 09/07/16 12:20  
Percent Solids: 93  
Initial Volume: 14.9  
Final Volume: 0.5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-06  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: IBM  
Prepared: 9/8/16 14:37

**8270D Semi-Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1-Biphenyl	ND (0.361)		8270D		1	09/12/16 17:04	CZI0143	CI60818
1,2,4-Trichlorobenzene	ND (0.361)		8270D		1	09/12/16 17:04	CZI0143	CI60818
1,2-Dichlorobenzene	ND (0.361)		8270D		1	09/12/16 17:04	CZI0143	CI60818
<b>1,3-Dichlorobenzene</b>	<b>0.408</b> (0.361)		8270D		1	09/12/16 17:04	CZI0143	CI60818
<b>1,4-Dichlorobenzene</b>	<b>0.400</b> (0.361)		8270D		1	09/12/16 17:04	CZI0143	CI60818
2,3,4,6-Tetrachlorophenol	ND (1.81)		8270D		1	09/12/16 17:04	CZI0143	CI60818
2,4,5-Trichlorophenol	ND (0.361)		8270D		1	09/12/16 17:04	CZI0143	CI60818
2,4,6-Trichlorophenol	ND (0.361)		8270D		1	09/12/16 17:04	CZI0143	CI60818
2,4-Dichlorophenol	ND (0.361)		8270D		1	09/12/16 17:04	CZI0143	CI60818
2,4-Dimethylphenol	ND (0.361)		8270D		1	09/12/16 17:04	CZI0143	CI60818
2,4-Dinitrophenol	ND (1.81)		8270D		1	09/12/16 17:04	CZI0143	CI60818
2,4-Dinitrotoluene	ND (0.361)		8270D		1	09/12/16 17:04	CZI0143	CI60818
2,6-Dinitrotoluene	ND (0.361)		8270D		1	09/12/16 17:04	CZI0143	CI60818
2-Chloronaphthalene	ND (0.361)		8270D		1	09/12/16 17:04	CZI0143	CI60818
2-Chlorophenol	ND (0.361)		8270D		1	09/12/16 17:04	CZI0143	CI60818
2-Methylnaphthalene	ND (0.361)		8270D		1	09/12/16 17:04	CZI0143	CI60818
2-Methylphenol	ND (0.361)		8270D		1	09/12/16 17:04	CZI0143	CI60818
2-Nitroaniline	ND (0.361)		8270D		1	09/12/16 17:04	CZI0143	CI60818
2-Nitrophenol	ND (0.361)		8270D		1	09/12/16 17:04	CZI0143	CI60818
3,3'-Dichlorobenzidine	ND (0.723)		8270D		1	09/12/16 17:04	CZI0143	CI60818
3+4-Methylphenol	ND (0.723)		8270D		1	09/12/16 17:04	CZI0143	CI60818
3-Nitroaniline	ND (0.361)		8270D		1	09/12/16 17:04	CZI0143	CI60818
4,6-Dinitro-2-Methylphenol	ND (1.81)		8270D		1	09/12/16 17:04	CZI0143	CI60818
4-Bromophenyl-phenylether	ND (0.361)		8270D		1	09/12/16 17:04	CZI0143	CI60818
4-Chloro-3-Methylphenol	ND (0.361)		8270D		1	09/12/16 17:04	CZI0143	CI60818
4-Chloroaniline	ND (0.723)		8270D		1	09/12/16 17:04	CZI0143	CI60818
4-Chloro-phenyl-phenyl ether	ND (0.361)		8270D		1	09/12/16 17:04	CZI0143	CI60818
4-Nitroaniline	ND (0.361)		8270D		1	09/12/16 17:04	CZI0143	CI60818
4-Nitrophenol	ND (1.81)		8270D		1	09/12/16 17:04	CZI0143	CI60818
Acenaphthene	ND (0.361)		8270D		1	09/12/16 17:04	CZI0143	CI60818
Acenaphthylene	ND (0.361)		8270D		1	09/12/16 17:04	CZI0143	CI60818
Acetophenone	ND (0.723)		8270D		1	09/12/16 17:04	CZI0143	CI60818



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-35 (3-8)  
Date Sampled: 09/07/16 12:20  
Percent Solids: 93  
Initial Volume: 14.9  
Final Volume: 0.5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-06  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: IBM  
Prepared: 9/8/16 14:37

**8270D Semi-Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aniline	ND (0.723)		8270D		1	09/12/16 17:04	CZI0143	CI60818
Anthracene	ND (0.361)		8270D		1	09/12/16 17:04	CZI0143	CI60818
Azobenzene	ND (0.361)		8270D		1	09/12/16 17:04	CZI0143	CI60818
Benzo(a)anthracene	ND (0.361)		8270D		1	09/12/16 17:04	CZI0143	CI60818
<b>Benzo(a)pyrene</b>	<b>0.225</b> (0.181)		8270D		1	09/12/16 17:04	CZI0143	CI60818
Benzo(b)fluoranthene	ND (0.361)		8270D		1	09/12/16 17:04	CZI0143	CI60818
Benzo(g,h,i)perylene	ND (0.361)		8270D		1	09/12/16 17:04	CZI0143	CI60818
Benzo(k)fluoranthene	ND (0.361)		8270D		1	09/12/16 17:04	CZI0143	CI60818
Benzoic Acid	ND (1.81)		8270D		1	09/12/16 17:04	CZI0143	CI60818
Benzyl Alcohol	ND (0.361)		8270D		1	09/12/16 17:04	CZI0143	CI60818
bis(2-Chloroethoxy)methane	ND (0.361)		8270D		1	09/12/16 17:04	CZI0143	CI60818
bis(2-Chloroethyl)ether	ND (0.361)		8270D		1	09/12/16 17:04	CZI0143	CI60818
bis(2-chloroisopropyl)Ether	ND (0.361)		8270D		1	09/12/16 17:04	CZI0143	CI60818
bis(2-Ethylhexyl)phthalate	ND (0.361)		8270D		1	09/12/16 17:04	CZI0143	CI60818
Butylbenzylphthalate	ND (0.361)		8270D		1	09/12/16 17:04	CZI0143	CI60818
Carbazole	ND (0.361)		8270D		1	09/12/16 17:04	CZI0143	CI60818
<b>Chrysene</b>	<b>0.246</b> (0.181)		8270D		1	09/12/16 17:04	CZI0143	CI60818
Dibenzo(a,h)Anthracene	ND (0.181)		8270D		1	09/12/16 17:04	CZI0143	CI60818
Dibenzofuran	ND (0.361)		8270D		1	09/12/16 17:04	CZI0143	CI60818
Diethylphthalate	ND (0.361)		8270D		1	09/12/16 17:04	CZI0143	CI60818
Dimethylphthalate	ND (0.361)		8270D		1	09/12/16 17:04	CZI0143	CI60818
Di-n-butylphthalate	ND (0.361)		8270D		1	09/12/16 17:04	CZI0143	CI60818
Di-n-octylphthalate	ND (0.361)		8270D		1	09/12/16 17:04	CZI0143	CI60818
<b>Fluoranthene</b>	<b>0.493</b> (0.361)		8270D		1	09/12/16 17:04	CZI0143	CI60818
Fluorene	ND (0.361)		8270D		1	09/12/16 17:04	CZI0143	CI60818
Hexachlorobenzene	ND (0.181)		8270D		1	09/12/16 17:04	CZI0143	CI60818
Hexachlorobutadiene	ND (0.361)		8270D		1	09/12/16 17:04	CZI0143	CI60818
Hexachlorocyclopentadiene	ND (1.81)		8270D		1	09/12/16 17:04	CZI0143	CI60818
Hexachloroethane	ND (0.361)		8270D		1	09/12/16 17:04	CZI0143	CI60818
Indeno(1,2,3-cd)Pyrene	ND (0.361)		8270D		1	09/12/16 17:04	CZI0143	CI60818
Isophorone	ND (0.361)		8270D		1	09/12/16 17:04	CZI0143	CI60818
Naphthalene	ND (0.361)		8270D		1	09/12/16 17:04	CZI0143	CI60818



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-35 (3-8)  
Date Sampled: 09/07/16 12:20  
Percent Solids: 93  
Initial Volume: 14.9  
Final Volume: 0.5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-06  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: IBM  
Prepared: 9/8/16 14:37

**8270D Semi-Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Nitrobenzene	ND (0.361)		8270D		1	09/12/16 17:04	CZI0143	CI60818
N-Nitrosodimethylamine	ND (0.361)		8270D		1	09/12/16 17:04	CZI0143	CI60818
N-Nitroso-Di-n-Propylamine	ND (0.361)		8270D		1	09/12/16 17:04	CZI0143	CI60818
N-nitrosodiphenylamine	ND (0.361)		8270D		1	09/12/16 17:04	CZI0143	CI60818
Pentachlorophenol	ND (1.81)		8270D		1	09/12/16 17:04	CZI0143	CI60818
Phenanthrene	ND (0.361)		8270D		1	09/12/16 17:04	CZI0143	CI60818
Phenol	ND (0.361)		8270D		1	09/12/16 17:04	CZI0143	CI60818
<b>Pyrene</b>	<b>0.374</b> (0.361)		8270D		1	09/12/16 17:04	CZI0143	CI60818
Pyridine	ND (1.81)		8270D		1	09/12/16 17:04	CZI0143	CI60818

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	59 %		30-130
<i>Surrogate: 2,4,6-Tribromophenol</i>	76 %		30-130
<i>Surrogate: 2-Chlorophenol-d4</i>	64 %		30-130
<i>Surrogate: 2-Fluorobiphenyl</i>	63 %		30-130
<i>Surrogate: 2-Fluorophenol</i>	62 %		30-130
<i>Surrogate: Nitrobenzene-d5</i>	66 %		30-130
<i>Surrogate: Phenol-d6</i>	68 %		30-130
<i>Surrogate: p-Terphenyl-d14</i>	73 %		30-130



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-35 (3-8)  
Date Sampled: 09/07/16 12:20  
Percent Solids: 93

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-06  
Sample Matrix: Soil

**Classical Chemistry**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>	<u>Batch</u>
Hexavalent Chromium	ND (0.4)		7196A		1	EEM	09/12/16 14:30	mg/kg dry	CI61224
Total Cyanide	ND (1.07)		9014		1	JLK	09/09/16 17:25	mg/kg dry	CI60931



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: COMP-1  
Date Sampled: 09/07/16 10:30  
Percent Solids: 89

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-07  
Sample Matrix: Soil  
Units: mg/kg dry

Extraction Method: 3050B

**Total Metals**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Antimony	ND (0.44)		6020A		20	NAR	09/12/16 13:49	2.56	100	CI60906
Arsenic	6.68 (2.19)		6010C		1	KJK	09/09/16 23:27	2.56	100	CI60906
Barium	35.9 (2.19)		6010C		1	KJK	09/09/16 23:27	2.56	100	CI60906
Beryllium	0.52 (0.10)		6010C		1	KJK	09/09/16 23:27	2.56	100	CI60906
Cadmium	ND (0.44)		6010C		1	KJK	09/09/16 23:27	2.56	100	CI60906
Chromium	1.50 (0.88)		6010C		1	KJK	09/09/16 23:27	2.56	100	CI60906
Chromium (III)	1.50 (0.88)		Calc		1	EEM	09/12/16 14:30	1	1	[CALC]
Copper	20.8 (2.19)		6010C		1	KJK	09/09/16 23:27	2.56	100	CI60906
Lead	77.5 (4.38)		6010C		1	KJK	09/09/16 23:27	2.56	100	CI60906
Manganese	130 (0.88)		6010C		1	KJK	09/09/16 23:27	2.56	100	CI60906
Mercury	0.066 (0.032)		7471B		1	KJK	09/09/16 11:55	0.69	40	CI60844
Nickel	3.63 (2.19)		6010C		1	KJK	09/09/16 23:27	2.56	100	CI60906
Selenium	0.55 (0.44)		6020A		20	NAR	09/12/16 13:49	2.56	100	CI60906
Silver	ND (0.44)		6010C		1	KJK	09/09/16 23:27	2.56	100	CI60906
Thallium	ND (0.44)		6020A		20	NAR	09/12/16 13:49	2.56	100	CI60906
Vanadium	5.00 (0.88)		6010C		1	KJK	09/09/16 23:27	2.56	100	CI60906
Zinc	52.8 (2.19)		6010C		1	KJK	09/09/16 23:27	2.56	100	CI60906



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: COMP-1  
Date Sampled: 09/07/16 10:30  
Percent Solids: 89  
Initial Volume: 6.7  
Final Volume: 10  
Extraction Method: 5035

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-07  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: MD

**5035/8260B Volatile Organic Compounds / Low Level**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
1,1,1-Trichloroethane	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
1,1,2,2-Tetrachloroethane	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
1,1,2-Trichloroethane	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
1,1-Dichloroethane	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
1,1-Dichloroethene	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
1,1-Dichloropropene	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
1,2,3-Trichlorobenzene	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
1,2,3-Trichloropropane	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
1,2,4-Trichlorobenzene	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
1,2,4-Trimethylbenzene	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
1,2-Dibromo-3-Chloropropane	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
1,2-Dibromoethane	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
1,2-Dichlorobenzene	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
1,2-Dichloroethane	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
1,2-Dichloropropane	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
1,3,5-Trimethylbenzene	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
1,3-Dichlorobenzene	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
1,3-Dichloropropane	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
1,4-Dichlorobenzene	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
1,4-Dioxane	ND (0.0836)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
1-Chlorohexane	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
2,2-Dichloropropane	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
2-Butanone	ND (0.0418)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
2-Chlorotoluene	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
2-Hexanone	ND (0.0418)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
4-Chlorotoluene	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
4-Isopropyltoluene	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
4-Methyl-2-Pentanone	ND (0.0418)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
Acetone	ND (0.0418)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
Benzene	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
Bromobenzene	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: COMP-1  
Date Sampled: 09/07/16 10:30  
Percent Solids: 89  
Initial Volume: 6.7  
Final Volume: 10  
Extraction Method: 5035

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-07  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: MD

**5035/8260B Volatile Organic Compounds / Low Level**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
Bromodichloromethane	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
Bromoform	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
Bromomethane	ND (0.0084)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
Carbon Disulfide	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
Carbon Tetrachloride	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
Chlorobenzene	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
Chloroethane	ND (0.0084)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
Chloroform	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
Chloromethane	ND (0.0084)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
cis-1,2-Dichloroethene	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
cis-1,3-Dichloropropene	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
Dibromochloromethane	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
Dibromomethane	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
Dichlorodifluoromethane	ND (0.0084)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
Diethyl Ether	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
Di-isopropyl ether	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
Ethyl tertiary-butyl ether	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
Ethylbenzene	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
Hexachlorobutadiene	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
Isopropylbenzene	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
Methyl tert-Butyl Ether	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
Methylene Chloride	ND (0.0209)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
Naphthalene	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
n-Butylbenzene	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
n-Propylbenzene	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
sec-Butylbenzene	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
Styrene	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
tert-Butylbenzene	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
Tertiary-amyl methyl ether	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
Tetrachloroethene	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
Tetrahydrofuran	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938





*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: COMP-1  
Date Sampled: 09/07/16 10:30  
Percent Solids: 89  
Initial Volume: 6.7  
Final Volume: 10  
Extraction Method: 5035

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-07  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: MD

**5035/8260B Volatile Organic Compounds / Low Level**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Toluene	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
trans-1,2-Dichloroethene	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
trans-1,3-Dichloropropene	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
Trichloroethene	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
Trichlorofluoromethane	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
Vinyl Acetate	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
Vinyl Chloride	ND (0.0084)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
Xylene O	ND (0.0042)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
Xylene P,M	ND (0.0084)		8260B Low		1	09/10/16 2:44	CZI0131	CI60938
Xylenes (Total)	ND (0.0084)		8260B Low		1	09/10/16 2:44		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>91 %</i>		<i>70-130</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>85 %</i>		<i>70-130</i>
<i>Surrogate: Dibromofluoromethane</i>	<i>90 %</i>		<i>70-130</i>
<i>Surrogate: Toluene-d8</i>	<i>101 %</i>		<i>70-130</i>





*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
 Client Project ID: Hope Mill  
 Client Sample ID: COMP-1  
 Date Sampled: 09/07/16 10:30  
 Percent Solids: 89  
 Initial Volume: 19.4  
 Final Volume: 5  
 Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
 ESS Laboratory Sample ID: 1609117-07  
 Sample Matrix: Soil  
 Units: mg/kg dry  
 Analyst: IBM  
 Prepared: 9/8/16 10:08

**8081B Organochlorine Pesticides**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
4,4'-DDD	ND (0.0029)		8081B		1	09/08/16 15:53	CZI0092	CI60713
4,4'-DDE	0.0068 (0.0029)		8081B		1	09/08/16 15:53	CZI0092	CI60713
4,4'-DDT	0.0081 (0.0029)		8081B		1	09/08/16 15:53	CZI0092	CI60713
Aldrin	ND (0.0029)		8081B		1	09/08/16 15:53	CZI0092	CI60713
alpha-BHC	ND (0.0029)		8081B		1	09/08/16 15:53	CZI0092	CI60713
alpha-Chlordane	ND (0.0029)		8081B		1	09/08/16 15:53	CZI0092	CI60713
beta-BHC	ND (0.0029)		8081B		1	09/08/16 15:53	CZI0092	CI60713
Chlordane (Total)	ND (0.0347)		8081B		1	09/08/16 15:53	CZI0092	CI60713
delta-BHC	ND (0.0029)		8081B		1	09/08/16 15:53	CZI0092	CI60713
Dieldrin	ND (0.0029)		8081B		1	09/08/16 15:53	CZI0092	CI60713
Endosulfan I	ND (0.0029)		8081B		1	09/08/16 15:53	CZI0092	CI60713
Endosulfan II	ND (0.0029)		8081B		1	09/08/16 15:53	CZI0092	CI60713
Endosulfan Sulfate	ND (0.0029)		8081B		1	09/08/16 15:53	CZI0092	CI60713
Endrin	ND (0.0029)		8081B		1	09/08/16 15:53	CZI0092	CI60713
Endrin Aldehyde	ND (0.0029)		8081B		1	09/08/16 15:53	CZI0092	CI60713
Endrin Ketone	ND (0.0029)		8081B		1	09/08/16 15:53	CZI0092	CI60713
gamma-BHC (Lindane)	ND (0.0017)		8081B		1	09/08/16 15:53	CZI0092	CI60713
gamma-Chlordane	ND (0.0029)		8081B		1	09/08/16 15:53	CZI0092	CI60713
Heptachlor	ND (0.0029)		8081B		1	09/08/16 15:53	CZI0092	CI60713
Heptachlor Epoxide	ND (0.0029)		8081B		1	09/08/16 15:53	CZI0092	CI60713
Hexachlorobenzene	ND (0.0029)		8081B		1	09/08/16 15:53	CZI0092	CI60713
Methoxychlor	ND (0.0029)		8081B		1	09/08/16 15:53	CZI0092	CI60713
Toxaphene	ND (0.144)		8081B		1	09/08/16 15:53	CZI0092	CI60713

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	73 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	72 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	72 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	68 %		30-150



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: COMP-1  
Date Sampled: 09/07/16 10:30  
Percent Solids: 89  
Initial Volume: 19.6  
Final Volume: 10  
Extraction Method: 3540C

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-07  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: SMR  
Prepared: 9/7/16 18:03

**8082A Polychlorinated Biphenyls (PCB)**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.0572)		8082A		1	09/08/16 15:46		CI60709
Aroclor 1221	ND (0.0572)		8082A		1	09/08/16 15:46		CI60709
Aroclor 1232	ND (0.0572)		8082A		1	09/08/16 15:46		CI60709
Aroclor 1242	ND (0.0572)		8082A		1	09/08/16 15:46		CI60709
Aroclor 1248	ND (0.0572)		8082A		1	09/08/16 15:46		CI60709
Aroclor 1254	ND (0.0572)		8082A		1	09/08/16 15:46		CI60709
Aroclor 1260	ND (0.0572)		8082A		1	09/08/16 15:46		CI60709
Aroclor 1262	ND (0.0572)		8082A		1	09/08/16 15:46		CI60709
Aroclor 1268	ND (0.0572)		8082A		1	09/08/16 15:46		CI60709

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	61 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	72 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	53 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	70 %		30-150



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: COMP-1  
Date Sampled: 09/07/16 10:30  
Percent Solids: 89  
Initial Volume: 19.2  
Final Volume: 1  
Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-07  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: DPS  
Prepared: 9/8/16 14:38

**8100M Total Petroleum Hydrocarbons**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Total Petroleum Hydrocarbons	266 (43.8)		8100M		1	09/09/16 17:06	CZI0103	CI60817
		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				
<i>Surrogate: O-Terphenyl</i>		87 %		40-140				



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: COMP-1  
Date Sampled: 09/07/16 10:30  
Percent Solids: 89  
Initial Volume: 15  
Final Volume: 0.5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-07  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: IBM  
Prepared: 9/8/16 14:37

**8270D Semi-Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1-Biphenyl	ND (0.373)		8270D		1	09/12/16 17:41	CZI0143	CI60818
1,2,4-Trichlorobenzene	ND (0.373)		8270D		1	09/12/16 17:41	CZI0143	CI60818
1,2-Dichlorobenzene	ND (0.373)		8270D		1	09/12/16 17:41	CZI0143	CI60818
1,3-Dichlorobenzene	ND (0.373)		8270D		1	09/12/16 17:41	CZI0143	CI60818
1,4-Dichlorobenzene	ND (0.373)		8270D		1	09/12/16 17:41	CZI0143	CI60818
2,3,4,6-Tetrachlorophenol	ND (1.87)		8270D		1	09/12/16 17:41	CZI0143	CI60818
2,4,5-Trichlorophenol	ND (0.373)		8270D		1	09/12/16 17:41	CZI0143	CI60818
2,4,6-Trichlorophenol	ND (0.373)		8270D		1	09/12/16 17:41	CZI0143	CI60818
2,4-Dichlorophenol	ND (0.373)		8270D		1	09/12/16 17:41	CZI0143	CI60818
2,4-Dimethylphenol	ND (0.373)		8270D		1	09/12/16 17:41	CZI0143	CI60818
2,4-Dinitrophenol	ND (1.87)		8270D		1	09/12/16 17:41	CZI0143	CI60818
2,4-Dinitrotoluene	ND (0.373)		8270D		1	09/12/16 17:41	CZI0143	CI60818
2,6-Dinitrotoluene	ND (0.373)		8270D		1	09/12/16 17:41	CZI0143	CI60818
2-Chloronaphthalene	ND (0.373)		8270D		1	09/12/16 17:41	CZI0143	CI60818
2-Chlorophenol	ND (0.373)		8270D		1	09/12/16 17:41	CZI0143	CI60818
2-Methylnaphthalene	ND (0.373)		8270D		1	09/12/16 17:41	CZI0143	CI60818
2-Methylphenol	ND (0.373)		8270D		1	09/12/16 17:41	CZI0143	CI60818
2-Nitroaniline	ND (0.373)		8270D		1	09/12/16 17:41	CZI0143	CI60818
2-Nitrophenol	ND (0.373)		8270D		1	09/12/16 17:41	CZI0143	CI60818
3,3'-Dichlorobenzidine	ND (0.747)		8270D		1	09/12/16 17:41	CZI0143	CI60818
3+4-Methylphenol	ND (0.747)		8270D		1	09/12/16 17:41	CZI0143	CI60818
3-Nitroaniline	ND (0.373)		8270D		1	09/12/16 17:41	CZI0143	CI60818
4,6-Dinitro-2-Methylphenol	ND (1.87)		8270D		1	09/12/16 17:41	CZI0143	CI60818
4-Bromophenyl-phenylether	ND (0.373)		8270D		1	09/12/16 17:41	CZI0143	CI60818
4-Chloro-3-Methylphenol	ND (0.373)		8270D		1	09/12/16 17:41	CZI0143	CI60818
4-Chloroaniline	ND (0.747)		8270D		1	09/12/16 17:41	CZI0143	CI60818
4-Chloro-phenyl-phenyl ether	ND (0.373)		8270D		1	09/12/16 17:41	CZI0143	CI60818
4-Nitroaniline	ND (0.373)		8270D		1	09/12/16 17:41	CZI0143	CI60818
4-Nitrophenol	ND (1.87)		8270D		1	09/12/16 17:41	CZI0143	CI60818
Acenaphthene	ND (0.373)		8270D		1	09/12/16 17:41	CZI0143	CI60818
<b>Acenaphthylene</b>	<b>1.46</b> (0.373)		8270D		1	09/12/16 17:41	CZI0143	CI60818
Acetophenone	ND (0.747)		8270D		1	09/12/16 17:41	CZI0143	CI60818



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: COMP-1  
Date Sampled: 09/07/16 10:30  
Percent Solids: 89  
Initial Volume: 15  
Final Volume: 0.5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-07  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: IBM  
Prepared: 9/8/16 14:37

**8270D Semi-Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aniline	ND (0.747)		8270D		1	09/12/16 17:41	CZI0143	CI60818
<b>Anthracene</b>	<b>0.533</b> (0.373)		8270D		1	09/12/16 17:41	CZI0143	CI60818
Azobenzene	ND (0.373)		8270D		1	09/12/16 17:41	CZI0143	CI60818
<b>Benzo(a)anthracene</b>	<b>3.68</b> (0.373)		8270D		1	09/12/16 17:41	CZI0143	CI60818
<b>Benzo(a)pyrene</b>	<b>3.42</b> (0.187)		8270D		1	09/12/16 17:41	CZI0143	CI60818
<b>Benzo(b)fluoranthene</b>	<b>5.09</b> (0.373)		8270D		1	09/12/16 17:41	CZI0143	CI60818
<b>Benzo(g,h,i)perylene</b>	<b>1.80</b> (0.373)		8270D		1	09/12/16 17:41	CZI0143	CI60818
<b>Benzo(k)fluoranthene</b>	<b>1.77</b> (0.373)		8270D		1	09/12/16 17:41	CZI0143	CI60818
Benzoic Acid	ND (1.87)		8270D		1	09/12/16 17:41	CZI0143	CI60818
Benzyl Alcohol	ND (0.373)		8270D		1	09/12/16 17:41	CZI0143	CI60818
bis(2-Chloroethoxy)methane	ND (0.373)		8270D		1	09/12/16 17:41	CZI0143	CI60818
bis(2-Chloroethyl)ether	ND (0.373)		8270D		1	09/12/16 17:41	CZI0143	CI60818
bis(2-chloroisopropyl)Ether	ND (0.373)		8270D		1	09/12/16 17:41	CZI0143	CI60818
bis(2-Ethylhexyl)phthalate	ND (0.373)		8270D		1	09/12/16 17:41	CZI0143	CI60818
Butylbenzylphthalate	ND (0.373)		8270D		1	09/12/16 17:41	CZI0143	CI60818
Carbazole	ND (0.373)		8270D		1	09/12/16 17:41	CZI0143	CI60818
<b>Chrysene</b>	<b>3.98</b> (0.187)		8270D		1	09/12/16 17:41	CZI0143	CI60818
<b>Dibenzo(a,h)Anthracene</b>	<b>0.747</b> (0.187)		8270D		1	09/12/16 17:41	CZI0143	CI60818
Dibenzofuran	ND (0.373)		8270D		1	09/12/16 17:41	CZI0143	CI60818
Diethylphthalate	ND (0.373)		8270D		1	09/12/16 17:41	CZI0143	CI60818
Dimethylphthalate	ND (0.373)		8270D		1	09/12/16 17:41	CZI0143	CI60818
Di-n-butylphthalate	ND (0.373)		8270D		1	09/12/16 17:41	CZI0143	CI60818
Di-n-octylphthalate	ND (0.373)		8270D		1	09/12/16 17:41	CZI0143	CI60818
<b>Fluoranthene</b>	<b>5.57</b> (0.373)		8270D		1	09/12/16 17:41	CZI0143	CI60818
Fluorene	ND (0.373)		8270D		1	09/12/16 17:41	CZI0143	CI60818
Hexachlorobenzene	ND (0.187)		8270D		1	09/12/16 17:41	CZI0143	CI60818
Hexachlorobutadiene	ND (0.373)		8270D		1	09/12/16 17:41	CZI0143	CI60818
Hexachlorocyclopentadiene	ND (1.87)		8270D		1	09/12/16 17:41	CZI0143	CI60818
Hexachloroethane	ND (0.373)		8270D		1	09/12/16 17:41	CZI0143	CI60818
<b>Indeno(1,2,3-cd)Pyrene</b>	<b>1.49</b> (0.373)		8270D		1	09/12/16 17:41	CZI0143	CI60818
Isophorone	ND (0.373)		8270D		1	09/12/16 17:41	CZI0143	CI60818
Naphthalene	ND (0.373)		8270D		1	09/12/16 17:41	CZI0143	CI60818



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: COMP-1  
Date Sampled: 09/07/16 10:30  
Percent Solids: 89  
Initial Volume: 15  
Final Volume: 0.5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-07  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: IBM  
Prepared: 9/8/16 14:37

**8270D Semi-Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Nitrobenzene	ND (0.373)		8270D		1	09/12/16 17:41	CZI0143	CI60818
N-Nitrosodimethylamine	ND (0.373)		8270D		1	09/12/16 17:41	CZI0143	CI60818
N-Nitroso-Di-n-Propylamine	ND (0.373)		8270D		1	09/12/16 17:41	CZI0143	CI60818
N-nitrosodiphenylamine	ND (0.373)		8270D		1	09/12/16 17:41	CZI0143	CI60818
Pentachlorophenol	ND (1.87)		8270D		1	09/12/16 17:41	CZI0143	CI60818
<b>Phenanthrene</b>	<b>2.36</b> (0.373)		8270D		1	09/12/16 17:41	CZI0143	CI60818
Phenol	ND (0.373)		8270D		1	09/12/16 17:41	CZI0143	CI60818
<b>Pyrene</b>	<b>5.49</b> (0.373)		8270D		1	09/12/16 17:41	CZI0143	CI60818
Pyridine	ND (1.87)		8270D		1	09/12/16 17:41	CZI0143	CI60818

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	64 %		30-130
<i>Surrogate: 2,4,6-Tribromophenol</i>	81 %		30-130
<i>Surrogate: 2-Chlorophenol-d4</i>	69 %		30-130
<i>Surrogate: 2-Fluorobiphenyl</i>	67 %		30-130
<i>Surrogate: 2-Fluorophenol</i>	67 %		30-130
<i>Surrogate: Nitrobenzene-d5</i>	73 %		30-130
<i>Surrogate: Phenol-d6</i>	73 %		30-130
<i>Surrogate: p-Terphenyl-d14</i>	73 %		30-130



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: COMP-1  
Date Sampled: 09/07/16 10:30  
Percent Solids: 89

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-07  
Sample Matrix: Soil

**Classical Chemistry**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>	<u>Batch</u>
Hexavalent Chromium	ND (0.4)		7196A		1	EEM	09/12/16 14:30	mg/kg dry	CI61224
Total Cyanide	ND (1.07)		9014		1	JLK	09/09/16 17:25	mg/kg dry	CI60931



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: COMP-2  
Date Sampled: 09/07/16 12:30  
Percent Solids: 92

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-08  
Sample Matrix: Soil  
Units: mg/kg dry

Extraction Method: 3050B

**Total Metals**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Antimony	ND (0.43)		6020A		20	NAR	09/12/16 13:55	2.53	100	CI60906
Arsenic	2.50 (2.15)		6010C		1	KJK	09/09/16 23:31	2.53	100	CI60906
Barium	32.6 (2.15)		6010C		1	KJK	09/09/16 23:31	2.53	100	CI60906
Beryllium	0.48 (0.09)		6010C		1	KJK	09/09/16 23:31	2.53	100	CI60906
Cadmium	ND (0.43)		6010C		1	KJK	09/09/16 23:31	2.53	100	CI60906
Chromium	1.79 (0.86)		6010C		1	KJK	09/09/16 23:31	2.53	100	CI60906
Chromium (III)	1.79 (0.86)		Calc		1	EEM	09/12/16 14:30	1	1	[CALC]
Copper	8.93 (2.15)		6010C		1	KJK	09/09/16 23:31	2.53	100	CI60906
Lead	46.7 (4.30)		6010C		1	KJK	09/09/16 23:31	2.53	100	CI60906
Manganese	93.6 (0.86)		6010C		1	KJK	09/09/16 23:31	2.53	100	CI60906
Mercury	0.091 (0.030)		7471B		1	KJK	09/09/16 11:57	0.72	40	CI60844
Nickel	9.77 (2.15)		6010C		1	KJK	09/09/16 23:31	2.53	100	CI60906
Selenium	0.49 (0.43)		6020A		20	NAR	09/12/16 13:55	2.53	100	CI60906
Silver	ND (0.43)		6010C		1	KJK	09/09/16 23:31	2.53	100	CI60906
Thallium	ND (0.43)		6020A		20	NAR	09/12/16 13:55	2.53	100	CI60906
Vanadium	31.4 (0.86)		6010C		1	KJK	09/09/16 23:31	2.53	100	CI60906
Zinc	42.7 (2.15)		6010C		1	KJK	09/09/16 23:31	2.53	100	CI60906





*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
 Client Project ID: Hope Mill  
 Client Sample ID: COMP-2  
 Date Sampled: 09/07/16 12:30  
 Percent Solids: 92  
 Initial Volume: 6.4  
 Final Volume: 10  
 Extraction Method: 5035

ESS Laboratory Work Order: 1609117  
 ESS Laboratory Sample ID: 1609117-08  
 Sample Matrix: Soil  
 Units: mg/kg dry  
 Analyst: MD

**5035/8260B Volatile Organic Compounds / Low Level**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
1,1,1-Trichloroethane	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
1,1,2,2-Tetrachloroethane	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
1,1,2-Trichloroethane	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
1,1-Dichloroethane	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
1,1-Dichloroethene	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
1,1-Dichloropropene	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
1,2,3-Trichlorobenzene	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
1,2,3-Trichloropropane	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
1,2,4-Trichlorobenzene	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
1,2,4-Trimethylbenzene	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
1,2-Dibromo-3-Chloropropane	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
1,2-Dibromoethane	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
1,2-Dichlorobenzene	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
1,2-Dichloroethane	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
1,2-Dichloropropane	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
1,3,5-Trimethylbenzene	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
1,3-Dichlorobenzene	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
1,3-Dichloropropane	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
1,4-Dichlorobenzene	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
1,4-Dioxane	ND (0.0851)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
1-Chlorohexane	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
2,2-Dichloropropane	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
2-Butanone	ND (0.0425)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
2-Chlorotoluene	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
2-Hexanone	ND (0.0425)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
4-Chlorotoluene	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
<b>4-Isopropyltoluene</b>	<b>0.0134</b> (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
4-Methyl-2-Pentanone	ND (0.0425)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
Acetone	ND (0.0425)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
Benzene	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
Bromobenzene	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
 Client Project ID: Hope Mill  
 Client Sample ID: COMP-2  
 Date Sampled: 09/07/16 12:30  
 Percent Solids: 92  
 Initial Volume: 6.4  
 Final Volume: 10  
 Extraction Method: 5035

ESS Laboratory Work Order: 1609117  
 ESS Laboratory Sample ID: 1609117-08  
 Sample Matrix: Soil  
 Units: mg/kg dry  
 Analyst: MD

**5035/8260B Volatile Organic Compounds / Low Level**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
Bromodichloromethane	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
Bromoform	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
Bromomethane	ND (0.0085)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
Carbon Disulfide	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
Carbon Tetrachloride	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
Chlorobenzene	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
Chloroethane	ND (0.0085)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
Chloroform	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
Chloromethane	ND (0.0085)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
cis-1,2-Dichloroethene	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
cis-1,3-Dichloropropene	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
Dibromochloromethane	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
Dibromomethane	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
Dichlorodifluoromethane	ND (0.0085)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
Diethyl Ether	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
Di-isopropyl ether	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
Ethyl tertiary-butyl ether	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
Ethylbenzene	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
Hexachlorobutadiene	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
Isopropylbenzene	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
Methyl tert-Butyl Ether	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
Methylene Chloride	ND (0.0213)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
Naphthalene	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
n-Butylbenzene	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
n-Propylbenzene	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
sec-Butylbenzene	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
Styrene	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
tert-Butylbenzene	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
Tertiary-amyl methyl ether	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
Tetrachloroethene	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
Tetrahydrofuran	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
 Client Project ID: Hope Mill  
 Client Sample ID: COMP-2  
 Date Sampled: 09/07/16 12:30  
 Percent Solids: 92  
 Initial Volume: 6.4  
 Final Volume: 10  
 Extraction Method: 5035

ESS Laboratory Work Order: 1609117  
 ESS Laboratory Sample ID: 1609117-08  
 Sample Matrix: Soil  
 Units: mg/kg dry  
 Analyst: MD

**5035/8260B Volatile Organic Compounds / Low Level**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Toluene	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
trans-1,2-Dichloroethene	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
trans-1,3-Dichloropropene	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
Trichloroethene	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
Trichlorofluoromethane	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
Vinyl Acetate	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
Vinyl Chloride	ND (0.0085)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
Xylene O	ND (0.0043)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
Xylene P,M	ND (0.0085)		8260B Low		1	09/10/16 3:10	CZI0131	CI60938
Xylenes (Total)	ND (0.0085)		8260B Low		1	09/10/16 3:10		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	91 %		70-130
<i>Surrogate: 4-Bromofluorobenzene</i>	92 %		70-130
<i>Surrogate: Dibromofluoromethane</i>	90 %		70-130
<i>Surrogate: Toluene-d8</i>	95 %		70-130



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: COMP-2  
Date Sampled: 09/07/16 12:30  
Percent Solids: 92  
Initial Volume: 19.7  
Final Volume: 5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-08  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: IBM  
Prepared: 9/8/16 10:08

**8081B Organochlorine Pesticides**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
4,4'-DDD	ND (0.0028)		8081B		1	09/08/16 16:22	CZI0092	CI60713
4,4'-DDE	ND (0.0028)		8081B		1	09/08/16 16:22	CZI0092	CI60713
4,4'-DDT	ND (0.0028)		8081B		1	09/08/16 16:22	CZI0092	CI60713
Aldrin	ND (0.0028)		8081B		1	09/08/16 16:22	CZI0092	CI60713
alpha-BHC	ND (0.0028)		8081B		1	09/08/16 16:22	CZI0092	CI60713
alpha-Chlordane	ND (0.0028)		8081B		1	09/08/16 16:22	CZI0092	CI60713
beta-BHC	ND (0.0028)		8081B		1	09/08/16 16:22	CZI0092	CI60713
Chlordane (Total)	ND (0.0332)		8081B		1	09/08/16 16:22	CZI0092	CI60713
delta-BHC	ND (0.0028)		8081B		1	09/08/16 16:22	CZI0092	CI60713
Dieldrin	ND (0.0028)		8081B		1	09/08/16 16:22	CZI0092	CI60713
Endosulfan I	ND (0.0028)		8081B		1	09/08/16 16:22	CZI0092	CI60713
Endosulfan II	ND (0.0028)		8081B		1	09/08/16 16:22	CZI0092	CI60713
Endosulfan Sulfate	ND (0.0028)		8081B		1	09/08/16 16:22	CZI0092	CI60713
Endrin	ND (0.0028)		8081B		1	09/08/16 16:22	CZI0092	CI60713
Endrin Aldehyde	ND (0.0028)		8081B		1	09/08/16 16:22	CZI0092	CI60713
Endrin Ketone	ND (0.0028)		8081B		1	09/08/16 16:22	CZI0092	CI60713
gamma-BHC (Lindane)	ND (0.0017)		8081B		1	09/08/16 16:22	CZI0092	CI60713
gamma-Chlordane	ND (0.0028)		8081B		1	09/08/16 16:22	CZI0092	CI60713
Heptachlor	ND (0.0028)		8081B		1	09/08/16 16:22	CZI0092	CI60713
Heptachlor Epoxide	ND (0.0028)		8081B		1	09/08/16 16:22	CZI0092	CI60713
Hexachlorobenzene	ND (0.0028)		8081B		1	09/08/16 16:22	CZI0092	CI60713
Methoxychlor	ND (0.0028)		8081B		1	09/08/16 16:22	CZI0092	CI60713
Toxaphene	ND (0.138)		8081B		1	09/08/16 16:22	CZI0092	CI60713

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	81 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	76 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	75 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	69 %		30-150



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: COMP-2  
Date Sampled: 09/07/16 12:30  
Percent Solids: 92  
Initial Volume: 19.9  
Final Volume: 10  
Extraction Method: 3540C

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-08  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: SMR  
Prepared: 9/7/16 18:03

**8082A Polychlorinated Biphenyls (PCB)**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.0547)		8082A		1	09/08/16 20:51		CI60709
Aroclor 1221	ND (0.0547)		8082A		1	09/08/16 20:51		CI60709
Aroclor 1232	ND (0.0547)		8082A		1	09/08/16 20:51		CI60709
Aroclor 1242	ND (0.0547)		8082A		1	09/08/16 20:51		CI60709
Aroclor 1248	ND (0.0547)		8082A		1	09/08/16 20:51		CI60709
Aroclor 1254	ND (0.0547)		8082A		1	09/08/16 20:51		CI60709
Aroclor 1260	ND (0.0547)		8082A		1	09/08/16 20:51		CI60709
Aroclor 1262	ND (0.0547)		8082A		1	09/08/16 20:51		CI60709
Aroclor 1268	ND (0.0547)		8082A		1	09/08/16 20:51		CI60709

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	68 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	80 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	53 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	74 %		30-150



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: COMP-2  
Date Sampled: 09/07/16 12:30  
Percent Solids: 92  
Initial Volume: 19.3  
Final Volume: 1  
Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-08  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: DPS  
Prepared: 9/8/16 14:38

**8100M Total Petroleum Hydrocarbons**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Total Petroleum Hydrocarbons	112 (42.3)		8100M		1	09/09/16 17:46	CZI0103	CI60817
		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				
<i>Surrogate: O-Terphenyl</i>		<i>100 %</i>		<i>40-140</i>				



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: COMP-2  
Date Sampled: 09/07/16 12:30  
Percent Solids: 92  
Initial Volume: 14.3  
Final Volume: 0.5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-08  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: IBM  
Prepared: 9/8/16 14:37

**8270D Semi-Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1-Biphenyl	ND (0.380)		8270D		1	09/12/16 18:17	CZI0143	CI60818
1,2,4-Trichlorobenzene	ND (0.380)		8270D		1	09/12/16 18:17	CZI0143	CI60818
1,2-Dichlorobenzene	ND (0.380)		8270D		1	09/12/16 18:17	CZI0143	CI60818
1,3-Dichlorobenzene	ND (0.380)		8270D		1	09/12/16 18:17	CZI0143	CI60818
1,4-Dichlorobenzene	ND (0.380)		8270D		1	09/12/16 18:17	CZI0143	CI60818
2,3,4,6-Tetrachlorophenol	ND (1.91)		8270D		1	09/12/16 18:17	CZI0143	CI60818
2,4,5-Trichlorophenol	ND (0.380)		8270D		1	09/12/16 18:17	CZI0143	CI60818
2,4,6-Trichlorophenol	ND (0.380)		8270D		1	09/12/16 18:17	CZI0143	CI60818
2,4-Dichlorophenol	ND (0.380)		8270D		1	09/12/16 18:17	CZI0143	CI60818
2,4-Dimethylphenol	ND (0.380)		8270D		1	09/12/16 18:17	CZI0143	CI60818
2,4-Dinitrophenol	ND (1.91)		8270D		1	09/12/16 18:17	CZI0143	CI60818
2,4-Dinitrotoluene	ND (0.380)		8270D		1	09/12/16 18:17	CZI0143	CI60818
2,6-Dinitrotoluene	ND (0.380)		8270D		1	09/12/16 18:17	CZI0143	CI60818
2-Chloronaphthalene	ND (0.380)		8270D		1	09/12/16 18:17	CZI0143	CI60818
2-Chlorophenol	ND (0.380)		8270D		1	09/12/16 18:17	CZI0143	CI60818
2-Methylnaphthalene	ND (0.380)		8270D		1	09/12/16 18:17	CZI0143	CI60818
2-Methylphenol	ND (0.380)		8270D		1	09/12/16 18:17	CZI0143	CI60818
2-Nitroaniline	ND (0.380)		8270D		1	09/12/16 18:17	CZI0143	CI60818
2-Nitrophenol	ND (0.380)		8270D		1	09/12/16 18:17	CZI0143	CI60818
3,3'-Dichlorobenzidine	ND (0.762)		8270D		1	09/12/16 18:17	CZI0143	CI60818
3+4-Methylphenol	ND (0.762)		8270D		1	09/12/16 18:17	CZI0143	CI60818
3-Nitroaniline	ND (0.380)		8270D		1	09/12/16 18:17	CZI0143	CI60818
4,6-Dinitro-2-Methylphenol	ND (1.91)		8270D		1	09/12/16 18:17	CZI0143	CI60818
4-Bromophenyl-phenylether	ND (0.380)		8270D		1	09/12/16 18:17	CZI0143	CI60818
4-Chloro-3-Methylphenol	ND (0.380)		8270D		1	09/12/16 18:17	CZI0143	CI60818
4-Chloroaniline	ND (0.762)		8270D		1	09/12/16 18:17	CZI0143	CI60818
4-Chloro-phenyl-phenyl ether	ND (0.380)		8270D		1	09/12/16 18:17	CZI0143	CI60818
4-Nitroaniline	ND (0.380)		8270D		1	09/12/16 18:17	CZI0143	CI60818
4-Nitrophenol	ND (1.91)		8270D		1	09/12/16 18:17	CZI0143	CI60818
<b>Acenaphthene</b>	<b>0.401 (0.380)</b>		8270D		1	09/12/16 18:17	CZI0143	CI60818
Acenaphthylene	ND (0.380)		8270D		1	09/12/16 18:17	CZI0143	CI60818
Acetophenone	ND (0.762)		8270D		1	09/12/16 18:17	CZI0143	CI60818





*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: COMP-2  
Date Sampled: 09/07/16 12:30  
Percent Solids: 92  
Initial Volume: 14.3  
Final Volume: 0.5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-08  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: IBM  
Prepared: 9/8/16 14:37

**8270D Semi-Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aniline	ND (0.762)		8270D		1	09/12/16 18:17	CZI0143	CI60818
<b>Anthracene</b>	<b>0.871</b> (0.380)		8270D		1	09/12/16 18:17	CZI0143	CI60818
Azobenzene	ND (0.380)		8270D		1	09/12/16 18:17	CZI0143	CI60818
<b>Benzo(a)anthracene</b>	<b>2.33</b> (0.380)		8270D		1	09/12/16 18:17	CZI0143	CI60818
<b>Benzo(a)pyrene</b>	<b>2.03</b> (0.191)		8270D		1	09/12/16 18:17	CZI0143	CI60818
<b>Benzo(b)fluoranthene</b>	<b>3.28</b> (0.380)		8270D		1	09/12/16 18:17	CZI0143	CI60818
<b>Benzo(g,h,i)perylene</b>	<b>0.883</b> (0.380)		8270D		1	09/12/16 18:17	CZI0143	CI60818
<b>Benzo(k)fluoranthene</b>	<b>0.980</b> (0.380)		8270D		1	09/12/16 18:17	CZI0143	CI60818
Benzoic Acid	ND (1.91)		8270D		1	09/12/16 18:17	CZI0143	CI60818
Benzyl Alcohol	ND (0.380)		8270D		1	09/12/16 18:17	CZI0143	CI60818
bis(2-Chloroethoxy)methane	ND (0.380)		8270D		1	09/12/16 18:17	CZI0143	CI60818
bis(2-Chloroethyl)ether	ND (0.380)		8270D		1	09/12/16 18:17	CZI0143	CI60818
bis(2-chloroisopropyl)Ether	ND (0.380)		8270D		1	09/12/16 18:17	CZI0143	CI60818
bis(2-Ethylhexyl)phthalate	ND (0.380)		8270D		1	09/12/16 18:17	CZI0143	CI60818
Butylbenzylphthalate	ND (0.380)		8270D		1	09/12/16 18:17	CZI0143	CI60818
<b>Carbazole</b>	<b>0.406</b> (0.380)		8270D		1	09/12/16 18:17	CZI0143	CI60818
<b>Chrysene</b>	<b>2.18</b> (0.191)		8270D		1	09/12/16 18:17	CZI0143	CI60818
<b>Dibenzo(a,h)Anthracene</b>	<b>0.431</b> (0.191)		8270D		1	09/12/16 18:17	CZI0143	CI60818
Dibenzofuran	ND (0.380)		8270D		1	09/12/16 18:17	CZI0143	CI60818
Diethylphthalate	ND (0.380)		8270D		1	09/12/16 18:17	CZI0143	CI60818
Dimethylphthalate	ND (0.380)		8270D		1	09/12/16 18:17	CZI0143	CI60818
Di-n-butylphthalate	ND (0.380)		8270D		1	09/12/16 18:17	CZI0143	CI60818
Di-n-octylphthalate	ND (0.380)		8270D		1	09/12/16 18:17	CZI0143	CI60818
<b>Fluoranthene</b>	<b>5.49</b> (0.380)		8270D		1	09/12/16 18:17	CZI0143	CI60818
Fluorene	ND (0.380)		8270D		1	09/12/16 18:17	CZI0143	CI60818
Hexachlorobenzene	ND (0.191)		8270D		1	09/12/16 18:17	CZI0143	CI60818
Hexachlorobutadiene	ND (0.380)		8270D		1	09/12/16 18:17	CZI0143	CI60818
Hexachlorocyclopentadiene	ND (1.91)		8270D		1	09/12/16 18:17	CZI0143	CI60818
Hexachloroethane	ND (0.380)		8270D		1	09/12/16 18:17	CZI0143	CI60818
<b>Indeno(1,2,3-cd)Pyrene</b>	<b>0.803</b> (0.380)		8270D		1	09/12/16 18:17	CZI0143	CI60818
Isophorone	ND (0.380)		8270D		1	09/12/16 18:17	CZI0143	CI60818
Naphthalene	ND (0.380)		8270D		1	09/12/16 18:17	CZI0143	CI60818





*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
 Client Project ID: Hope Mill  
 Client Sample ID: COMP-2  
 Date Sampled: 09/07/16 12:30  
 Percent Solids: 92  
 Initial Volume: 14.3  
 Final Volume: 0.5  
 Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
 ESS Laboratory Sample ID: 1609117-08  
 Sample Matrix: Soil  
 Units: mg/kg dry  
 Analyst: IBM  
 Prepared: 9/8/16 14:37

**8270D Semi-Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Nitrobenzene	ND (0.380)		8270D		1	09/12/16 18:17	CZI0143	CI60818
N-Nitrosodimethylamine	ND (0.380)		8270D		1	09/12/16 18:17	CZI0143	CI60818
N-Nitroso-Di-n-Propylamine	ND (0.380)		8270D		1	09/12/16 18:17	CZI0143	CI60818
N-nitrosodiphenylamine	ND (0.380)		8270D		1	09/12/16 18:17	CZI0143	CI60818
Pentachlorophenol	ND (1.91)		8270D		1	09/12/16 18:17	CZI0143	CI60818
<b>Phenanthrene</b>	<b>3.64</b> (0.380)		8270D		1	09/12/16 18:17	CZI0143	CI60818
Phenol	ND (0.380)		8270D		1	09/12/16 18:17	CZI0143	CI60818
<b>Pyrene</b>	<b>3.86</b> (0.380)		8270D		1	09/12/16 18:17	CZI0143	CI60818
Pyridine	ND (1.91)		8270D		1	09/12/16 18:17	CZI0143	CI60818

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	67 %		30-130
<i>Surrogate: 2,4,6-Tribromophenol</i>	90 %		30-130
<i>Surrogate: 2-Chlorophenol-d4</i>	77 %		30-130
<i>Surrogate: 2-Fluorobiphenyl</i>	76 %		30-130
<i>Surrogate: 2-Fluorophenol</i>	72 %		30-130
<i>Surrogate: Nitrobenzene-d5</i>	77 %		30-130
<i>Surrogate: Phenol-d6</i>	82 %		30-130
<i>Surrogate: p-Terphenyl-d14</i>	80 %		30-130



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: COMP-2  
Date Sampled: 09/07/16 12:30  
Percent Solids: 92

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-08  
Sample Matrix: Soil

**Classical Chemistry**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>	<u>Batch</u>
Hexavalent Chromium	ND (0.4)		7196A		1	EEM	09/12/16 14:30	mg/kg dry	CI61224
Total Cyanide	ND (1.07)		9014		1	JLK	09/09/16 17:25	mg/kg dry	CI60931



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-47 (8.5)  
Date Sampled: 09/07/16 12:40  
Percent Solids: 91  
Initial Volume: 7.2  
Final Volume: 10  
Extraction Method: 5035

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-09  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: MD

**5035/8260B Volatile Organic Compounds / Low Level**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
1,1,1-Trichloroethane	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
1,1,2,2-Tetrachloroethane	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
1,1,2-Trichloroethane	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
1,1-Dichloroethane	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
1,1-Dichloroethene	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
1,1-Dichloropropene	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
1,2,3-Trichlorobenzene	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
1,2,3-Trichloropropane	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
1,2,4-Trichlorobenzene	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
1,2,4-Trimethylbenzene	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
1,2-Dibromo-3-Chloropropane	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
1,2-Dibromoethane	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
1,2-Dichlorobenzene	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
1,2-Dichloroethane	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
1,2-Dichloropropane	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
1,3,5-Trimethylbenzene	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
1,3-Dichlorobenzene	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
1,3-Dichloropropane	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
1,4-Dichlorobenzene	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
1,4-Dioxane	ND (0.0762)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
1-Chlorohexane	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
2,2-Dichloropropane	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
2-Butanone	ND (0.0381)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
2-Chlorotoluene	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
2-Hexanone	ND (0.0381)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
4-Chlorotoluene	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
4-Isopropyltoluene	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
4-Methyl-2-Pentanone	ND (0.0381)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
Acetone	ND (0.0381)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
Benzene	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
Bromobenzene	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-47 (8.5)  
Date Sampled: 09/07/16 12:40  
Percent Solids: 91  
Initial Volume: 7.2  
Final Volume: 10  
Extraction Method: 5035

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-09  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: MD

**5035/8260B Volatile Organic Compounds / Low Level**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
Bromodichloromethane	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
Bromoform	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
Bromomethane	ND (0.0076)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
Carbon Disulfide	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
Carbon Tetrachloride	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
Chlorobenzene	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
Chloroethane	ND (0.0076)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
Chloroform	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
Chloromethane	ND (0.0076)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
cis-1,2-Dichloroethene	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
cis-1,3-Dichloropropene	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
Dibromochloromethane	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
Dibromomethane	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
Dichlorodifluoromethane	ND (0.0076)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
Diethyl Ether	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
Di-isopropyl ether	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
Ethyl tertiary-butyl ether	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
Ethylbenzene	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
Hexachlorobutadiene	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
Isopropylbenzene	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
Methyl tert-Butyl Ether	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
Methylene Chloride	ND (0.0191)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
Naphthalene	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
n-Butylbenzene	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
n-Propylbenzene	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
sec-Butylbenzene	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
Styrene	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
tert-Butylbenzene	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
Tertiary-amyl methyl ether	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
Tetrachloroethene	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
Tetrahydrofuran	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-47 (8.5)  
Date Sampled: 09/07/16 12:40  
Percent Solids: 91  
Initial Volume: 7.2  
Final Volume: 10  
Extraction Method: 5035

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-09  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: MD

**5035/8260B Volatile Organic Compounds / Low Level**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Toluene	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
trans-1,2-Dichloroethene	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
trans-1,3-Dichloropropene	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
Trichloroethene	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
Trichlorofluoromethane	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
Vinyl Acetate	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
Vinyl Chloride	ND (0.0076)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
Xylene O	ND (0.0038)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
Xylene P,M	ND (0.0076)		8260B Low		1	09/12/16 16:27	CZI0150	CI61229
Xylenes (Total)	ND (0.0076)		8260B Low		1	09/12/16 16:27		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>86 %</i>		<i>70-130</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>90 %</i>		<i>70-130</i>
<i>Surrogate: Dibromofluoromethane</i>	<i>88 %</i>		<i>70-130</i>
<i>Surrogate: Toluene-d8</i>	<i>92 %</i>		<i>70-130</i>



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-36 (3-8)  
Date Sampled: 09/07/16 14:00  
Percent Solids: 95

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-10  
Sample Matrix: Soil  
Units: mg/kg dry

Extraction Method: 3050B

**Total Metals**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Antimony	ND (0.40)		6020A		20	NAR	09/12/16 14:24	2.65	100	CI60906
Arsenic	ND (1.98)		6010C		1	KJK	09/09/16 23:52	2.65	100	CI60906
<b>Barium</b>	<b>22.6</b> (1.98)		6010C		1	KJK	09/09/16 23:52	2.65	100	CI60906
<b>Beryllium</b>	<b>0.64</b> (0.09)		6010C		1	KJK	09/09/16 23:52	2.65	100	CI60906
Cadmium	ND (0.40)		6010C		1	KJK	09/09/16 23:52	2.65	100	CI60906
<b>Chromium</b>	<b>7.58</b> (0.79)		6010C		1	KJK	09/09/16 23:52	2.65	100	CI60906
<b>Chromium (III)</b>	<b>7.58</b> (0.79)		Calc		1	EEM	09/12/16 15:30	1	1	[CALC]
<b>Copper</b>	<b>10.1</b> (1.98)		6010C		1	KJK	09/09/16 23:52	2.65	100	CI60906
Lead	ND (3.96)		6010C		1	KJK	09/09/16 23:52	2.65	100	CI60906
<b>Manganese</b>	<b>351</b> (0.79)		6010C		1	KJK	09/09/16 23:52	2.65	100	CI60906
Mercury	ND (0.033)		7471B		1	KJK	09/09/16 12:11	0.63	40	CI60844
<b>Nickel</b>	<b>19.3</b> (1.98)		6010C		1	KJK	09/09/16 23:52	2.65	100	CI60906
Selenium	ND (0.40)		6020A		20	NAR	09/12/16 14:24	2.65	100	CI60906
Silver	ND (0.40)		6010C		1	KJK	09/09/16 23:52	2.65	100	CI60906
Thallium	ND (0.40)		6020A		20	NAR	09/12/16 14:24	2.65	100	CI60906
<b>Vanadium</b>	<b>13.8</b> (0.79)		6010C		1	KJK	09/09/16 23:52	2.65	100	CI60906
<b>Zinc</b>	<b>32.0</b> (1.98)		6010C		1	KJK	09/09/16 23:52	2.65	100	CI60906



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-36 (3-8)  
Date Sampled: 09/07/16 14:00  
Percent Solids: 95  
Initial Volume: 6.6  
Final Volume: 10  
Extraction Method: 5035

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-10  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: MD

**5035/8260B Volatile Organic Compounds / Low Level**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
1,1,1-Trichloroethane	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
1,1,2,2-Tetrachloroethane	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
1,1,2-Trichloroethane	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
1,1-Dichloroethane	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
1,1-Dichloroethene	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
1,1-Dichloropropene	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
1,2,3-Trichlorobenzene	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
1,2,3-Trichloropropane	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
1,2,4-Trichlorobenzene	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
1,2,4-Trimethylbenzene	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
1,2-Dibromo-3-Chloropropane	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
1,2-Dibromoethane	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
1,2-Dichlorobenzene	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
1,2-Dichloroethane	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
1,2-Dichloropropane	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
1,3,5-Trimethylbenzene	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
1,3-Dichlorobenzene	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
1,3-Dichloropropane	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
1,4-Dichlorobenzene	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
1,4-Dioxane	ND (0.0795)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
1-Chlorohexane	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
2,2-Dichloropropane	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
2-Butanone	ND (0.0398)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
2-Chlorotoluene	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
2-Hexanone	ND (0.0398)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
4-Chlorotoluene	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
4-Isopropyltoluene	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
4-Methyl-2-Pentanone	ND (0.0398)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
Acetone	ND (0.0398)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
Benzene	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
Bromobenzene	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229





*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-36 (3-8)  
Date Sampled: 09/07/16 14:00  
Percent Solids: 95  
Initial Volume: 6.6  
Final Volume: 10  
Extraction Method: 5035

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-10  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: MD

**5035/8260B Volatile Organic Compounds / Low Level**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
Bromodichloromethane	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
Bromoform	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
Bromomethane	ND (0.0080)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
Carbon Disulfide	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
Carbon Tetrachloride	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
Chlorobenzene	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
Chloroethane	ND (0.0080)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
Chloroform	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
Chloromethane	ND (0.0080)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
cis-1,2-Dichloroethene	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
cis-1,3-Dichloropropene	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
Dibromochloromethane	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
Dibromomethane	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
Dichlorodifluoromethane	ND (0.0080)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
Diethyl Ether	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
Di-isopropyl ether	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
Ethyl tertiary-butyl ether	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
Ethylbenzene	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
Hexachlorobutadiene	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
Isopropylbenzene	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
Methyl tert-Butyl Ether	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
Methylene Chloride	ND (0.0199)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
Naphthalene	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
n-Butylbenzene	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
n-Propylbenzene	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
sec-Butylbenzene	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
Styrene	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
tert-Butylbenzene	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
Tertiary-amyl methyl ether	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
Tetrachloroethene	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
Tetrahydrofuran	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229





*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-36 (3-8)  
Date Sampled: 09/07/16 14:00  
Percent Solids: 95  
Initial Volume: 6.6  
Final Volume: 10  
Extraction Method: 5035

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-10  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: MD

**5035/8260B Volatile Organic Compounds / Low Level**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Toluene	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
trans-1,2-Dichloroethene	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
trans-1,3-Dichloropropene	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
Trichloroethene	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
Trichlorofluoromethane	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
Vinyl Acetate	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
Vinyl Chloride	ND (0.0080)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
Xylene O	ND (0.0040)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
Xylene P,M	ND (0.0080)		8260B Low		1	09/12/16 16:54	CZI0150	CI61229
Xylenes (Total)	ND (0.0080)		8260B Low		1	09/12/16 16:54		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>85 %</i>		<i>70-130</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>90 %</i>		<i>70-130</i>
<i>Surrogate: Dibromofluoromethane</i>	<i>88 %</i>		<i>70-130</i>
<i>Surrogate: Toluene-d8</i>	<i>92 %</i>		<i>70-130</i>



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-36 (3-8)  
Date Sampled: 09/07/16 14:00  
Percent Solids: 95  
Initial Volume: 20.5  
Final Volume: 5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-10  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: IBM  
Prepared: 9/8/16 10:08

**8081B Organochlorine Pesticides**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Chlordane (Total)	ND (0.0307)		8081B		1	09/08/16 16:51	CZI0092	CI60713
Dieldrin	ND (0.0026)		8081B		1	09/08/16 16:51	CZI0092	CI60713

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	75 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	73 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	55 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	52 %		30-150



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-36 (3-8)  
Date Sampled: 09/07/16 14:00  
Percent Solids: 95  
Initial Volume: 19.6  
Final Volume: 10  
Extraction Method: 3540C

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-10  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: SMR  
Prepared: 9/7/16 18:03

**8082A Polychlorinated Biphenyls (PCB)**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.0535)		8082A		1	09/08/16 21:10		CI60709
Aroclor 1221	ND (0.0535)		8082A		1	09/08/16 21:10		CI60709
Aroclor 1232	ND (0.0535)		8082A		1	09/08/16 21:10		CI60709
Aroclor 1242	ND (0.0535)		8082A		1	09/08/16 21:10		CI60709
Aroclor 1248	ND (0.0535)		8082A		1	09/08/16 21:10		CI60709
Aroclor 1254	ND (0.0535)		8082A		1	09/08/16 21:10		CI60709
Aroclor 1260	ND (0.0535)		8082A		1	09/08/16 21:10		CI60709
Aroclor 1262	ND (0.0535)		8082A		1	09/08/16 21:10		CI60709
Aroclor 1268	ND (0.0535)		8082A		1	09/08/16 21:10		CI60709

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	78 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	96 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	72 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	82 %		30-150



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-36 (3-8)  
Date Sampled: 09/07/16 14:00  
Percent Solids: 95  
Initial Volume: 19.7  
Final Volume: 1  
Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-10  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: ZLC  
Prepared: 9/8/16 14:38

**8100M Total Petroleum Hydrocarbons**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Total Petroleum Hydrocarbons	ND (40.0)		8100M		1	09/09/16 23:26	CZI0119	CI60817
		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				
<i>Surrogate: O-Terphenyl</i>		<i>99 %</i>		<i>40-140</i>				



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-36 (3-8)  
Date Sampled: 09/07/16 14:00  
Percent Solids: 95  
Initial Volume: 14.1  
Final Volume: 0.5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-10  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: IBM  
Prepared: 9/8/16 14:37

**8270D Semi-Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1-Biphenyl	ND (0.372)		8270D		1	09/12/16 18:53	CZI0143	CI60818
1,2,4-Trichlorobenzene	ND (0.372)		8270D		1	09/12/16 18:53	CZI0143	CI60818
1,2-Dichlorobenzene	ND (0.372)		8270D		1	09/12/16 18:53	CZI0143	CI60818
1,3-Dichlorobenzene	ND (0.372)		8270D		1	09/12/16 18:53	CZI0143	CI60818
1,4-Dichlorobenzene	ND (0.372)		8270D		1	09/12/16 18:53	CZI0143	CI60818
2,3,4,6-Tetrachlorophenol	ND (1.86)		8270D		1	09/12/16 18:53	CZI0143	CI60818
2,4,5-Trichlorophenol	ND (0.372)		8270D		1	09/12/16 18:53	CZI0143	CI60818
2,4,6-Trichlorophenol	ND (0.372)		8270D		1	09/12/16 18:53	CZI0143	CI60818
2,4-Dichlorophenol	ND (0.372)		8270D		1	09/12/16 18:53	CZI0143	CI60818
2,4-Dimethylphenol	ND (0.372)		8270D		1	09/12/16 18:53	CZI0143	CI60818
2,4-Dinitrophenol	ND (1.86)		8270D		1	09/12/16 18:53	CZI0143	CI60818
2,4-Dinitrotoluene	ND (0.372)		8270D		1	09/12/16 18:53	CZI0143	CI60818
2,6-Dinitrotoluene	ND (0.372)		8270D		1	09/12/16 18:53	CZI0143	CI60818
2-Chloronaphthalene	ND (0.372)		8270D		1	09/12/16 18:53	CZI0143	CI60818
2-Chlorophenol	ND (0.372)		8270D		1	09/12/16 18:53	CZI0143	CI60818
2-Methylnaphthalene	ND (0.372)		8270D		1	09/12/16 18:53	CZI0143	CI60818
2-Methylphenol	ND (0.372)		8270D		1	09/12/16 18:53	CZI0143	CI60818
2-Nitroaniline	ND (0.372)		8270D		1	09/12/16 18:53	CZI0143	CI60818
2-Nitrophenol	ND (0.372)		8270D		1	09/12/16 18:53	CZI0143	CI60818
3,3'-Dichlorobenzidine	ND (0.745)		8270D		1	09/12/16 18:53	CZI0143	CI60818
3+4-Methylphenol	ND (0.745)		8270D		1	09/12/16 18:53	CZI0143	CI60818
3-Nitroaniline	ND (0.372)		8270D		1	09/12/16 18:53	CZI0143	CI60818
4,6-Dinitro-2-Methylphenol	ND (1.86)		8270D		1	09/12/16 18:53	CZI0143	CI60818
4-Bromophenyl-phenylether	ND (0.372)		8270D		1	09/12/16 18:53	CZI0143	CI60818
4-Chloro-3-Methylphenol	ND (0.372)		8270D		1	09/12/16 18:53	CZI0143	CI60818
4-Chloroaniline	ND (0.745)		8270D		1	09/12/16 18:53	CZI0143	CI60818
4-Chloro-phenyl-phenyl ether	ND (0.372)		8270D		1	09/12/16 18:53	CZI0143	CI60818
4-Nitroaniline	ND (0.372)		8270D		1	09/12/16 18:53	CZI0143	CI60818
4-Nitrophenol	ND (1.86)		8270D		1	09/12/16 18:53	CZI0143	CI60818
Acenaphthene	ND (0.372)		8270D		1	09/12/16 18:53	CZI0143	CI60818
Acenaphthylene	ND (0.372)		8270D		1	09/12/16 18:53	CZI0143	CI60818
Acetophenone	ND (0.745)		8270D		1	09/12/16 18:53	CZI0143	CI60818



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-36 (3-8)  
Date Sampled: 09/07/16 14:00  
Percent Solids: 95  
Initial Volume: 14.1  
Final Volume: 0.5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-10  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: IBM  
Prepared: 9/8/16 14:37

**8270D Semi-Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aniline	ND (0.745)		8270D		1	09/12/16 18:53	CZI0143	CI60818
Anthracene	ND (0.372)		8270D		1	09/12/16 18:53	CZI0143	CI60818
Azobenzene	ND (0.372)		8270D		1	09/12/16 18:53	CZI0143	CI60818
Benzo(a)anthracene	ND (0.372)		8270D		1	09/12/16 18:53	CZI0143	CI60818
Benzo(a)pyrene	ND (0.186)		8270D		1	09/12/16 18:53	CZI0143	CI60818
Benzo(b)fluoranthene	ND (0.372)		8270D		1	09/12/16 18:53	CZI0143	CI60818
Benzo(g,h,i)perylene	ND (0.372)		8270D		1	09/12/16 18:53	CZI0143	CI60818
Benzo(k)fluoranthene	ND (0.372)		8270D		1	09/12/16 18:53	CZI0143	CI60818
Benzoic Acid	ND (1.86)		8270D		1	09/12/16 18:53	CZI0143	CI60818
Benzyl Alcohol	ND (0.372)		8270D		1	09/12/16 18:53	CZI0143	CI60818
bis(2-Chloroethoxy)methane	ND (0.372)		8270D		1	09/12/16 18:53	CZI0143	CI60818
bis(2-Chloroethyl)ether	ND (0.372)		8270D		1	09/12/16 18:53	CZI0143	CI60818
bis(2-chloroisopropyl)Ether	ND (0.372)		8270D		1	09/12/16 18:53	CZI0143	CI60818
bis(2-Ethylhexyl)phthalate	ND (0.372)		8270D		1	09/12/16 18:53	CZI0143	CI60818
Butylbenzylphthalate	ND (0.372)		8270D		1	09/12/16 18:53	CZI0143	CI60818
Carbazole	ND (0.372)		8270D		1	09/12/16 18:53	CZI0143	CI60818
Chrysene	ND (0.186)		8270D		1	09/12/16 18:53	CZI0143	CI60818
Dibenzo(a,h)Anthracene	ND (0.186)		8270D		1	09/12/16 18:53	CZI0143	CI60818
Dibenzofuran	ND (0.372)		8270D		1	09/12/16 18:53	CZI0143	CI60818
Diethylphthalate	ND (0.372)		8270D		1	09/12/16 18:53	CZI0143	CI60818
Dimethylphthalate	ND (0.372)		8270D		1	09/12/16 18:53	CZI0143	CI60818
Di-n-butylphthalate	ND (0.372)		8270D		1	09/12/16 18:53	CZI0143	CI60818
Di-n-octylphthalate	ND (0.372)		8270D		1	09/12/16 18:53	CZI0143	CI60818
Fluoranthene	ND (0.372)		8270D		1	09/12/16 18:53	CZI0143	CI60818
Fluorene	ND (0.372)		8270D		1	09/12/16 18:53	CZI0143	CI60818
Hexachlorobenzene	ND (0.186)		8270D		1	09/12/16 18:53	CZI0143	CI60818
Hexachlorobutadiene	ND (0.372)		8270D		1	09/12/16 18:53	CZI0143	CI60818
Hexachlorocyclopentadiene	ND (1.86)		8270D		1	09/12/16 18:53	CZI0143	CI60818
Hexachloroethane	ND (0.372)		8270D		1	09/12/16 18:53	CZI0143	CI60818
Indeno(1,2,3-cd)Pyrene	ND (0.372)		8270D		1	09/12/16 18:53	CZI0143	CI60818
Isophorone	ND (0.372)		8270D		1	09/12/16 18:53	CZI0143	CI60818
Naphthalene	ND (0.372)		8270D		1	09/12/16 18:53	CZI0143	CI60818



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-36 (3-8)  
Date Sampled: 09/07/16 14:00  
Percent Solids: 95  
Initial Volume: 14.1  
Final Volume: 0.5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-10  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: IBM  
Prepared: 9/8/16 14:37

**8270D Semi-Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Nitrobenzene	ND (0.372)		8270D		1	09/12/16 18:53	CZI0143	CI60818
N-Nitrosodimethylamine	ND (0.372)		8270D		1	09/12/16 18:53	CZI0143	CI60818
N-Nitroso-Di-n-Propylamine	ND (0.372)		8270D		1	09/12/16 18:53	CZI0143	CI60818
N-nitrosodiphenylamine	ND (0.372)		8270D		1	09/12/16 18:53	CZI0143	CI60818
Pentachlorophenol	ND (1.86)		8270D		1	09/12/16 18:53	CZI0143	CI60818
Phenanthrene	ND (0.372)		8270D		1	09/12/16 18:53	CZI0143	CI60818
Phenol	ND (0.372)		8270D		1	09/12/16 18:53	CZI0143	CI60818
Pyrene	ND (0.372)		8270D		1	09/12/16 18:53	CZI0143	CI60818
Pyridine	ND (1.86)		8270D		1	09/12/16 18:53	CZI0143	CI60818

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	76 %		30-130
<i>Surrogate: 2,4,6-Tribromophenol</i>	101 %		30-130
<i>Surrogate: 2-Chlorophenol-d4</i>	82 %		30-130
<i>Surrogate: 2-Fluorobiphenyl</i>	77 %		30-130
<i>Surrogate: 2-Fluorophenol</i>	79 %		30-130
<i>Surrogate: Nitrobenzene-d5</i>	84 %		30-130
<i>Surrogate: Phenol-d6</i>	86 %		30-130
<i>Surrogate: p-Terphenyl-d14</i>	80 %		30-130



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-36 (3-8)  
Date Sampled: 09/07/16 14:00  
Percent Solids: 95

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-10  
Sample Matrix: Soil

**Classical Chemistry**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>	<u>Batch</u>
Hexavalent Chromium	ND (0.4)		7196A		1	EEM	09/12/16 15:30	mg/kg dry	CI61224
Total Cyanide	ND (1.06)		9014		1	JLK	09/09/16 17:25	mg/kg dry	CI60931





*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-38 (3-8)  
Date Sampled: 09/07/16 13:30  
Percent Solids: 93

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-11  
Sample Matrix: Soil  
Units: mg/kg dry

Extraction Method: 3050B

**Total Metals**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Antimony	ND (0.37)		6020A		20	NAR	09/12/16 14:42	2.87	100	CI60906
Arsenic	ND (3.75)		6010C		2	BJV	09/12/16 17:19	2.87	100	CI60906
<b>Barium</b>	<b>30.8</b> (3.75)		6010C		2	BJV	09/12/16 17:19	2.87	100	CI60906
<b>Beryllium</b>	<b>0.74</b> (0.16)		6010C		2	BJV	09/12/16 17:19	2.87	100	CI60906
Cadmium	ND (0.75)		6010C		2	BJV	09/12/16 17:19	2.87	100	CI60906
<b>Chromium</b>	<b>2.34</b> (1.50)		6010C		2	BJV	09/12/16 17:19	2.87	100	CI60906
<b>Chromium (III)</b>	<b>2.34</b> (1.50)		Calc		2	EEM	09/12/16 17:19	1	1	[CALC]
Copper	ND (3.75)		6010C		2	BJV	09/12/16 17:19	2.87	100	CI60906
<b>Lead</b>	<b>8.21</b> (7.50)		6010C		2	BJV	09/12/16 17:19	2.87	100	CI60906
<b>Manganese</b>	<b>198</b> (1.50)		6010C		2	BJV	09/12/16 17:19	2.87	100	CI60906
Mercury	ND (0.029)		7471B		1	KJK	09/09/16 12:13	0.74	40	CI60844
Nickel	ND (3.75)		6010C		2	BJV	09/12/16 17:19	2.87	100	CI60906
<b>Selenium</b>	<b>0.43</b> (0.37)		6020A		20	NAR	09/12/16 14:42	2.87	100	CI60906
Silver	ND (0.75)		6010C		2	BJV	09/12/16 17:19	2.87	100	CI60906
Thallium	ND (0.37)		6020A		20	NAR	09/12/16 14:42	2.87	100	CI60906
<b>Vanadium</b>	<b>6.60</b> (1.50)		6010C		2	BJV	09/12/16 17:19	2.87	100	CI60906
<b>Zinc</b>	<b>54.6</b> (3.75)		6010C		2	BJV	09/12/16 17:19	2.87	100	CI60906



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-38 (3-8)  
Date Sampled: 09/07/16 13:30  
Percent Solids: 93  
Initial Volume: 6.4  
Final Volume: 10  
Extraction Method: 5035

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-11  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: MD

**5035/8260B Volatile Organic Compounds / Low Level**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
1,1,1-Trichloroethane	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
1,1,2,2-Tetrachloroethane	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
1,1,2-Trichloroethane	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
1,1-Dichloroethane	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
1,1-Dichloroethene	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
1,1-Dichloropropene	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
1,2,3-Trichlorobenzene	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
1,2,3-Trichloropropane	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
1,2,4-Trichlorobenzene	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
1,2,4-Trimethylbenzene	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
1,2-Dibromo-3-Chloropropane	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
1,2-Dibromoethane	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
1,2-Dichlorobenzene	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
1,2-Dichloroethane	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
1,2-Dichloropropane	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
1,3,5-Trimethylbenzene	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
1,3-Dichlorobenzene	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
1,3-Dichloropropane	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
1,4-Dichlorobenzene	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
1,4-Dioxane	ND (0.0841)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
1-Chlorohexane	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
2,2-Dichloropropane	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
2-Butanone	ND (0.0420)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
2-Chlorotoluene	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
2-Hexanone	ND (0.0420)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
4-Chlorotoluene	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
4-Isopropyltoluene	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
4-Methyl-2-Pentanone	ND (0.0420)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
Acetone	ND (0.0420)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
Benzene	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
Bromobenzene	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-38 (3-8)  
Date Sampled: 09/07/16 13:30  
Percent Solids: 93  
Initial Volume: 6.4  
Final Volume: 10  
Extraction Method: 5035

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-11  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: MD

**5035/8260B Volatile Organic Compounds / Low Level**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
Bromodichloromethane	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
Bromoform	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
Bromomethane	ND (0.0084)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
Carbon Disulfide	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
Carbon Tetrachloride	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
Chlorobenzene	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
Chloroethane	ND (0.0084)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
Chloroform	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
Chloromethane	ND (0.0084)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
cis-1,2-Dichloroethene	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
cis-1,3-Dichloropropene	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
Dibromochloromethane	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
Dibromomethane	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
Dichlorodifluoromethane	ND (0.0084)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
Diethyl Ether	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
Di-isopropyl ether	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
Ethyl tertiary-butyl ether	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
Ethylbenzene	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
Hexachlorobutadiene	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
Isopropylbenzene	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
Methyl tert-Butyl Ether	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
Methylene Chloride	ND (0.0210)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
Naphthalene	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
n-Butylbenzene	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
n-Propylbenzene	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
sec-Butylbenzene	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
Styrene	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
tert-Butylbenzene	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
Tertiary-amyl methyl ether	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
Tetrachloroethene	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
Tetrahydrofuran	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
 Client Project ID: Hope Mill  
 Client Sample ID: ESS-38 (3-8)  
 Date Sampled: 09/07/16 13:30  
 Percent Solids: 93  
 Initial Volume: 6.4  
 Final Volume: 10  
 Extraction Method: 5035

ESS Laboratory Work Order: 1609117  
 ESS Laboratory Sample ID: 1609117-11  
 Sample Matrix: Soil  
 Units: mg/kg dry  
 Analyst: MD

**5035/8260B Volatile Organic Compounds / Low Level**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Toluene	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
trans-1,2-Dichloroethene	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
trans-1,3-Dichloropropene	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
Trichloroethene	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
Trichlorofluoromethane	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
Vinyl Acetate	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
Vinyl Chloride	ND (0.0084)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
Xylene O	ND (0.0042)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
Xylene P,M	ND (0.0084)		8260B Low		1	09/12/16 17:20	CZI0150	CI61229
Xylenes (Total)	ND (0.0084)		8260B Low		1	09/12/16 17:20		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	84 %		70-130
<i>Surrogate: 4-Bromofluorobenzene</i>	90 %		70-130
<i>Surrogate: Dibromofluoromethane</i>	88 %		70-130
<i>Surrogate: Toluene-d8</i>	93 %		70-130



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-38 (3-8)  
Date Sampled: 09/07/16 13:30  
Percent Solids: 93  
Initial Volume: 19.8  
Final Volume: 5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-11  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: IBM  
Prepared: 9/8/16 10:08

**8081B Organochlorine Pesticides**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Chlordane (Total)	ND (0.0326)		8081B		1	09/08/16 17:20	CZI0092	CI60713
Dieldrin	ND (0.0027)		8081B		1	09/08/16 17:20	CZI0092	CI60713

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	82 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	76 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	66 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	66 %		30-150



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-38 (3-8)  
Date Sampled: 09/07/16 13:30  
Percent Solids: 93  
Initial Volume: 19.6  
Final Volume: 10  
Extraction Method: 3540C

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-11  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: SMR  
Prepared: 9/7/16 18:03

**8082A Polychlorinated Biphenyls (PCB)**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.0549)		8082A		1	09/08/16 21:29		CI60709
Aroclor 1221	ND (0.0549)		8082A		1	09/08/16 21:29		CI60709
Aroclor 1232	ND (0.0549)		8082A		1	09/08/16 21:29		CI60709
Aroclor 1242	ND (0.0549)		8082A		1	09/08/16 21:29		CI60709
Aroclor 1248	ND (0.0549)		8082A		1	09/08/16 21:29		CI60709
Aroclor 1254	ND (0.0549)		8082A		1	09/08/16 21:29		CI60709
Aroclor 1260	ND (0.0549)		8082A		1	09/08/16 21:29		CI60709
Aroclor 1262	ND (0.0549)		8082A		1	09/08/16 21:29		CI60709
Aroclor 1268	ND (0.0549)		8082A		1	09/08/16 21:29		CI60709

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	83 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	94 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	73 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	84 %		30-150



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-38 (3-8)  
Date Sampled: 09/07/16 13:30  
Percent Solids: 93  
Initial Volume: 20  
Final Volume: 1  
Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-11  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: ZLC  
Prepared: 9/8/16 14:38

**8100M Total Petroleum Hydrocarbons**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Total Petroleum Hydrocarbons	ND (40.3)		8100M		1	09/10/16 0:05	CZI0119	CI60817
		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				
<i>Surrogate: O-Terphenyl</i>		95 %		40-140				



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-38 (3-8)  
Date Sampled: 09/07/16 13:30  
Percent Solids: 93  
Initial Volume: 14.7  
Final Volume: 0.5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-11  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: IBM  
Prepared: 9/8/16 14:37

**8270D Semi-Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1-Biphenyl	ND (0.366)		8270D		1	09/12/16 19:30	CZI0143	CI60818
1,2,4-Trichlorobenzene	ND (0.366)		8270D		1	09/12/16 19:30	CZI0143	CI60818
1,2-Dichlorobenzene	ND (0.366)		8270D		1	09/12/16 19:30	CZI0143	CI60818
1,3-Dichlorobenzene	ND (0.366)		8270D		1	09/12/16 19:30	CZI0143	CI60818
1,4-Dichlorobenzene	ND (0.366)		8270D		1	09/12/16 19:30	CZI0143	CI60818
2,3,4,6-Tetrachlorophenol	ND (1.83)		8270D		1	09/12/16 19:30	CZI0143	CI60818
2,4,5-Trichlorophenol	ND (0.366)		8270D		1	09/12/16 19:30	CZI0143	CI60818
2,4,6-Trichlorophenol	ND (0.366)		8270D		1	09/12/16 19:30	CZI0143	CI60818
2,4-Dichlorophenol	ND (0.366)		8270D		1	09/12/16 19:30	CZI0143	CI60818
2,4-Dimethylphenol	ND (0.366)		8270D		1	09/12/16 19:30	CZI0143	CI60818
2,4-Dinitrophenol	ND (1.83)		8270D		1	09/12/16 19:30	CZI0143	CI60818
2,4-Dinitrotoluene	ND (0.366)		8270D		1	09/12/16 19:30	CZI0143	CI60818
2,6-Dinitrotoluene	ND (0.366)		8270D		1	09/12/16 19:30	CZI0143	CI60818
2-Chloronaphthalene	ND (0.366)		8270D		1	09/12/16 19:30	CZI0143	CI60818
2-Chlorophenol	ND (0.366)		8270D		1	09/12/16 19:30	CZI0143	CI60818
2-Methylnaphthalene	ND (0.366)		8270D		1	09/12/16 19:30	CZI0143	CI60818
2-Methylphenol	ND (0.366)		8270D		1	09/12/16 19:30	CZI0143	CI60818
2-Nitroaniline	ND (0.366)		8270D		1	09/12/16 19:30	CZI0143	CI60818
2-Nitrophenol	ND (0.366)		8270D		1	09/12/16 19:30	CZI0143	CI60818
3,3'-Dichlorobenzidine	ND (0.732)		8270D		1	09/12/16 19:30	CZI0143	CI60818
3+4-Methylphenol	ND (0.732)		8270D		1	09/12/16 19:30	CZI0143	CI60818
3-Nitroaniline	ND (0.366)		8270D		1	09/12/16 19:30	CZI0143	CI60818
4,6-Dinitro-2-Methylphenol	ND (1.83)		8270D		1	09/12/16 19:30	CZI0143	CI60818
4-Bromophenyl-phenylether	ND (0.366)		8270D		1	09/12/16 19:30	CZI0143	CI60818
4-Chloro-3-Methylphenol	ND (0.366)		8270D		1	09/12/16 19:30	CZI0143	CI60818
4-Chloroaniline	ND (0.732)		8270D		1	09/12/16 19:30	CZI0143	CI60818
4-Chloro-phenyl-phenyl ether	ND (0.366)		8270D		1	09/12/16 19:30	CZI0143	CI60818
4-Nitroaniline	ND (0.366)		8270D		1	09/12/16 19:30	CZI0143	CI60818
4-Nitrophenol	ND (1.83)		8270D		1	09/12/16 19:30	CZI0143	CI60818
Acenaphthene	ND (0.366)		8270D		1	09/12/16 19:30	CZI0143	CI60818
Acenaphthylene	ND (0.366)		8270D		1	09/12/16 19:30	CZI0143	CI60818
Acetophenone	ND (0.732)		8270D		1	09/12/16 19:30	CZI0143	CI60818





*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-38 (3-8)  
Date Sampled: 09/07/16 13:30  
Percent Solids: 93  
Initial Volume: 14.7  
Final Volume: 0.5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-11  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: IBM  
Prepared: 9/8/16 14:37

**8270D Semi-Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aniline	ND (0.732)		8270D		1	09/12/16 19:30	CZI0143	CI60818
Anthracene	ND (0.366)		8270D		1	09/12/16 19:30	CZI0143	CI60818
Azobenzene	ND (0.366)		8270D		1	09/12/16 19:30	CZI0143	CI60818
Benzo(a)anthracene	ND (0.366)		8270D		1	09/12/16 19:30	CZI0143	CI60818
Benzo(a)pyrene	ND (0.183)		8270D		1	09/12/16 19:30	CZI0143	CI60818
Benzo(b)fluoranthene	ND (0.366)		8270D		1	09/12/16 19:30	CZI0143	CI60818
Benzo(g,h,i)perylene	ND (0.366)		8270D		1	09/12/16 19:30	CZI0143	CI60818
Benzo(k)fluoranthene	ND (0.366)		8270D		1	09/12/16 19:30	CZI0143	CI60818
Benzoic Acid	ND (1.83)		8270D		1	09/12/16 19:30	CZI0143	CI60818
Benzyl Alcohol	ND (0.366)		8270D		1	09/12/16 19:30	CZI0143	CI60818
bis(2-Chloroethoxy)methane	ND (0.366)		8270D		1	09/12/16 19:30	CZI0143	CI60818
bis(2-Chloroethyl)ether	ND (0.366)		8270D		1	09/12/16 19:30	CZI0143	CI60818
bis(2-chloroisopropyl)Ether	ND (0.366)		8270D		1	09/12/16 19:30	CZI0143	CI60818
bis(2-Ethylhexyl)phthalate	ND (0.366)		8270D		1	09/12/16 19:30	CZI0143	CI60818
Butylbenzylphthalate	ND (0.366)		8270D		1	09/12/16 19:30	CZI0143	CI60818
Carbazole	ND (0.366)		8270D		1	09/12/16 19:30	CZI0143	CI60818
Chrysene	ND (0.183)		8270D		1	09/12/16 19:30	CZI0143	CI60818
Dibenzo(a,h)Anthracene	ND (0.183)		8270D		1	09/12/16 19:30	CZI0143	CI60818
Dibenzofuran	ND (0.366)		8270D		1	09/12/16 19:30	CZI0143	CI60818
Diethylphthalate	ND (0.366)		8270D		1	09/12/16 19:30	CZI0143	CI60818
Dimethylphthalate	ND (0.366)		8270D		1	09/12/16 19:30	CZI0143	CI60818
Di-n-butylphthalate	ND (0.366)		8270D		1	09/12/16 19:30	CZI0143	CI60818
Di-n-octylphthalate	ND (0.366)		8270D		1	09/12/16 19:30	CZI0143	CI60818
Fluoranthene	ND (0.366)		8270D		1	09/12/16 19:30	CZI0143	CI60818
Fluorene	ND (0.366)		8270D		1	09/12/16 19:30	CZI0143	CI60818
Hexachlorobenzene	ND (0.183)		8270D		1	09/12/16 19:30	CZI0143	CI60818
Hexachlorobutadiene	ND (0.366)		8270D		1	09/12/16 19:30	CZI0143	CI60818
Hexachlorocyclopentadiene	ND (1.83)		8270D		1	09/12/16 19:30	CZI0143	CI60818
Hexachloroethane	ND (0.366)		8270D		1	09/12/16 19:30	CZI0143	CI60818
Indeno(1,2,3-cd)Pyrene	ND (0.366)		8270D		1	09/12/16 19:30	CZI0143	CI60818
Isophorone	ND (0.366)		8270D		1	09/12/16 19:30	CZI0143	CI60818
Naphthalene	ND (0.366)		8270D		1	09/12/16 19:30	CZI0143	CI60818



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-38 (3-8)  
Date Sampled: 09/07/16 13:30  
Percent Solids: 93  
Initial Volume: 14.7  
Final Volume: 0.5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-11  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: IBM  
Prepared: 9/8/16 14:37

**8270D Semi-Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Nitrobenzene	ND (0.366)		8270D		1	09/12/16 19:30	CZI0143	CI60818
N-Nitrosodimethylamine	ND (0.366)		8270D		1	09/12/16 19:30	CZI0143	CI60818
N-Nitroso-Di-n-Propylamine	ND (0.366)		8270D		1	09/12/16 19:30	CZI0143	CI60818
N-nitrosodiphenylamine	ND (0.366)		8270D		1	09/12/16 19:30	CZI0143	CI60818
Pentachlorophenol	ND (1.83)		8270D		1	09/12/16 19:30	CZI0143	CI60818
Phenanthrene	ND (0.366)		8270D		1	09/12/16 19:30	CZI0143	CI60818
Phenol	ND (0.366)		8270D		1	09/12/16 19:30	CZI0143	CI60818
Pyrene	ND (0.366)		8270D		1	09/12/16 19:30	CZI0143	CI60818
Pyridine	ND (1.83)		8270D		1	09/12/16 19:30	CZI0143	CI60818

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	75 %		30-130
<i>Surrogate: 2,4,6-Tribromophenol</i>	99 %		30-130
<i>Surrogate: 2-Chlorophenol-d4</i>	80 %		30-130
<i>Surrogate: 2-Fluorobiphenyl</i>	78 %		30-130
<i>Surrogate: 2-Fluorophenol</i>	82 %		30-130
<i>Surrogate: Nitrobenzene-d5</i>	85 %		30-130
<i>Surrogate: Phenol-d6</i>	86 %		30-130
<i>Surrogate: p-Terphenyl-d14</i>	81 %		30-130



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-38 (3-8)  
Date Sampled: 09/07/16 13:30  
Percent Solids: 93

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-11  
Sample Matrix: Soil

**Classical Chemistry**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>	<u>Batch</u>
Hexavalent Chromium	ND (0.4)		7196A		1	EEM	09/12/16 15:30	mg/kg dry	CI61224
Total Cyanide	ND (1.06)		9014		1	JLK	09/09/16 17:25	mg/kg dry	CI60931



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-37 (3-8)  
Date Sampled: 09/07/16 14:30  
Percent Solids: 94

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-12  
Sample Matrix: Soil  
Units: mg/kg dry

Extraction Method: 3050B

**Total Metals**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Antimony	ND (0.42)		6020A		20	NAR	09/12/16 14:47	2.52	100	CI60906
Arsenic	ND (2.11)		6010C		1	KJK	09/10/16 0:00	2.52	100	CI60906
<b>Barium</b>	<b>8.72</b> (2.11)		6010C		1	KJK	09/10/16 0:00	2.52	100	CI60906
<b>Beryllium</b>	<b>0.39</b> (0.09)		6010C		1	KJK	09/10/16 0:00	2.52	100	CI60906
Cadmium	ND (0.42)		6010C		1	KJK	09/10/16 0:00	2.52	100	CI60906
<b>Chromium</b>	<b>1.03</b> (0.85)		6010C		1	KJK	09/10/16 0:00	2.52	100	CI60906
<b>Chromium (III)</b>	<b>1.03</b> (0.85)		Calc		1	EEM	09/12/16 15:30	1	1	[CALC]
Copper	ND (2.11)		6010C		1	KJK	09/10/16 0:00	2.52	100	CI60906
Lead	ND (4.23)		6010C		1	KJK	09/10/16 0:00	2.52	100	CI60906
<b>Manganese</b>	<b>77.4</b> (0.85)		6010C		1	KJK	09/10/16 0:00	2.52	100	CI60906
Mercury	ND (0.031)		7471B		1	KJK	09/09/16 12:15	0.67	40	CI60844
Nickel	ND (2.11)		6010C		1	KJK	09/10/16 0:00	2.52	100	CI60906
Selenium	ND (0.42)		6020A		20	NAR	09/12/16 14:47	2.52	100	CI60906
Silver	ND (0.42)		6010C		1	KJK	09/10/16 0:00	2.52	100	CI60906
Thallium	ND (0.42)		6020A		20	NAR	09/12/16 14:47	2.52	100	CI60906
<b>Vanadium</b>	<b>4.46</b> (0.85)		6010C		1	KJK	09/10/16 0:00	2.52	100	CI60906
<b>Zinc</b>	<b>40.7</b> (2.11)		6010C		1	KJK	09/10/16 0:00	2.52	100	CI60906



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-37 (3-8)  
Date Sampled: 09/07/16 14:30  
Percent Solids: 94  
Initial Volume: 6.4  
Final Volume: 10  
Extraction Method: 5035

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-12  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: MD

**5035/8260B Volatile Organic Compounds / Low Level**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
1,1,1-Trichloroethane	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
1,1,2,2-Tetrachloroethane	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
1,1,2-Trichloroethane	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
1,1-Dichloroethane	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
1,1-Dichloroethene	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
1,1-Dichloropropene	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
1,2,3-Trichlorobenzene	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
1,2,3-Trichloropropane	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
1,2,4-Trichlorobenzene	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
1,2,4-Trimethylbenzene	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
1,2-Dibromo-3-Chloropropane	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
1,2-Dibromoethane	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
1,2-Dichlorobenzene	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
1,2-Dichloroethane	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
1,2-Dichloropropane	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
1,3,5-Trimethylbenzene	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
1,3-Dichlorobenzene	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
1,3-Dichloropropane	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
1,4-Dichlorobenzene	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
1,4-Dioxane	ND (0.0833)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
1-Chlorohexane	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
2,2-Dichloropropane	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
2-Butanone	ND (0.0416)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
2-Chlorotoluene	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
2-Hexanone	ND (0.0416)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
4-Chlorotoluene	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
4-Isopropyltoluene	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
4-Methyl-2-Pentanone	ND (0.0416)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
Acetone	ND (0.0416)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
Benzene	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
Bromobenzene	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-37 (3-8)  
Date Sampled: 09/07/16 14:30  
Percent Solids: 94  
Initial Volume: 6.4  
Final Volume: 10  
Extraction Method: 5035

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-12  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: MD

**5035/8260B Volatile Organic Compounds / Low Level**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
Bromodichloromethane	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
Bromoform	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
Bromomethane	ND (0.0083)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
Carbon Disulfide	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
Carbon Tetrachloride	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
Chlorobenzene	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
Chloroethane	ND (0.0083)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
Chloroform	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
Chloromethane	ND (0.0083)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
cis-1,2-Dichloroethene	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
cis-1,3-Dichloropropene	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
Dibromochloromethane	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
Dibromomethane	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
Dichlorodifluoromethane	ND (0.0083)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
Diethyl Ether	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
Di-isopropyl ether	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
Ethyl tertiary-butyl ether	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
Ethylbenzene	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
Hexachlorobutadiene	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
Isopropylbenzene	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
Methyl tert-Butyl Ether	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
Methylene Chloride	ND (0.0208)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
Naphthalene	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
n-Butylbenzene	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
n-Propylbenzene	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
sec-Butylbenzene	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
Styrene	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
tert-Butylbenzene	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
Tertiary-amyl methyl ether	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
Tetrachloroethene	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
Tetrahydrofuran	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-37 (3-8)  
Date Sampled: 09/07/16 14:30  
Percent Solids: 94  
Initial Volume: 6.4  
Final Volume: 10  
Extraction Method: 5035

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-12  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: MD

**5035/8260B Volatile Organic Compounds / Low Level**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Toluene	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
trans-1,2-Dichloroethene	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
trans-1,3-Dichloropropene	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
Trichloroethene	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
Trichlorofluoromethane	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
Vinyl Acetate	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
Vinyl Chloride	ND (0.0083)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
Xylene O	ND (0.0042)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
Xylene P,M	ND (0.0083)		8260B Low		1	09/12/16 17:46	CZI0150	CI61229
Xylenes (Total)	ND (0.0083)		8260B Low		1	09/12/16 17:46		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>84 %</i>		<i>70-130</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>89 %</i>		<i>70-130</i>
<i>Surrogate: Dibromofluoromethane</i>	<i>88 %</i>		<i>70-130</i>
<i>Surrogate: Toluene-d8</i>	<i>93 %</i>		<i>70-130</i>



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-37 (3-8)  
Date Sampled: 09/07/16 14:30  
Percent Solids: 94  
Initial Volume: 19.8  
Final Volume: 5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-12  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: IBM  
Prepared: 9/8/16 10:08

**8081B Organochlorine Pesticides**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Chlordane (Total)	ND (0.0323)		8081B		1	09/08/16 17:48	CZI0092	CI60713
Dieldrin	ND (0.0027)		8081B		1	09/08/16 17:48	CZI0092	CI60713

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	81 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	76 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	61 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	59 %		30-150





*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-37 (3-8)  
Date Sampled: 09/07/16 14:30  
Percent Solids: 94  
Initial Volume: 19.6  
Final Volume: 10  
Extraction Method: 3540C

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-12  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: SMR  
Prepared: 9/7/16 18:03

**8082A Polychlorinated Biphenyls (PCB)**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.0544)		8082A		1	09/08/16 21:48		CI60709
Aroclor 1221	ND (0.0544)		8082A		1	09/08/16 21:48		CI60709
Aroclor 1232	ND (0.0544)		8082A		1	09/08/16 21:48		CI60709
Aroclor 1242	ND (0.0544)		8082A		1	09/08/16 21:48		CI60709
Aroclor 1248	ND (0.0544)		8082A		1	09/08/16 21:48		CI60709
Aroclor 1254	ND (0.0544)		8082A		1	09/08/16 21:48		CI60709
Aroclor 1260	ND (0.0544)		8082A		1	09/08/16 21:48		CI60709
Aroclor 1262	ND (0.0544)		8082A		1	09/08/16 21:48		CI60709
Aroclor 1268	ND (0.0544)		8082A		1	09/08/16 21:48		CI60709

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	76 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	89 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	68 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	78 %		30-150



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-37 (3-8)  
Date Sampled: 09/07/16 14:30  
Percent Solids: 94  
Initial Volume: 19.1  
Final Volume: 1  
Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-12  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: ZLC  
Prepared: 9/8/16 14:38

**8100M Total Petroleum Hydrocarbons**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Total Petroleum Hydrocarbons	ND (41.9)		8100M		1	09/10/16 0:44	CZI0119	CI60817
		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				
<i>Surrogate: O-Terphenyl</i>		<i>98 %</i>		<i>40-140</i>				



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-37 (3-8)  
Date Sampled: 09/07/16 14:30  
Percent Solids: 94  
Initial Volume: 15.7  
Final Volume: 0.5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-12  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: IBM  
Prepared: 9/8/16 14:37

**8270D Semi-Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1-Biphenyl	ND (0.339)		8270D		1	09/12/16 20:06	CZI0143	CI60818
1,2,4-Trichlorobenzene	ND (0.339)		8270D		1	09/12/16 20:06	CZI0143	CI60818
1,2-Dichlorobenzene	ND (0.339)		8270D		1	09/12/16 20:06	CZI0143	CI60818
1,3-Dichlorobenzene	ND (0.339)		8270D		1	09/12/16 20:06	CZI0143	CI60818
1,4-Dichlorobenzene	ND (0.339)		8270D		1	09/12/16 20:06	CZI0143	CI60818
2,3,4,6-Tetrachlorophenol	ND (1.70)		8270D		1	09/12/16 20:06	CZI0143	CI60818
2,4,5-Trichlorophenol	ND (0.339)		8270D		1	09/12/16 20:06	CZI0143	CI60818
2,4,6-Trichlorophenol	ND (0.339)		8270D		1	09/12/16 20:06	CZI0143	CI60818
2,4-Dichlorophenol	ND (0.339)		8270D		1	09/12/16 20:06	CZI0143	CI60818
2,4-Dimethylphenol	ND (0.339)		8270D		1	09/12/16 20:06	CZI0143	CI60818
2,4-Dinitrophenol	ND (1.70)		8270D		1	09/12/16 20:06	CZI0143	CI60818
2,4-Dinitrotoluene	ND (0.339)		8270D		1	09/12/16 20:06	CZI0143	CI60818
2,6-Dinitrotoluene	ND (0.339)		8270D		1	09/12/16 20:06	CZI0143	CI60818
2-Chloronaphthalene	ND (0.339)		8270D		1	09/12/16 20:06	CZI0143	CI60818
2-Chlorophenol	ND (0.339)		8270D		1	09/12/16 20:06	CZI0143	CI60818
2-Methylnaphthalene	ND (0.339)		8270D		1	09/12/16 20:06	CZI0143	CI60818
2-Methylphenol	ND (0.339)		8270D		1	09/12/16 20:06	CZI0143	CI60818
2-Nitroaniline	ND (0.339)		8270D		1	09/12/16 20:06	CZI0143	CI60818
2-Nitrophenol	ND (0.339)		8270D		1	09/12/16 20:06	CZI0143	CI60818
3,3'-Dichlorobenzidine	ND (0.679)		8270D		1	09/12/16 20:06	CZI0143	CI60818
3+4-Methylphenol	ND (0.679)		8270D		1	09/12/16 20:06	CZI0143	CI60818
3-Nitroaniline	ND (0.339)		8270D		1	09/12/16 20:06	CZI0143	CI60818
4,6-Dinitro-2-Methylphenol	ND (1.70)		8270D		1	09/12/16 20:06	CZI0143	CI60818
4-Bromophenyl-phenylether	ND (0.339)		8270D		1	09/12/16 20:06	CZI0143	CI60818
4-Chloro-3-Methylphenol	ND (0.339)		8270D		1	09/12/16 20:06	CZI0143	CI60818
4-Chloroaniline	ND (0.679)		8270D		1	09/12/16 20:06	CZI0143	CI60818
4-Chloro-phenyl-phenyl ether	ND (0.339)		8270D		1	09/12/16 20:06	CZI0143	CI60818
4-Nitroaniline	ND (0.339)		8270D		1	09/12/16 20:06	CZI0143	CI60818
4-Nitrophenol	ND (1.70)		8270D		1	09/12/16 20:06	CZI0143	CI60818
Acenaphthene	ND (0.339)		8270D		1	09/12/16 20:06	CZI0143	CI60818
Acenaphthylene	ND (0.339)		8270D		1	09/12/16 20:06	CZI0143	CI60818
Acetophenone	ND (0.679)		8270D		1	09/12/16 20:06	CZI0143	CI60818



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-37 (3-8)  
Date Sampled: 09/07/16 14:30  
Percent Solids: 94  
Initial Volume: 15.7  
Final Volume: 0.5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-12  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: IBM  
Prepared: 9/8/16 14:37

**8270D Semi-Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aniline	ND (0.679)		8270D		1	09/12/16 20:06	CZI0143	CI60818
Anthracene	ND (0.339)		8270D		1	09/12/16 20:06	CZI0143	CI60818
Azobenzene	ND (0.339)		8270D		1	09/12/16 20:06	CZI0143	CI60818
Benzo(a)anthracene	ND (0.339)		8270D		1	09/12/16 20:06	CZI0143	CI60818
Benzo(a)pyrene	ND (0.170)		8270D		1	09/12/16 20:06	CZI0143	CI60818
Benzo(b)fluoranthene	ND (0.339)		8270D		1	09/12/16 20:06	CZI0143	CI60818
Benzo(g,h,i)perylene	ND (0.339)		8270D		1	09/12/16 20:06	CZI0143	CI60818
Benzo(k)fluoranthene	ND (0.339)		8270D		1	09/12/16 20:06	CZI0143	CI60818
Benzoic Acid	ND (1.70)		8270D		1	09/12/16 20:06	CZI0143	CI60818
Benzyl Alcohol	ND (0.339)		8270D		1	09/12/16 20:06	CZI0143	CI60818
bis(2-Chloroethoxy)methane	ND (0.339)		8270D		1	09/12/16 20:06	CZI0143	CI60818
bis(2-Chloroethyl)ether	ND (0.339)		8270D		1	09/12/16 20:06	CZI0143	CI60818
bis(2-chloroisopropyl)Ether	ND (0.339)		8270D		1	09/12/16 20:06	CZI0143	CI60818
bis(2-Ethylhexyl)phthalate	ND (0.339)		8270D		1	09/12/16 20:06	CZI0143	CI60818
Butylbenzylphthalate	ND (0.339)		8270D		1	09/12/16 20:06	CZI0143	CI60818
Carbazole	ND (0.339)		8270D		1	09/12/16 20:06	CZI0143	CI60818
Chrysene	ND (0.170)		8270D		1	09/12/16 20:06	CZI0143	CI60818
Dibenzo(a,h)Anthracene	ND (0.170)		8270D		1	09/12/16 20:06	CZI0143	CI60818
Dibenzofuran	ND (0.339)		8270D		1	09/12/16 20:06	CZI0143	CI60818
Diethylphthalate	ND (0.339)		8270D		1	09/12/16 20:06	CZI0143	CI60818
Dimethylphthalate	ND (0.339)		8270D		1	09/12/16 20:06	CZI0143	CI60818
Di-n-butylphthalate	ND (0.339)		8270D		1	09/12/16 20:06	CZI0143	CI60818
Di-n-octylphthalate	ND (0.339)		8270D		1	09/12/16 20:06	CZI0143	CI60818
Fluoranthene	ND (0.339)		8270D		1	09/12/16 20:06	CZI0143	CI60818
Fluorene	ND (0.339)		8270D		1	09/12/16 20:06	CZI0143	CI60818
Hexachlorobenzene	ND (0.170)		8270D		1	09/12/16 20:06	CZI0143	CI60818
Hexachlorobutadiene	ND (0.339)		8270D		1	09/12/16 20:06	CZI0143	CI60818
Hexachlorocyclopentadiene	ND (1.70)		8270D		1	09/12/16 20:06	CZI0143	CI60818
Hexachloroethane	ND (0.339)		8270D		1	09/12/16 20:06	CZI0143	CI60818
Indeno(1,2,3-cd)Pyrene	ND (0.339)		8270D		1	09/12/16 20:06	CZI0143	CI60818
Isophorone	ND (0.339)		8270D		1	09/12/16 20:06	CZI0143	CI60818
Naphthalene	ND (0.339)		8270D		1	09/12/16 20:06	CZI0143	CI60818



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-37 (3-8)  
Date Sampled: 09/07/16 14:30  
Percent Solids: 94  
Initial Volume: 15.7  
Final Volume: 0.5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-12  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: IBM  
Prepared: 9/8/16 14:37

**8270D Semi-Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Nitrobenzene	ND (0.339)		8270D		1	09/12/16 20:06	CZI0143	CI60818
N-Nitrosodimethylamine	ND (0.339)		8270D		1	09/12/16 20:06	CZI0143	CI60818
N-Nitroso-Di-n-Propylamine	ND (0.339)		8270D		1	09/12/16 20:06	CZI0143	CI60818
N-nitrosodiphenylamine	ND (0.339)		8270D		1	09/12/16 20:06	CZI0143	CI60818
Pentachlorophenol	ND (1.70)		8270D		1	09/12/16 20:06	CZI0143	CI60818
Phenanthrene	ND (0.339)		8270D		1	09/12/16 20:06	CZI0143	CI60818
Phenol	ND (0.339)		8270D		1	09/12/16 20:06	CZI0143	CI60818
Pyrene	ND (0.339)		8270D		1	09/12/16 20:06	CZI0143	CI60818
Pyridine	ND (1.70)		8270D		1	09/12/16 20:06	CZI0143	CI60818

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	73 %		30-130
<i>Surrogate: 2,4,6-Tribromophenol</i>	100 %		30-130
<i>Surrogate: 2-Chlorophenol-d4</i>	79 %		30-130
<i>Surrogate: 2-Fluorobiphenyl</i>	76 %		30-130
<i>Surrogate: 2-Fluorophenol</i>	78 %		30-130
<i>Surrogate: Nitrobenzene-d5</i>	82 %		30-130
<i>Surrogate: Phenol-d6</i>	85 %		30-130
<i>Surrogate: p-Terphenyl-d14</i>	85 %		30-130



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-37 (3-8)  
Date Sampled: 09/07/16 14:30  
Percent Solids: 94

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-12  
Sample Matrix: Soil

**Classical Chemistry**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>	<u>Batch</u>
Hexavalent Chromium	ND (0.4)		7196A		1	EEM	09/12/16 15:30	mg/kg dry	CI61224
Total Cyanide	ND (1.07)		9014		1	JLK	09/09/16 17:25	mg/kg dry	CI60931



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: COMP-3  
Date Sampled: 09/07/16 14:45  
Percent Solids: 91

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-13  
Sample Matrix: Soil  
Units: mg/kg dry

Extraction Method: 3050B

**Total Metals**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Antimony	ND (0.48)		6020A		20	NAR	09/12/16 14:53	2.31	100	CI60906
Arsenic	ND (2.39)		6010C		1	KJK	09/10/16 0:16	2.31	100	CI60906
<b>Barium</b>	<b>17.3</b> (2.39)		6010C		1	KJK	09/10/16 0:16	2.31	100	CI60906
<b>Beryllium</b>	<b>0.53</b> (0.11)		6010C		1	KJK	09/10/16 0:16	2.31	100	CI60906
Cadmium	ND (0.48)		6010C		1	KJK	09/10/16 0:16	2.31	100	CI60906
<b>Chromium</b>	<b>1.73</b> (0.95)		6010C		1	KJK	09/10/16 0:16	2.31	100	CI60906
<b>Chromium (III)</b>	<b>1.73</b> (0.95)		Calc		1	EEM	09/12/16 15:30	1	1	[CALC]
<b>Copper</b>	<b>12.8</b> (2.39)		6010C		1	KJK	09/10/16 0:16	2.31	100	CI60906
<b>Lead</b>	<b>44.0</b> (4.77)		6010C		1	KJK	09/10/16 0:16	2.31	100	CI60906
<b>Manganese</b>	<b>83.8</b> (0.95)		6010C		1	KJK	09/10/16 0:16	2.31	100	CI60906
<b>Mercury</b>	<b>0.050</b> (0.031)		7471B		1	KJK	09/09/16 12:17	0.7	40	CI60844
<b>Nickel</b>	<b>3.22</b> (2.39)		6010C		1	KJK	09/10/16 0:16	2.31	100	CI60906
<b>Selenium</b>	<b>0.57</b> (0.48)		6020A		20	NAR	09/12/16 14:53	2.31	100	CI60906
Silver	ND (0.48)		6010C		1	KJK	09/10/16 0:16	2.31	100	CI60906
Thallium	ND (0.48)		6020A		20	NAR	09/12/16 14:53	2.31	100	CI60906
<b>Vanadium</b>	<b>7.33</b> (0.95)		6010C		1	KJK	09/10/16 0:16	2.31	100	CI60906
<b>Zinc</b>	<b>30.0</b> (2.39)		6010C		1	KJK	09/10/16 0:16	2.31	100	CI60906



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
 Client Project ID: Hope Mill  
 Client Sample ID: COMP-3  
 Date Sampled: 09/07/16 14:45  
 Percent Solids: 91  
 Initial Volume: 6.6  
 Final Volume: 10  
 Extraction Method: 5035

ESS Laboratory Work Order: 1609117  
 ESS Laboratory Sample ID: 1609117-13  
 Sample Matrix: Soil  
 Units: mg/kg dry  
 Analyst: MD

**5035/8260B Volatile Organic Compounds / Low Level**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
1,1,1-Trichloroethane	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
1,1,2,2-Tetrachloroethane	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
1,1,2-Trichloroethane	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
1,1-Dichloroethane	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
1,1-Dichloroethene	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
1,1-Dichloropropene	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
1,2,3-Trichlorobenzene	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
1,2,3-Trichloropropane	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
1,2,4-Trichlorobenzene	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
1,2,4-Trimethylbenzene	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
1,2-Dibromo-3-Chloropropane	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
1,2-Dibromoethane	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
1,2-Dichlorobenzene	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
1,2-Dichloroethane	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
1,2-Dichloropropane	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
1,3,5-Trimethylbenzene	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
1,3-Dichlorobenzene	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
1,3-Dichloropropane	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
1,4-Dichlorobenzene	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
1,4-Dioxane	ND (0.0835)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
1-Chlorohexane	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
2,2-Dichloropropane	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
2-Butanone	ND (0.0418)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
2-Chlorotoluene	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
2-Hexanone	ND (0.0418)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
4-Chlorotoluene	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
4-Isopropyltoluene	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
4-Methyl-2-Pentanone	ND (0.0418)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
Acetone	ND (0.0418)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
Benzene	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
Bromobenzene	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229





*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: COMP-3  
Date Sampled: 09/07/16 14:45  
Percent Solids: 91  
Initial Volume: 6.6  
Final Volume: 10  
Extraction Method: 5035

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-13  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: MD

**5035/8260B Volatile Organic Compounds / Low Level**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
Bromodichloromethane	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
Bromoform	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
Bromomethane	ND (0.0084)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
Carbon Disulfide	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
Carbon Tetrachloride	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
Chlorobenzene	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
Chloroethane	ND (0.0084)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
Chloroform	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
Chloromethane	ND (0.0084)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
cis-1,2-Dichloroethene	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
cis-1,3-Dichloropropene	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
Dibromochloromethane	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
Dibromomethane	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
Dichlorodifluoromethane	ND (0.0084)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
Diethyl Ether	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
Di-isopropyl ether	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
Ethyl tertiary-butyl ether	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
Ethylbenzene	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
Hexachlorobutadiene	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
Isopropylbenzene	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
Methyl tert-Butyl Ether	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
Methylene Chloride	ND (0.0209)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
Naphthalene	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
n-Butylbenzene	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
n-Propylbenzene	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
sec-Butylbenzene	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
Styrene	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
tert-Butylbenzene	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
Tertiary-amyl methyl ether	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
Tetrachloroethene	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
Tetrahydrofuran	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: COMP-3  
Date Sampled: 09/07/16 14:45  
Percent Solids: 91  
Initial Volume: 6.6  
Final Volume: 10  
Extraction Method: 5035

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-13  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: MD

**5035/8260B Volatile Organic Compounds / Low Level**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Toluene	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
trans-1,2-Dichloroethene	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
trans-1,3-Dichloropropene	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
Trichloroethene	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
Trichlorofluoromethane	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
Vinyl Acetate	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
Vinyl Chloride	ND (0.0084)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
Xylene O	ND (0.0042)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
Xylene P,M	ND (0.0084)		8260B Low		1	09/12/16 18:12	CZI0150	CI61229
Xylenes (Total)	ND (0.0084)		8260B Low		1	09/12/16 18:12		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>86 %</i>		<i>70-130</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>89 %</i>		<i>70-130</i>
<i>Surrogate: Dibromofluoromethane</i>	<i>88 %</i>		<i>70-130</i>
<i>Surrogate: Toluene-d8</i>	<i>94 %</i>		<i>70-130</i>



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: COMP-3  
Date Sampled: 09/07/16 14:45  
Percent Solids: 91  
Initial Volume: 19.7  
Final Volume: 5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-13  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: IBM  
Prepared: 9/8/16 10:08

**8081B Organochlorine Pesticides**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
4,4'-DDD	ND (0.0028)		8081B		1	09/08/16 18:17	CZI0092	CI60713
4,4'-DDE	ND (0.0028)		8081B		1	09/08/16 18:17	CZI0092	CI60713
4,4'-DDT	ND (0.0028)		8081B		1	09/08/16 18:17	CZI0092	CI60713
Aldrin	ND (0.0028)		8081B		1	09/08/16 18:17	CZI0092	CI60713
alpha-BHC	ND (0.0028)		8081B		1	09/08/16 18:17	CZI0092	CI60713
alpha-Chlordane	ND (0.0028)		8081B		1	09/08/16 18:17	CZI0092	CI60713
beta-BHC	ND (0.0028)		8081B		1	09/08/16 18:17	CZI0092	CI60713
Chlordane (Total)	ND (0.0336)		8081B		1	09/08/16 18:17	CZI0092	CI60713
delta-BHC	ND (0.0028)		8081B		1	09/08/16 18:17	CZI0092	CI60713
Dieldrin	ND (0.0028)		8081B		1	09/08/16 18:17	CZI0092	CI60713
Endosulfan I	ND (0.0028)		8081B		1	09/08/16 18:17	CZI0092	CI60713
Endosulfan II	ND (0.0028)		8081B		1	09/08/16 18:17	CZI0092	CI60713
Endosulfan Sulfate	ND (0.0028)		8081B		1	09/08/16 18:17	CZI0092	CI60713
Endrin	ND (0.0028)		8081B		1	09/08/16 18:17	CZI0092	CI60713
Endrin Aldehyde	ND (0.0028)		8081B		1	09/08/16 18:17	CZI0092	CI60713
Endrin Ketone	ND (0.0028)		8081B		1	09/08/16 18:17	CZI0092	CI60713
gamma-BHC (Lindane)	ND (0.0017)		8081B		1	09/08/16 18:17	CZI0092	CI60713
gamma-Chlordane	ND (0.0028)		8081B		1	09/08/16 18:17	CZI0092	CI60713
Heptachlor	ND (0.0028)		8081B		1	09/08/16 18:17	CZI0092	CI60713
Heptachlor Epoxide	ND (0.0028)		8081B		1	09/08/16 18:17	CZI0092	CI60713
Hexachlorobenzene	ND (0.0028)		8081B		1	09/08/16 18:17	CZI0092	CI60713
Methoxychlor	ND (0.0028)		8081B		1	09/08/16 18:17	CZI0092	CI60713
Toxaphene	ND (0.140)		8081B		1	09/08/16 18:17	CZI0092	CI60713

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	<i>98 %</i>		<i>30-150</i>
<i>Surrogate: Decachlorobiphenyl [2C]</i>	<i>92 %</i>		<i>30-150</i>
<i>Surrogate: Tetrachloro-m-xylene</i>	<i>86 %</i>		<i>30-150</i>
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	<i>87 %</i>		<i>30-150</i>



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: COMP-3  
Date Sampled: 09/07/16 14:45  
Percent Solids: 91  
Initial Volume: 19.4  
Final Volume: 10  
Extraction Method: 3540C

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-13  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: SMR  
Prepared: 9/7/16 18:03

**8082A Polychlorinated Biphenyls (PCB)**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.0568)		8082A		1	09/08/16 22:07		CI60709
Aroclor 1221	ND (0.0568)		8082A		1	09/08/16 22:07		CI60709
Aroclor 1232	ND (0.0568)		8082A		1	09/08/16 22:07		CI60709
Aroclor 1242	ND (0.0568)		8082A		1	09/08/16 22:07		CI60709
Aroclor 1248	ND (0.0568)		8082A		1	09/08/16 22:07		CI60709
<b>Aroclor 1254</b>	<b>0.406</b> (0.0568)		8082A		1	09/08/16 22:07		CI60709
Aroclor 1260	ND (0.0568)		8082A		1	09/08/16 22:07		CI60709
Aroclor 1262	ND (0.0568)		8082A		1	09/08/16 22:07		CI60709
Aroclor 1268	ND (0.0568)		8082A		1	09/08/16 22:07		CI60709

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	71 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	81 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	65 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	75 %		30-150



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: COMP-3  
Date Sampled: 09/07/16 14:45  
Percent Solids: 91  
Initial Volume: 19.3  
Final Volume: 1  
Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-13  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: DPS  
Prepared: 9/8/16 14:38

**8100M Total Petroleum Hydrocarbons**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Total Petroleum Hydrocarbons	ND (42.9)		8100M		1	09/09/16 18:27	CZI0103	CI60817
		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				
<i>Surrogate: O-Terphenyl</i>		<i>98 %</i>		<i>40-140</i>				



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: COMP-3  
Date Sampled: 09/07/16 14:45  
Percent Solids: 91  
Initial Volume: 14.3  
Final Volume: 0.5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-13  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: IBM  
Prepared: 9/8/16 14:37

**8270D Semi-Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1-Biphenyl	ND (0.385)		8270D		1	09/12/16 20:43	CZI0143	CI60818
1,2,4-Trichlorobenzene	ND (0.385)		8270D		1	09/12/16 20:43	CZI0143	CI60818
1,2-Dichlorobenzene	ND (0.385)		8270D		1	09/12/16 20:43	CZI0143	CI60818
1,3-Dichlorobenzene	ND (0.385)		8270D		1	09/12/16 20:43	CZI0143	CI60818
1,4-Dichlorobenzene	ND (0.385)		8270D		1	09/12/16 20:43	CZI0143	CI60818
2,3,4,6-Tetrachlorophenol	ND (1.93)		8270D		1	09/12/16 20:43	CZI0143	CI60818
2,4,5-Trichlorophenol	ND (0.385)		8270D		1	09/12/16 20:43	CZI0143	CI60818
2,4,6-Trichlorophenol	ND (0.385)		8270D		1	09/12/16 20:43	CZI0143	CI60818
2,4-Dichlorophenol	ND (0.385)		8270D		1	09/12/16 20:43	CZI0143	CI60818
2,4-Dimethylphenol	ND (0.385)		8270D		1	09/12/16 20:43	CZI0143	CI60818
2,4-Dinitrophenol	ND (1.93)		8270D		1	09/12/16 20:43	CZI0143	CI60818
2,4-Dinitrotoluene	ND (0.385)		8270D		1	09/12/16 20:43	CZI0143	CI60818
2,6-Dinitrotoluene	ND (0.385)		8270D		1	09/12/16 20:43	CZI0143	CI60818
2-Chloronaphthalene	ND (0.385)		8270D		1	09/12/16 20:43	CZI0143	CI60818
2-Chlorophenol	ND (0.385)		8270D		1	09/12/16 20:43	CZI0143	CI60818
2-Methylnaphthalene	ND (0.385)		8270D		1	09/12/16 20:43	CZI0143	CI60818
2-Methylphenol	ND (0.385)		8270D		1	09/12/16 20:43	CZI0143	CI60818
2-Nitroaniline	ND (0.385)		8270D		1	09/12/16 20:43	CZI0143	CI60818
2-Nitrophenol	ND (0.385)		8270D		1	09/12/16 20:43	CZI0143	CI60818
3,3'-Dichlorobenzidine	ND (0.772)		8270D		1	09/12/16 20:43	CZI0143	CI60818
3+4-Methylphenol	ND (0.772)		8270D		1	09/12/16 20:43	CZI0143	CI60818
3-Nitroaniline	ND (0.385)		8270D		1	09/12/16 20:43	CZI0143	CI60818
4,6-Dinitro-2-Methylphenol	ND (1.93)		8270D		1	09/12/16 20:43	CZI0143	CI60818
4-Bromophenyl-phenylether	ND (0.385)		8270D		1	09/12/16 20:43	CZI0143	CI60818
4-Chloro-3-Methylphenol	ND (0.385)		8270D		1	09/12/16 20:43	CZI0143	CI60818
4-Chloroaniline	ND (0.772)		8270D		1	09/12/16 20:43	CZI0143	CI60818
4-Chloro-phenyl-phenyl ether	ND (0.385)		8270D		1	09/12/16 20:43	CZI0143	CI60818
4-Nitroaniline	ND (0.385)		8270D		1	09/12/16 20:43	CZI0143	CI60818
4-Nitrophenol	ND (1.93)		8270D		1	09/12/16 20:43	CZI0143	CI60818
Acenaphthene	ND (0.385)		8270D		1	09/12/16 20:43	CZI0143	CI60818
Acenaphthylene	ND (0.385)		8270D		1	09/12/16 20:43	CZI0143	CI60818
Acetophenone	ND (0.772)		8270D		1	09/12/16 20:43	CZI0143	CI60818



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: COMP-3  
Date Sampled: 09/07/16 14:45  
Percent Solids: 91  
Initial Volume: 14.3  
Final Volume: 0.5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-13  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: IBM  
Prepared: 9/8/16 14:37

**8270D Semi-Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aniline	ND (0.772)		8270D		1	09/12/16 20:43	CZI0143	CI60818
Anthracene	ND (0.385)		8270D		1	09/12/16 20:43	CZI0143	CI60818
Azobenzene	ND (0.385)		8270D		1	09/12/16 20:43	CZI0143	CI60818
Benzo(a)anthracene	ND (0.385)		8270D		1	09/12/16 20:43	CZI0143	CI60818
<b>Benzo(a)pyrene</b>	<b>0.205</b> (0.193)		8270D		1	09/12/16 20:43	CZI0143	CI60818
Benzo(b)fluoranthene	ND (0.385)		8270D		1	09/12/16 20:43	CZI0143	CI60818
Benzo(g,h,i)perylene	ND (0.385)		8270D		1	09/12/16 20:43	CZI0143	CI60818
Benzo(k)fluoranthene	ND (0.385)		8270D		1	09/12/16 20:43	CZI0143	CI60818
Benzoic Acid	ND (1.93)		8270D		1	09/12/16 20:43	CZI0143	CI60818
Benzyl Alcohol	ND (0.385)		8270D		1	09/12/16 20:43	CZI0143	CI60818
bis(2-Chloroethoxy)methane	ND (0.385)		8270D		1	09/12/16 20:43	CZI0143	CI60818
bis(2-Chloroethyl)ether	ND (0.385)		8270D		1	09/12/16 20:43	CZI0143	CI60818
bis(2-chloroisopropyl)Ether	ND (0.385)		8270D		1	09/12/16 20:43	CZI0143	CI60818
bis(2-Ethylhexyl)phthalate	ND (0.385)		8270D		1	09/12/16 20:43	CZI0143	CI60818
Butylbenzylphthalate	ND (0.385)		8270D		1	09/12/16 20:43	CZI0143	CI60818
Carbazole	ND (0.385)		8270D		1	09/12/16 20:43	CZI0143	CI60818
<b>Chrysene</b>	<b>0.235</b> (0.193)		8270D		1	09/12/16 20:43	CZI0143	CI60818
Dibenzo(a,h)Anthracene	ND (0.193)		8270D		1	09/12/16 20:43	CZI0143	CI60818
Dibenzofuran	ND (0.385)		8270D		1	09/12/16 20:43	CZI0143	CI60818
Diethylphthalate	ND (0.385)		8270D		1	09/12/16 20:43	CZI0143	CI60818
Dimethylphthalate	ND (0.385)		8270D		1	09/12/16 20:43	CZI0143	CI60818
Di-n-butylphthalate	ND (0.385)		8270D		1	09/12/16 20:43	CZI0143	CI60818
Di-n-octylphthalate	ND (0.385)		8270D		1	09/12/16 20:43	CZI0143	CI60818
<b>Fluoranthene</b>	<b>0.420</b> (0.385)		8270D		1	09/12/16 20:43	CZI0143	CI60818
Fluorene	ND (0.385)		8270D		1	09/12/16 20:43	CZI0143	CI60818
Hexachlorobenzene	ND (0.193)		8270D		1	09/12/16 20:43	CZI0143	CI60818
Hexachlorobutadiene	ND (0.385)		8270D		1	09/12/16 20:43	CZI0143	CI60818
Hexachlorocyclopentadiene	ND (1.93)		8270D		1	09/12/16 20:43	CZI0143	CI60818
Hexachloroethane	ND (0.385)		8270D		1	09/12/16 20:43	CZI0143	CI60818
Indeno(1,2,3-cd)Pyrene	ND (0.385)		8270D		1	09/12/16 20:43	CZI0143	CI60818
Isophorone	ND (0.385)		8270D		1	09/12/16 20:43	CZI0143	CI60818
Naphthalene	ND (0.385)		8270D		1	09/12/16 20:43	CZI0143	CI60818





*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: COMP-3  
Date Sampled: 09/07/16 14:45  
Percent Solids: 91  
Initial Volume: 14.3  
Final Volume: 0.5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-13  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: IBM  
Prepared: 9/8/16 14:37

**8270D Semi-Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Nitrobenzene	ND (0.385)		8270D		1	09/12/16 20:43	CZI0143	CI60818
N-Nitrosodimethylamine	ND (0.385)		8270D		1	09/12/16 20:43	CZI0143	CI60818
N-Nitroso-Di-n-Propylamine	ND (0.385)		8270D		1	09/12/16 20:43	CZI0143	CI60818
N-nitrosodiphenylamine	ND (0.385)		8270D		1	09/12/16 20:43	CZI0143	CI60818
Pentachlorophenol	ND (1.93)		8270D		1	09/12/16 20:43	CZI0143	CI60818
Phenanthrene	ND (0.385)		8270D		1	09/12/16 20:43	CZI0143	CI60818
Phenol	ND (0.385)		8270D		1	09/12/16 20:43	CZI0143	CI60818
Pyrene	ND (0.385)		8270D		1	09/12/16 20:43	CZI0143	CI60818
Pyridine	ND (1.93)		8270D		1	09/12/16 20:43	CZI0143	CI60818

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	57 %		30-130
<i>Surrogate: 2,4,6-Tribromophenol</i>	77 %		30-130
<i>Surrogate: 2-Chlorophenol-d4</i>	63 %		30-130
<i>Surrogate: 2-Fluorobiphenyl</i>	62 %		30-130
<i>Surrogate: 2-Fluorophenol</i>	62 %		30-130
<i>Surrogate: Nitrobenzene-d5</i>	63 %		30-130
<i>Surrogate: Phenol-d6</i>	69 %		30-130
<i>Surrogate: p-Terphenyl-d14</i>	67 %		30-130





*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: COMP-3  
Date Sampled: 09/07/16 14:45  
Percent Solids: 91

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-13  
Sample Matrix: Soil

**Classical Chemistry**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>	<u>Batch</u>
Hexavalent Chromium	ND (0.4)		7196A		1	EEM	09/12/16 15:30	mg/kg dry	CI61224
Total Cyanide	ND (1.06)		9014		1	JLK	09/09/16 17:25	mg/kg dry	CI60931



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-46 (8)  
Date Sampled: 09/07/16 15:00  
Percent Solids: 88  
Initial Volume: 7.6  
Final Volume: 10  
Extraction Method: 5035

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-14  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: MD

**5035/8260B Volatile Organic Compounds / Low Level**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
1,1,1-Trichloroethane	ND (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
1,1,2,2-Tetrachloroethane	ND (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
1,1,2-Trichloroethane	ND (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
1,1-Dichloroethane	ND (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
1,1-Dichloroethene	ND (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
1,1-Dichloropropene	ND (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
1,2,3-Trichlorobenzene	ND (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
1,2,3-Trichloropropane	ND (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
1,2,4-Trichlorobenzene	ND (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
<b>1,2,4-Trimethylbenzene</b>	<b>0.0050</b> (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
1,2-Dibromo-3-Chloropropane	ND (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
1,2-Dibromoethane	ND (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
1,2-Dichlorobenzene	ND (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
1,2-Dichloroethane	ND (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
1,2-Dichloropropane	ND (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
1,3,5-Trimethylbenzene	ND (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
1,3-Dichlorobenzene	ND (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
1,3-Dichloropropane	ND (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
1,4-Dichlorobenzene	ND (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
1,4-Dioxane	ND (0.0748)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
1-Chlorohexane	ND (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
2,2-Dichloropropane	ND (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
2-Butanone	ND (0.0374)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
2-Chlorotoluene	ND (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
2-Hexanone	ND (0.0374)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
4-Chlorotoluene	ND (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
4-Isopropyltoluene	ND (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
4-Methyl-2-Pentanone	ND (0.0374)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
Acetone	ND (0.0374)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
Benzene	ND (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
Bromobenzene	ND (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-46 (8)  
Date Sampled: 09/07/16 15:00  
Percent Solids: 88  
Initial Volume: 7.6  
Final Volume: 10  
Extraction Method: 5035

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-14  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: MD

**5035/8260B Volatile Organic Compounds / Low Level**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
Bromodichloromethane	ND (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
Bromoform	ND (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
Bromomethane	ND (0.0075)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
Carbon Disulfide	ND (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
Carbon Tetrachloride	ND (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
Chlorobenzene	ND (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
Chloroethane	ND (0.0075)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
Chloroform	ND (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
Chloromethane	ND (0.0075)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
cis-1,2-Dichloroethene	ND (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
cis-1,3-Dichloropropene	ND (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
Dibromochloromethane	ND (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
Dibromomethane	ND (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
Dichlorodifluoromethane	ND (0.0075)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
Diethyl Ether	ND (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
Di-isopropyl ether	ND (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
Ethyl tertiary-butyl ether	ND (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
Ethylbenzene	ND (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
Hexachlorobutadiene	ND (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
<b>Isopropylbenzene</b>	<b>0.0047</b> (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
Methyl tert-Butyl Ether	ND (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
Methylene Chloride	ND (0.0187)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
<b>Naphthalene</b>	<b>0.0058</b> (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
<b>n-Butylbenzene</b>	<b>0.0081</b> (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
n-Propylbenzene	ND (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
<b>sec-Butylbenzene</b>	<b>0.0059</b> (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
Styrene	ND (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
tert-Butylbenzene	ND (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
Tertiary-amyl methyl ether	ND (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
Tetrachloroethene	ND (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
Tetrahydrofuran	ND (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-46 (8)  
Date Sampled: 09/07/16 15:00  
Percent Solids: 88  
Initial Volume: 7.6  
Final Volume: 10  
Extraction Method: 5035

ESS Laboratory Work Order: 1609117  
ESS Laboratory Sample ID: 1609117-14  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: MD

**5035/8260B Volatile Organic Compounds / Low Level**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Toluene	ND (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
trans-1,2-Dichloroethene	ND (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
trans-1,3-Dichloropropene	ND (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
Trichloroethene	ND (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
Trichlorofluoromethane	ND (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
Vinyl Acetate	ND (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
Vinyl Chloride	ND (0.0075)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
Xylene O	ND (0.0037)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
Xylene P,M	ND (0.0075)		8260B Low		1	09/12/16 18:39	CZI0150	CI61229
Xylenes (Total)	ND (0.0075)		8260B Low		1	09/12/16 18:39		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>91 %</i>		<i>70-130</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>82 %</i>		<i>70-130</i>
<i>Surrogate: Dibromofluoromethane</i>	<i>92 %</i>		<i>70-130</i>
<i>Surrogate: Toluene-d8</i>	<i>94 %</i>		<i>70-130</i>



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609117

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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**Total Metals**

**Batch CI60844 - 7471B**

**Blank**

Mercury	ND	0.033	mg/kg wet							
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**LCS**

Mercury	20.2	1.71	mg/kg wet	15.90		127	51-148			
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**LCS Dup**

Mercury	20.0	1.87	mg/kg wet	15.90		126	51-148	1	20	
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**Batch CI60906 - 3050B**

**Blank**

Antimony	ND	0.50	mg/kg wet							
Arsenic	ND	2.50	mg/kg wet							
Barium	ND	2.50	mg/kg wet							
Beryllium	ND	0.11	mg/kg wet							
Cadmium	ND	0.50	mg/kg wet							
Chromium	ND	1.00	mg/kg wet							
Chromium	ND	1.00	mg/kg wet							
Chromium (III)	ND	1.00	mg/kg wet							
Copper	ND	2.50	mg/kg wet							
Lead	ND	5.00	mg/kg wet							
Manganese	ND	1.00	mg/kg wet							
Nickel	ND	2.50	mg/kg wet							
Selenium	ND	0.50	mg/kg wet							
Silver	ND	0.50	mg/kg wet							
Thallium	ND	0.50	mg/kg wet							
Vanadium	ND	1.00	mg/kg wet							
Zinc	ND	2.50	mg/kg wet							

**LCS**

Antimony	147	21.6	mg/kg wet	100.0		147	19-257			
Arsenic	143	8.62	mg/kg wet	161.0		89	80-120			
Barium	383	8.62	mg/kg wet	351.0		109	80-120			
Beryllium	82.9	0.38	mg/kg wet	89.40		93	80-120			
Cadmium	182	1.72	mg/kg wet	190.0		96	80-120			
Chromium	84.7	3.45	mg/kg wet	87.90		96	80-120			
Chromium	84.7	3.45	mg/kg wet	87.90		96	80-120			
Chromium (III)	84.7	3.45	mg/kg wet							
Copper	248	8.62	mg/kg wet	258.0		96	80-120			
Lead	133	17.2	mg/kg wet	138.0		96	80-120			
Nickel	124	8.62	mg/kg wet	127.0		98	80-120			
Selenium	343	21.6	mg/kg wet	305.0		113	80-120			
Silver	56.7	1.72	mg/kg wet	58.00		98	80-120			
Thallium	95.2	21.6	mg/kg wet	89.80		106	80-120			
Vanadium	80.7	3.45	mg/kg wet	81.60		99	80-120			
Zinc	156	8.62	mg/kg wet	173.0		90	80-120			

**LCS**

Manganese	394	3.64	mg/kg wet	452.0		87	80-120			
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*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609117

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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**Total Metals**

**Batch CI60906 - 3050B**

**LCS Dup**

Antimony	147	22.7	mg/kg wet	100.0		147	19-257	0.3	30	
Arsenic	148	9.09	mg/kg wet	161.0		92	80-120	3	20	
Barium	341	9.09	mg/kg wet	351.0		97	80-120	11	20	
Beryllium	85.6	0.40	mg/kg wet	89.40		96	80-120	3	20	
Cadmium	186	1.82	mg/kg wet	190.0		98	80-120	2	20	
Chromium	85.9	3.64	mg/kg wet	87.90		98	80-120	1	20	
Chromium	85.9	3.64	mg/kg wet	87.90		98	80-120	1	20	
Chromium (III)	85.9	3.64	mg/kg wet							
Copper	259	9.09	mg/kg wet	258.0		100	80-120	4	20	
Lead	134	18.2	mg/kg wet	138.0		97	80-120	1	20	
Nickel	129	9.09	mg/kg wet	127.0		101	80-120	4	20	
Selenium	350	22.7	mg/kg wet	305.0		115	80-120	2	30	
Silver	58.7	1.82	mg/kg wet	58.00		101	80-120	3	20	
Thallium	97.0	22.7	mg/kg wet	89.80		108	80-120	2	30	
Vanadium	82.0	3.64	mg/kg wet	81.60		101	80-120	2	20	
Zinc	161	9.09	mg/kg wet	173.0		93	80-120	3	20	

**LCS Dup**

Manganese	383	3.77	mg/kg wet	452.0		85	80-120	3	20	
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**Batch CI61224 - [CALC]**

**Blank**

Chromium (III)	ND	0.70	mg/kg wet							
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**LCS**

Chromium (III)	ND	0.70	mg/kg wet							
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**LCS Dup**

Chromium (III)	ND	0.70	mg/kg wet							
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**Reference**

Chromium (III)	ND	2.00	mg/kg wet							
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**5035/8260B Volatile Organic Compounds / Low Level**

**Batch CI60938 - 5035**

**Blank**

1,1,1,2-Tetrachloroethane	ND	0.0050	mg/kg wet							
1,1,1-Trichloroethane	ND	0.0050	mg/kg wet							
1,1,2,2-Tetrachloroethane	ND	0.0050	mg/kg wet							
1,1,2-Trichloroethane	ND	0.0050	mg/kg wet							
1,1-Dichloroethane	ND	0.0050	mg/kg wet							
1,1-Dichloroethene	ND	0.0050	mg/kg wet							
1,1-Dichloropropene	ND	0.0050	mg/kg wet							
1,2,3-Trichlorobenzene	ND	0.0050	mg/kg wet							
1,2,3-Trichloropropane	ND	0.0050	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.0050	mg/kg wet							
1,2,4-Trimethylbenzene	ND	0.0050	mg/kg wet							



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609117

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

**Batch CI60938 - 5035**

1,2-Dibromo-3-Chloropropane	ND	0.0050	mg/kg wet
1,2-Dibromoethane	ND	0.0050	mg/kg wet
1,2-Dichlorobenzene	ND	0.0050	mg/kg wet
1,2-Dichloroethane	ND	0.0050	mg/kg wet
1,2-Dichloropropane	ND	0.0050	mg/kg wet
1,3,5-Trimethylbenzene	ND	0.0050	mg/kg wet
1,3-Dichlorobenzene	ND	0.0050	mg/kg wet
1,3-Dichloropropane	ND	0.0050	mg/kg wet
1,4-Dichlorobenzene	ND	0.0050	mg/kg wet
1,4-Dioxane	ND	0.100	mg/kg wet
1-Chlorohexane	ND	0.0050	mg/kg wet
2,2-Dichloropropane	ND	0.0050	mg/kg wet
2-Butanone	ND	0.0500	mg/kg wet
2-Chlorotoluene	ND	0.0050	mg/kg wet
2-Hexanone	ND	0.0500	mg/kg wet
4-Chlorotoluene	ND	0.0050	mg/kg wet
4-Isopropyltoluene	ND	0.0050	mg/kg wet
4-Methyl-2-Pentanone	ND	0.0500	mg/kg wet
Acetone	ND	0.0500	mg/kg wet
Benzene	ND	0.0050	mg/kg wet
Bromobenzene	ND	0.0050	mg/kg wet
Bromochloromethane	ND	0.0050	mg/kg wet
Bromodichloromethane	ND	0.0050	mg/kg wet
Bromoform	ND	0.0050	mg/kg wet
Bromomethane	ND	0.0100	mg/kg wet
Carbon Disulfide	ND	0.0050	mg/kg wet
Carbon Tetrachloride	ND	0.0050	mg/kg wet
Chlorobenzene	ND	0.0050	mg/kg wet
Chloroethane	ND	0.0100	mg/kg wet
Chloroform	ND	0.0050	mg/kg wet
Chloromethane	ND	0.0100	mg/kg wet
cis-1,2-Dichloroethene	ND	0.0050	mg/kg wet
cis-1,3-Dichloropropene	ND	0.0050	mg/kg wet
Dibromochloromethane	ND	0.0050	mg/kg wet
Dibromomethane	ND	0.0050	mg/kg wet
Dichlorodifluoromethane	ND	0.0100	mg/kg wet
Diethyl Ether	ND	0.0050	mg/kg wet
Di-isopropyl ether	ND	0.0050	mg/kg wet
Ethyl tertiary-butyl ether	ND	0.0050	mg/kg wet
Ethylbenzene	ND	0.0050	mg/kg wet
Hexachlorobutadiene	ND	0.0050	mg/kg wet
Isopropylbenzene	ND	0.0050	mg/kg wet
Methyl tert-Butyl Ether	ND	0.0050	mg/kg wet
Methylene Chloride	ND	0.0250	mg/kg wet
Naphthalene	ND	0.0050	mg/kg wet



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609117

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

**Batch C160938 - 5035**

n-Butylbenzene	ND	0.0050	mg/kg wet							
n-Propylbenzene	ND	0.0050	mg/kg wet							
sec-Butylbenzene	ND	0.0050	mg/kg wet							
Styrene	ND	0.0050	mg/kg wet							
tert-Butylbenzene	ND	0.0050	mg/kg wet							
Tertiary-amyl methyl ether	ND	0.0050	mg/kg wet							
Tetrachloroethene	ND	0.0050	mg/kg wet							
Tetrahydrofuran	ND	0.0050	mg/kg wet							
Toluene	ND	0.0050	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
trans-1,3-Dichloropropene	ND	0.0050	mg/kg wet							
Trichloroethene	ND	0.0050	mg/kg wet							
Trichlorofluoromethane	ND	0.0050	mg/kg wet							
Vinyl Acetate	ND	0.0050	mg/kg wet							
Vinyl Chloride	ND	0.0100	mg/kg wet							
Xylene O	ND	0.0050	mg/kg wet							
Xylene P,M	ND	0.0100	mg/kg wet							
Xylenes (Total)	ND	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	0.0407		mg/kg wet	0.05000		81	70-130			
Surrogate: 4-Bromofluorobenzene	0.0453		mg/kg wet	0.05000		91	70-130			
Surrogate: Dibromofluoromethane	0.0436		mg/kg wet	0.05000		87	70-130			
Surrogate: Toluene-d8	0.0471		mg/kg wet	0.05000		94	70-130			

**LCS**

1,1,1,2-Tetrachloroethane	0.0489	0.0050	mg/kg wet	0.05000		98	70-130			
1,1,1-Trichloroethane	0.0483	0.0050	mg/kg wet	0.05000		97	70-130			
1,1,2,2-Tetrachloroethane	0.0514	0.0050	mg/kg wet	0.05000		103	70-130			
1,1,2-Trichloroethane	0.0472	0.0050	mg/kg wet	0.05000		94	70-130			
1,1-Dichloroethane	0.0476	0.0050	mg/kg wet	0.05000		95	70-130			
1,1-Dichloroethene	0.0517	0.0050	mg/kg wet	0.05000		103	70-130			
1,1-Dichloropropene	0.0500	0.0050	mg/kg wet	0.05000		100	70-130			
1,2,3-Trichlorobenzene	0.0520	0.0050	mg/kg wet	0.05000		104	70-130			
1,2,3-Trichloropropane	0.0503	0.0050	mg/kg wet	0.05000		101	70-130			
1,2,4-Trichlorobenzene	0.0518	0.0050	mg/kg wet	0.05000		104	70-130			
1,2,4-Trimethylbenzene	0.0493	0.0050	mg/kg wet	0.05000		99	70-130			
1,2-Dibromo-3-Chloropropane	0.0453	0.0050	mg/kg wet	0.05000		91	70-130			
1,2-Dibromoethane	0.0495	0.0050	mg/kg wet	0.05000		99	70-130			
1,2-Dichlorobenzene	0.0508	0.0050	mg/kg wet	0.05000		102	70-130			
1,2-Dichloroethane	0.0479	0.0050	mg/kg wet	0.05000		96	70-130			
1,2-Dichloropropane	0.0480	0.0050	mg/kg wet	0.05000		96	70-130			
1,3,5-Trimethylbenzene	0.0498	0.0050	mg/kg wet	0.05000		100	70-130			
1,3-Dichlorobenzene	0.0508	0.0050	mg/kg wet	0.05000		102	70-130			
1,3-Dichloropropane	0.0514	0.0050	mg/kg wet	0.05000		103	70-130			
1,4-Dichlorobenzene	0.0514	0.0050	mg/kg wet	0.05000		103	70-130			
1,4-Dioxane	1.45	0.100	mg/kg wet	1.000		145	70-130			B+
1-Chlorohexane	0.0503	0.0050	mg/kg wet	0.05000		101	70-130			





*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609117

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

**Batch C160938 - 5035**

2,2-Dichloropropane	0.0476	0.0050	mg/kg wet	0.05000		95	70-130			
2-Butanone	0.265	0.0500	mg/kg wet	0.2500		106	70-130			
2-Chlorotoluene	0.0508	0.0050	mg/kg wet	0.05000		102	70-130			
2-Hexanone	0.265	0.0500	mg/kg wet	0.2500		106	70-130			
4-Chlorotoluene	0.0517	0.0050	mg/kg wet	0.05000		103	70-130			
4-Isopropyltoluene	0.0506	0.0050	mg/kg wet	0.05000		101	70-130			
4-Methyl-2-Pentanone	0.261	0.0500	mg/kg wet	0.2500		104	70-130			
Acetone	0.252	0.0500	mg/kg wet	0.2500		101	70-130			
Benzene	0.0482	0.0050	mg/kg wet	0.05000		96	70-130			
Bromobenzene	0.0494	0.0050	mg/kg wet	0.05000		99	70-130			
Bromochloromethane	0.0478	0.0050	mg/kg wet	0.05000		96	70-130			
Bromodichloromethane	0.0506	0.0050	mg/kg wet	0.05000		101	70-130			
Bromoform	0.0510	0.0050	mg/kg wet	0.05000		102	70-130			
Bromomethane	0.0501	0.0100	mg/kg wet	0.05000		100	70-130			
Carbon Disulfide	0.0487	0.0050	mg/kg wet	0.05000		97	70-130			
Carbon Tetrachloride	0.0481	0.0050	mg/kg wet	0.05000		96	70-130			
Chlorobenzene	0.0502	0.0050	mg/kg wet	0.05000		100	70-130			
Chloroethane	0.0411	0.0100	mg/kg wet	0.05000		82	70-130			
Chloroform	0.0464	0.0050	mg/kg wet	0.05000		93	70-130			
Chloromethane	0.0501	0.0100	mg/kg wet	0.05000		100	70-130			
cis-1,2-Dichloroethene	0.0505	0.0050	mg/kg wet	0.05000		101	70-130			
cis-1,3-Dichloropropene	0.0501	0.0050	mg/kg wet	0.05000		100	70-130			
Dibromochloromethane	0.0521	0.0050	mg/kg wet	0.05000		104	70-130			
Dibromomethane	0.0476	0.0050	mg/kg wet	0.05000		95	70-130			
Dichlorodifluoromethane	0.0446	0.0100	mg/kg wet	0.05000		89	70-130			
Diethyl Ether	0.0493	0.0050	mg/kg wet	0.05000		99	70-130			
Di-isopropyl ether	0.0487	0.0050	mg/kg wet	0.05000		97	70-130			
Ethyl tertiary-butyl ether	0.0485	0.0050	mg/kg wet	0.05000		97	70-130			
Ethylbenzene	0.0490	0.0050	mg/kg wet	0.05000		98	70-130			
Hexachlorobutadiene	0.0498	0.0050	mg/kg wet	0.05000		100	70-130			
Isopropylbenzene	0.0520	0.0050	mg/kg wet	0.05000		104	70-130			
Methyl tert-Butyl Ether	0.0496	0.0050	mg/kg wet	0.05000		99	70-130			
Methylene Chloride	0.0475	0.0250	mg/kg wet	0.05000		95	70-130			
Naphthalene	0.0559	0.0050	mg/kg wet	0.05000		112	70-130			
n-Butylbenzene	0.0529	0.0050	mg/kg wet	0.05000		106	70-130			
n-Propylbenzene	0.0507	0.0050	mg/kg wet	0.05000		101	70-130			
sec-Butylbenzene	0.0518	0.0050	mg/kg wet	0.05000		104	70-130			
Styrene	0.0489	0.0050	mg/kg wet	0.05000		98	70-130			
tert-Butylbenzene	0.0520	0.0050	mg/kg wet	0.05000		104	70-130			
Tertiary-amyl methyl ether	0.0487	0.0050	mg/kg wet	0.05000		97	70-130			
Tetrachloroethene	0.0443	0.0050	mg/kg wet	0.05000		89	70-130			
Tetrahydrofuran	0.0496	0.0050	mg/kg wet	0.05000		99	70-130			
Toluene	0.0477	0.0050	mg/kg wet	0.05000		95	70-130			
trans-1,2-Dichloroethene	0.0505	0.0050	mg/kg wet	0.05000		101	70-130			
trans-1,3-Dichloropropene	0.0475	0.0050	mg/kg wet	0.05000		95	70-130			



CERTIFICATE OF ANALYSIS

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609117

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

**Batch C160938 - 5035**

Trichloroethene	0.0476	0.0050	mg/kg wet	0.05000		95	70-130			
Trichlorofluoromethane	0.0441	0.0050	mg/kg wet	0.05000		88	70-130			
Vinyl Acetate	0.0465	0.0050	mg/kg wet	0.05000		93	70-130			
Vinyl Chloride	0.0472	0.0100	mg/kg wet	0.05000		94	70-130			
Xylene O	0.0498	0.0050	mg/kg wet	0.05000		100	70-130			
Xylene P,M	0.100	0.0100	mg/kg wet	0.1000		100	70-130			
Xylenes (Total)	0.150	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	0.0440		mg/kg wet	0.05000		88	70-130			
Surrogate: 4-Bromofluorobenzene	0.0453		mg/kg wet	0.05000		91	70-130			
Surrogate: Dibromofluoromethane	0.0462		mg/kg wet	0.05000		92	70-130			
Surrogate: Toluene-d8	0.0460		mg/kg wet	0.05000		92	70-130			

**LCS Dup**

1,1,1,2-Tetrachloroethane	0.0509	0.0050	mg/kg wet	0.05000		102	70-130	4	25	
1,1,1-Trichloroethane	0.0484	0.0050	mg/kg wet	0.05000		97	70-130	0.3	25	
1,1,2,2-Tetrachloroethane	0.0519	0.0050	mg/kg wet	0.05000		104	70-130	1	25	
1,1,2-Trichloroethane	0.0496	0.0050	mg/kg wet	0.05000		99	70-130	5	25	
1,1-Dichloroethane	0.0483	0.0050	mg/kg wet	0.05000		97	70-130	1	25	
1,1-Dichloroethene	0.0519	0.0050	mg/kg wet	0.05000		104	70-130	0.3	25	
1,1-Dichloropropene	0.0499	0.0050	mg/kg wet	0.05000		100	70-130	0.08	25	
1,2,3-Trichlorobenzene	0.0526	0.0050	mg/kg wet	0.05000		105	70-130	1	25	
1,2,3-Trichloropropane	0.0508	0.0050	mg/kg wet	0.05000		102	70-130	1	25	
1,2,4-Trichlorobenzene	0.0519	0.0050	mg/kg wet	0.05000		104	70-130	0.1	25	
1,2,4-Trimethylbenzene	0.0490	0.0050	mg/kg wet	0.05000		98	70-130	0.7	25	
1,2-Dibromo-3-Chloropropane	0.0450	0.0050	mg/kg wet	0.05000		90	70-130	0.7	25	
1,2-Dibromoethane	0.0514	0.0050	mg/kg wet	0.05000		103	70-130	4	25	
1,2-Dichlorobenzene	0.0511	0.0050	mg/kg wet	0.05000		102	70-130	0.7	25	
1,2-Dichloroethane	0.0496	0.0050	mg/kg wet	0.05000		99	70-130	4	25	
1,2-Dichloropropane	0.0496	0.0050	mg/kg wet	0.05000		99	70-130	3	25	
1,3,5-Trimethylbenzene	0.0494	0.0050	mg/kg wet	0.05000		99	70-130	0.8	25	
1,3-Dichlorobenzene	0.0521	0.0050	mg/kg wet	0.05000		104	70-130	3	25	
1,3-Dichloropropane	0.0537	0.0050	mg/kg wet	0.05000		107	70-130	4	25	
1,4-Dichlorobenzene	0.0502	0.0050	mg/kg wet	0.05000		100	70-130	2	25	
1,4-Dioxane	1.44	0.100	mg/kg wet	1.000		144	70-130	0.7	20	B+
1-Chlorohexane	0.0500	0.0050	mg/kg wet	0.05000		100	70-130	0.6	25	
2,2-Dichloropropane	0.0477	0.0050	mg/kg wet	0.05000		95	70-130	0.2	25	
2-Butanone	0.268	0.0500	mg/kg wet	0.2500		107	70-130	1	25	
2-Chlorotoluene	0.0500	0.0050	mg/kg wet	0.05000		100	70-130	2	25	
2-Hexanone	0.276	0.0500	mg/kg wet	0.2500		110	70-130	4	25	
4-Chlorotoluene	0.0513	0.0050	mg/kg wet	0.05000		103	70-130	0.8	25	
4-Isopropyltoluene	0.0496	0.0050	mg/kg wet	0.05000		99	70-130	2	25	
4-Methyl-2-Pentanone	0.272	0.0500	mg/kg wet	0.2500		109	70-130	4	25	
Acetone	0.242	0.0500	mg/kg wet	0.2500		97	70-130	4	25	
Benzene	0.0492	0.0050	mg/kg wet	0.05000		98	70-130	2	25	
Bromobenzene	0.0501	0.0050	mg/kg wet	0.05000		100	70-130	1	25	
Bromochloromethane	0.0506	0.0050	mg/kg wet	0.05000		101	70-130	6	25	



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609117

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

**Batch C160938 - 5035**

Bromodichloromethane	0.0523	0.0050	mg/kg wet	0.05000		105	70-130	3	25	
Bromoform	0.0540	0.0050	mg/kg wet	0.05000		108	70-130	6	25	
Bromomethane	0.0501	0.0100	mg/kg wet	0.05000		100	70-130	0.04	25	
Carbon Disulfide	0.0490	0.0050	mg/kg wet	0.05000		98	70-130	0.6	25	
Carbon Tetrachloride	0.0482	0.0050	mg/kg wet	0.05000		96	70-130	0.3	25	
Chlorobenzene	0.0515	0.0050	mg/kg wet	0.05000		103	70-130	2	25	
Chloroethane	0.0414	0.0100	mg/kg wet	0.05000		83	70-130	0.6	25	
Chloroform	0.0476	0.0050	mg/kg wet	0.05000		95	70-130	3	25	
Chloromethane	0.0507	0.0100	mg/kg wet	0.05000		101	70-130	1	25	
cis-1,2-Dichloroethene	0.0518	0.0050	mg/kg wet	0.05000		104	70-130	3	25	
cis-1,3-Dichloropropene	0.0520	0.0050	mg/kg wet	0.05000		104	70-130	4	25	
Dibromochloromethane	0.0542	0.0050	mg/kg wet	0.05000		108	70-130	4	25	
Dibromomethane	0.0496	0.0050	mg/kg wet	0.05000		99	70-130	4	25	
Dichlorodifluoromethane	0.0442	0.0100	mg/kg wet	0.05000		88	70-130	0.9	25	
Diethyl Ether	0.0516	0.0050	mg/kg wet	0.05000		103	70-130	5	25	
Di-isopropyl ether	0.0506	0.0050	mg/kg wet	0.05000		101	70-130	4	25	
Ethyl tertiary-butyl ether	0.0504	0.0050	mg/kg wet	0.05000		101	70-130	4	25	
Ethylbenzene	0.0498	0.0050	mg/kg wet	0.05000		100	70-130	2	25	
Hexachlorobutadiene	0.0486	0.0050	mg/kg wet	0.05000		97	70-130	2	25	
Isopropylbenzene	0.0511	0.0050	mg/kg wet	0.05000		102	70-130	2	25	
Methyl tert-Butyl Ether	0.0517	0.0050	mg/kg wet	0.05000		103	70-130	4	25	
Methylene Chloride	0.0487	0.0250	mg/kg wet	0.05000		97	70-130	2	25	
Naphthalene	0.0574	0.0050	mg/kg wet	0.05000		115	70-130	3	25	
n-Butylbenzene	0.0518	0.0050	mg/kg wet	0.05000		104	70-130	2	25	
n-Propylbenzene	0.0500	0.0050	mg/kg wet	0.05000		100	70-130	1	25	
sec-Butylbenzene	0.0508	0.0050	mg/kg wet	0.05000		102	70-130	2	25	
Styrene	0.0507	0.0050	mg/kg wet	0.05000		101	70-130	3	25	
tert-Butylbenzene	0.0514	0.0050	mg/kg wet	0.05000		103	70-130	1	25	
Tertiary-amyl methyl ether	0.0511	0.0050	mg/kg wet	0.05000		102	70-130	5	25	
Tetrachloroethene	0.0445	0.0050	mg/kg wet	0.05000		89	70-130	0.5	25	
Tetrahydrofuran	0.0509	0.0050	mg/kg wet	0.05000		102	70-130	3	25	
Toluene	0.0488	0.0050	mg/kg wet	0.05000		98	70-130	2	25	
trans-1,2-Dichloroethene	0.0511	0.0050	mg/kg wet	0.05000		102	70-130	1	25	
trans-1,3-Dichloropropene	0.0494	0.0050	mg/kg wet	0.05000		99	70-130	4	25	
Trichloroethene	0.0476	0.0050	mg/kg wet	0.05000		95	70-130	0	25	
Trichlorofluoromethane	0.0443	0.0050	mg/kg wet	0.05000		89	70-130	0.4	25	
Vinyl Acetate	0.0471	0.0050	mg/kg wet	0.05000		94	70-130	1	25	
Vinyl Chloride	0.0474	0.0100	mg/kg wet	0.05000		95	70-130	0.3	25	
Xylene O	0.0509	0.0050	mg/kg wet	0.05000		102	70-130	2	25	
Xylene P,M	0.102	0.0100	mg/kg wet	0.1000		102	70-130	2	25	
Xylenes (Total)	0.153	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	0.0459		mg/kg wet	0.05000		92	70-130			
Surrogate: 4-Bromofluorobenzene	0.0463		mg/kg wet	0.05000		93	70-130			
Surrogate: Dibromofluoromethane	0.0474		mg/kg wet	0.05000		95	70-130			
Surrogate: Toluene-d8	0.0469		mg/kg wet	0.05000		94	70-130			



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)

Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609117

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

**Batch CI61229 - 5035**

**Blank**

1,1,1,2-Tetrachloroethane	ND	0.0050	mg/kg wet							
1,1,1-Trichloroethane	ND	0.0050	mg/kg wet							
1,1,2,2-Tetrachloroethane	ND	0.0050	mg/kg wet							
1,1,2-Trichloroethane	ND	0.0050	mg/kg wet							
1,1-Dichloroethane	ND	0.0050	mg/kg wet							
1,1-Dichloroethene	ND	0.0050	mg/kg wet							
1,1-Dichloropropene	ND	0.0050	mg/kg wet							
1,2,3-Trichlorobenzene	ND	0.0050	mg/kg wet							
1,2,3-Trichloropropane	ND	0.0050	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.0050	mg/kg wet							
1,2,4-Trimethylbenzene	ND	0.0050	mg/kg wet							
1,2-Dibromo-3-Chloropropane	ND	0.0050	mg/kg wet							
1,2-Dibromoethane	ND	0.0050	mg/kg wet							
1,2-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,2-Dichloroethane	ND	0.0050	mg/kg wet							
1,2-Dichloropropane	ND	0.0050	mg/kg wet							
1,3,5-Trimethylbenzene	ND	0.0050	mg/kg wet							
1,3-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,3-Dichloropropane	ND	0.0050	mg/kg wet							
1,4-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,4-Dioxane	ND	0.100	mg/kg wet							
1-Chlorohexane	ND	0.0050	mg/kg wet							
2,2-Dichloropropane	ND	0.0050	mg/kg wet							
2-Butanone	ND	0.0500	mg/kg wet							
2-Chlorotoluene	ND	0.0050	mg/kg wet							
2-Hexanone	ND	0.0500	mg/kg wet							
4-Chlorotoluene	ND	0.0050	mg/kg wet							
4-Isopropyltoluene	ND	0.0050	mg/kg wet							
4-Methyl-2-Pentanone	ND	0.0500	mg/kg wet							
Acetone	ND	0.0500	mg/kg wet							
Benzene	ND	0.0050	mg/kg wet							
Bromobenzene	ND	0.0050	mg/kg wet							
Bromochloromethane	ND	0.0050	mg/kg wet							
Bromodichloromethane	ND	0.0050	mg/kg wet							
Bromoform	ND	0.0050	mg/kg wet							
Bromomethane	ND	0.0100	mg/kg wet							
Carbon Disulfide	ND	0.0050	mg/kg wet							
Carbon Tetrachloride	ND	0.0050	mg/kg wet							
Chlorobenzene	ND	0.0050	mg/kg wet							
Chloroethane	ND	0.0100	mg/kg wet							
Chloroform	ND	0.0050	mg/kg wet							
Chloromethane	ND	0.0100	mg/kg wet							
cis-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
cis-1,3-Dichloropropene	ND	0.0050	mg/kg wet							



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609117

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

**Batch C161229 - 5035**

Dibromochloromethane	ND	0.0050	mg/kg wet							
Dibromomethane	ND	0.0050	mg/kg wet							
Dichlorodifluoromethane	ND	0.0100	mg/kg wet							
Diethyl Ether	ND	0.0050	mg/kg wet							
Di-isopropyl ether	ND	0.0050	mg/kg wet							
Ethyl tertiary-butyl ether	ND	0.0050	mg/kg wet							
Ethylbenzene	ND	0.0050	mg/kg wet							
Hexachlorobutadiene	ND	0.0050	mg/kg wet							
Isopropylbenzene	ND	0.0050	mg/kg wet							
Methyl tert-Butyl Ether	ND	0.0050	mg/kg wet							
Methylene Chloride	ND	0.0250	mg/kg wet							
Naphthalene	ND	0.0050	mg/kg wet							
n-Butylbenzene	ND	0.0050	mg/kg wet							
n-Propylbenzene	ND	0.0050	mg/kg wet							
sec-Butylbenzene	ND	0.0050	mg/kg wet							
Styrene	ND	0.0050	mg/kg wet							
tert-Butylbenzene	ND	0.0050	mg/kg wet							
Tertiary-amyl methyl ether	ND	0.0050	mg/kg wet							
Tetrachloroethene	ND	0.0050	mg/kg wet							
Tetrahydrofuran	ND	0.0050	mg/kg wet							
Toluene	ND	0.0050	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
trans-1,3-Dichloropropene	ND	0.0050	mg/kg wet							
Trichloroethene	ND	0.0050	mg/kg wet							
Trichlorofluoromethane	ND	0.0050	mg/kg wet							
Vinyl Acetate	ND	0.0050	mg/kg wet							
Vinyl Chloride	ND	0.0100	mg/kg wet							
Xylene O	ND	0.0050	mg/kg wet							
Xylene P,M	ND	0.0100	mg/kg wet							
Xylenes (Total)	ND	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	0.0420		mg/kg wet	0.05000		84	70-130			
Surrogate: 4-Bromofluorobenzene	0.0449		mg/kg wet	0.05000		90	70-130			
Surrogate: Dibromofluoromethane	0.0444		mg/kg wet	0.05000		89	70-130			
Surrogate: Toluene-d8	0.0464		mg/kg wet	0.05000		93	70-130			

**LCS**

1,1,1,2-Tetrachloroethane	0.0486	0.0050	mg/kg wet	0.05000		97	70-130			
1,1,1-Trichloroethane	0.0496	0.0050	mg/kg wet	0.05000		99	70-130			
1,1,2,2-Tetrachloroethane	0.0465	0.0050	mg/kg wet	0.05000		93	70-130			
1,1,2-Trichloroethane	0.0448	0.0050	mg/kg wet	0.05000		90	70-130			
1,1-Dichloroethane	0.0483	0.0050	mg/kg wet	0.05000		97	70-130			
1,1-Dichloroethene	0.0523	0.0050	mg/kg wet	0.05000		105	70-130			
1,1-Dichloropropene	0.0508	0.0050	mg/kg wet	0.05000		102	70-130			
1,2,3-Trichlorobenzene	0.0494	0.0050	mg/kg wet	0.05000		99	70-130			
1,2,3-Trichloropropane	0.0454	0.0050	mg/kg wet	0.05000		91	70-130			
1,2,4-Trichlorobenzene	0.0495	0.0050	mg/kg wet	0.05000		99	70-130			



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609117

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

**Batch C161229 - 5035**

1,2,4-Trimethylbenzene	0.0490	0.0050	mg/kg wet	0.05000		98	70-130			
1,2-Dibromo-3-Chloropropane	0.0370	0.0050	mg/kg wet	0.05000		74	70-130			
1,2-Dibromoethane	0.0466	0.0050	mg/kg wet	0.05000		93	70-130			
1,2-Dichlorobenzene	0.0493	0.0050	mg/kg wet	0.05000		99	70-130			
1,2-Dichloroethane	0.0483	0.0050	mg/kg wet	0.05000		97	70-130			
1,2-Dichloropropane	0.0474	0.0050	mg/kg wet	0.05000		95	70-130			
1,3,5-Trimethylbenzene	0.0500	0.0050	mg/kg wet	0.05000		100	70-130			
1,3-Dichlorobenzene	0.0500	0.0050	mg/kg wet	0.05000		100	70-130			
1,3-Dichloropropane	0.0495	0.0050	mg/kg wet	0.05000		99	70-130			
1,4-Dichlorobenzene	0.0511	0.0050	mg/kg wet	0.05000		102	70-130			
1,4-Dioxane	1.23	0.100	mg/kg wet	1.000		123	70-130			
1-Chlorohexane	0.0494	0.0050	mg/kg wet	0.05000		99	70-130			
2,2-Dichloropropane	0.0489	0.0050	mg/kg wet	0.05000		98	70-130			
2-Butanone	0.243	0.0500	mg/kg wet	0.2500		97	70-130			
2-Chlorotoluene	0.0509	0.0050	mg/kg wet	0.05000		102	70-130			
2-Hexanone	0.231	0.0500	mg/kg wet	0.2500		92	70-130			
4-Chlorotoluene	0.0516	0.0050	mg/kg wet	0.05000		103	70-130			
4-Isopropyltoluene	0.0506	0.0050	mg/kg wet	0.05000		101	70-130			
4-Methyl-2-Pentanone	0.229	0.0500	mg/kg wet	0.2500		92	70-130			
Acetone	0.219	0.0500	mg/kg wet	0.2500		87	70-130			
Benzene	0.0482	0.0050	mg/kg wet	0.05000		96	70-130			
Bromobenzene	0.0489	0.0050	mg/kg wet	0.05000		98	70-130			
Bromochloromethane	0.0472	0.0050	mg/kg wet	0.05000		94	70-130			
Bromodichloromethane	0.0499	0.0050	mg/kg wet	0.05000		100	70-130			
Bromoform	0.0461	0.0050	mg/kg wet	0.05000		92	70-130			
Bromomethane	0.0518	0.0100	mg/kg wet	0.05000		104	70-130			
Carbon Disulfide	0.0491	0.0050	mg/kg wet	0.05000		98	70-130			
Carbon Tetrachloride	0.0492	0.0050	mg/kg wet	0.05000		98	70-130			
Chlorobenzene	0.0501	0.0050	mg/kg wet	0.05000		100	70-130			
Chloroethane	0.0416	0.0100	mg/kg wet	0.05000		83	70-130			
Chloroform	0.0474	0.0050	mg/kg wet	0.05000		95	70-130			
Chloromethane	0.0502	0.0100	mg/kg wet	0.05000		100	70-130			
cis-1,2-Dichloroethene	0.0503	0.0050	mg/kg wet	0.05000		101	70-130			
cis-1,3-Dichloropropene	0.0484	0.0050	mg/kg wet	0.05000		97	70-130			
Dibromochloromethane	0.0495	0.0050	mg/kg wet	0.05000		99	70-130			
Dibromomethane	0.0460	0.0050	mg/kg wet	0.05000		92	70-130			
Dichlorodifluoromethane	0.0472	0.0100	mg/kg wet	0.05000		94	70-130			
Diethyl Ether	0.0467	0.0050	mg/kg wet	0.05000		93	70-130			
Di-isopropyl ether	0.0478	0.0050	mg/kg wet	0.05000		96	70-130			
Ethyl tertiary-butyl ether	0.0456	0.0050	mg/kg wet	0.05000		91	70-130			
Ethylbenzene	0.0493	0.0050	mg/kg wet	0.05000		99	70-130			
Hexachlorobutadiene	0.0501	0.0050	mg/kg wet	0.05000		100	70-130			
Isopropylbenzene	0.0523	0.0050	mg/kg wet	0.05000		105	70-130			
Methyl tert-Butyl Ether	0.0463	0.0050	mg/kg wet	0.05000		93	70-130			
Methylene Chloride	0.0481	0.0250	mg/kg wet	0.05000		96	70-130			



CERTIFICATE OF ANALYSIS

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609117

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

**Batch C161229 - 5035**

Naphthalene	0.0487	0.0050	mg/kg wet	0.05000		97	70-130			
n-Butylbenzene	0.0527	0.0050	mg/kg wet	0.05000		105	70-130			
n-Propylbenzene	0.0512	0.0050	mg/kg wet	0.05000		102	70-130			
sec-Butylbenzene	0.0523	0.0050	mg/kg wet	0.05000		105	70-130			
Styrene	0.0485	0.0050	mg/kg wet	0.05000		97	70-130			
tert-Butylbenzene	0.0524	0.0050	mg/kg wet	0.05000		105	70-130			
Tertiary-amyl methyl ether	0.0446	0.0050	mg/kg wet	0.05000		89	70-130			
Tetrachloroethene	0.0449	0.0050	mg/kg wet	0.05000		90	70-130			
Tetrahydrofuran	0.0392	0.0050	mg/kg wet	0.05000		78	70-130			
Toluene	0.0479	0.0050	mg/kg wet	0.05000		96	70-130			
trans-1,2-Dichloroethene	0.0509	0.0050	mg/kg wet	0.05000		102	70-130			
trans-1,3-Dichloropropene	0.0454	0.0050	mg/kg wet	0.05000		91	70-130			
Trichloroethene	0.0478	0.0050	mg/kg wet	0.05000		96	70-130			
Trichlorofluoromethane	0.0464	0.0050	mg/kg wet	0.05000		93	70-130			
Vinyl Acetate	0.0419	0.0050	mg/kg wet	0.05000		84	70-130			
Vinyl Chloride	0.0505	0.0100	mg/kg wet	0.05000		101	70-130			
Xylene O	0.0495	0.0050	mg/kg wet	0.05000		99	70-130			
Xylene P,M	0.101	0.0100	mg/kg wet	0.1000		101	70-130			
Xylenes (Total)	0.151	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	0.0448		mg/kg wet	0.05000		90	70-130			
Surrogate: 4-Bromofluorobenzene	0.0448		mg/kg wet	0.05000		90	70-130			
Surrogate: Dibromofluoromethane	0.0469		mg/kg wet	0.05000		94	70-130			
Surrogate: Toluene-d8	0.0463		mg/kg wet	0.05000		93	70-130			

**LCS Dup**

1,1,1,2-Tetrachloroethane	0.0489	0.0050	mg/kg wet	0.05000		98	70-130	0.6	25	
1,1,1-Trichloroethane	0.0489	0.0050	mg/kg wet	0.05000		98	70-130	1	25	
1,1,2,2-Tetrachloroethane	0.0480	0.0050	mg/kg wet	0.05000		96	70-130	3	25	
1,1,2-Trichloroethane	0.0455	0.0050	mg/kg wet	0.05000		91	70-130	2	25	
1,1-Dichloroethane	0.0478	0.0050	mg/kg wet	0.05000		96	70-130	1	25	
1,1-Dichloroethene	0.0513	0.0050	mg/kg wet	0.05000		103	70-130	2	25	
1,1-Dichloropropene	0.0499	0.0050	mg/kg wet	0.05000		100	70-130	2	25	
1,2,3-Trichlorobenzene	0.0504	0.0050	mg/kg wet	0.05000		101	70-130	2	25	
1,2,3-Trichloropropane	0.0467	0.0050	mg/kg wet	0.05000		93	70-130	3	25	
1,2,4-Trichlorobenzene	0.0501	0.0050	mg/kg wet	0.05000		100	70-130	1	25	
1,2,4-Trimethylbenzene	0.0490	0.0050	mg/kg wet	0.05000		98	70-130	0.04	25	
1,2-Dibromo-3-Chloropropane	0.0378	0.0050	mg/kg wet	0.05000		76	70-130	2	25	
1,2-Dibromoethane	0.0476	0.0050	mg/kg wet	0.05000		95	70-130	2	25	
1,2-Dichlorobenzene	0.0497	0.0050	mg/kg wet	0.05000		99	70-130	0.7	25	
1,2-Dichloroethane	0.0484	0.0050	mg/kg wet	0.05000		97	70-130	0.08	25	
1,2-Dichloropropane	0.0471	0.0050	mg/kg wet	0.05000		94	70-130	0.6	25	
1,3,5-Trimethylbenzene	0.0499	0.0050	mg/kg wet	0.05000		100	70-130	0.3	25	
1,3-Dichlorobenzene	0.0507	0.0050	mg/kg wet	0.05000		101	70-130	1	25	
1,3-Dichloropropane	0.0506	0.0050	mg/kg wet	0.05000		101	70-130	2	25	
1,4-Dichlorobenzene	0.0508	0.0050	mg/kg wet	0.05000		102	70-130	0.5	25	
1,4-Dioxane	1.26	0.100	mg/kg wet	1.000		126	70-130	3	20	





*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
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ESS Laboratory Work Order: 1609117

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

**Batch C161229 - 5035**

1-Chlorohexane	0.0497	0.0050	mg/kg wet	0.05000		99	70-130	0.6	25	
2,2-Dichloropropane	0.0473	0.0050	mg/kg wet	0.05000		95	70-130	3	25	
2-Butanone	0.246	0.0500	mg/kg wet	0.2500		99	70-130	1	25	
2-Chlorotoluene	0.0511	0.0050	mg/kg wet	0.05000		102	70-130	0.4	25	
2-Hexanone	0.242	0.0500	mg/kg wet	0.2500		97	70-130	5	25	
4-Chlorotoluene	0.0512	0.0050	mg/kg wet	0.05000		102	70-130	0.7	25	
4-Isopropyltoluene	0.0509	0.0050	mg/kg wet	0.05000		102	70-130	0.6	25	
4-Methyl-2-Pentanone	0.235	0.0500	mg/kg wet	0.2500		94	70-130	2	25	
Acetone	0.219	0.0500	mg/kg wet	0.2500		88	70-130	0.3	25	
Benzene	0.0478	0.0050	mg/kg wet	0.05000		96	70-130	0.8	25	
Bromobenzene	0.0490	0.0050	mg/kg wet	0.05000		98	70-130	0.3	25	
Bromochloromethane	0.0477	0.0050	mg/kg wet	0.05000		95	70-130	1	25	
Bromodichloromethane	0.0498	0.0050	mg/kg wet	0.05000		100	70-130	0.4	25	
Bromoform	0.0468	0.0050	mg/kg wet	0.05000		94	70-130	2	25	
Bromomethane	0.0501	0.0100	mg/kg wet	0.05000		100	70-130	3	25	
Carbon Disulfide	0.0481	0.0050	mg/kg wet	0.05000		96	70-130	2	25	
Carbon Tetrachloride	0.0486	0.0050	mg/kg wet	0.05000		97	70-130	1	25	
Chlorobenzene	0.0502	0.0050	mg/kg wet	0.05000		100	70-130	0.2	25	
Chloroethane	0.0409	0.0100	mg/kg wet	0.05000		82	70-130	2	25	
Chloroform	0.0469	0.0050	mg/kg wet	0.05000		94	70-130	1	25	
Chloromethane	0.0498	0.0100	mg/kg wet	0.05000		100	70-130	0.8	25	
cis-1,2-Dichloroethene	0.0500	0.0050	mg/kg wet	0.05000		100	70-130	0.5	25	
cis-1,3-Dichloropropene	0.0487	0.0050	mg/kg wet	0.05000		97	70-130	0.7	25	
Dibromochloromethane	0.0504	0.0050	mg/kg wet	0.05000		101	70-130	2	25	
Dibromomethane	0.0466	0.0050	mg/kg wet	0.05000		93	70-130	1	25	
Dichlorodifluoromethane	0.0459	0.0100	mg/kg wet	0.05000		92	70-130	3	25	
Diethyl Ether	0.0471	0.0050	mg/kg wet	0.05000		94	70-130	0.9	25	
Di-isopropyl ether	0.0474	0.0050	mg/kg wet	0.05000		95	70-130	0.9	25	
Ethyl tertiary-butyl ether	0.0459	0.0050	mg/kg wet	0.05000		92	70-130	0.8	25	
Ethylbenzene	0.0495	0.0050	mg/kg wet	0.05000		99	70-130	0.4	25	
Hexachlorobutadiene	0.0495	0.0050	mg/kg wet	0.05000		99	70-130	1	25	
Isopropylbenzene	0.0523	0.0050	mg/kg wet	0.05000		105	70-130	0.04	25	
Methyl tert-Butyl Ether	0.0465	0.0050	mg/kg wet	0.05000		93	70-130	0.4	25	
Methylene Chloride	0.0472	0.0250	mg/kg wet	0.05000		94	70-130	2	25	
Naphthalene	0.0512	0.0050	mg/kg wet	0.05000		102	70-130	5	25	
n-Butylbenzene	0.0527	0.0050	mg/kg wet	0.05000		105	70-130	0.04	25	
n-Propylbenzene	0.0512	0.0050	mg/kg wet	0.05000		102	70-130	0	25	
sec-Butylbenzene	0.0520	0.0050	mg/kg wet	0.05000		104	70-130	0.6	25	
Styrene	0.0483	0.0050	mg/kg wet	0.05000		97	70-130	0.5	25	
tert-Butylbenzene	0.0522	0.0050	mg/kg wet	0.05000		104	70-130	0.4	25	
Tertiary-amyl methyl ether	0.0452	0.0050	mg/kg wet	0.05000		90	70-130	1	25	
Tetrachloroethene	0.0443	0.0050	mg/kg wet	0.05000		89	70-130	1	25	
Tetrahydrofuran	0.0420	0.0050	mg/kg wet	0.05000		84	70-130	7	25	
Toluene	0.0473	0.0050	mg/kg wet	0.05000		95	70-130	1	25	
trans-1,2-Dichloroethene	0.0503	0.0050	mg/kg wet	0.05000		101	70-130	1	25	





CERTIFICATE OF ANALYSIS

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ESS Laboratory Work Order: 1609117

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

**Batch CI61229 - 5035**

trans-1,3-Dichloropropene	0.0454	0.0050	mg/kg wet	0.05000		91	70-130	0.04	25	
Trichloroethene	0.0471	0.0050	mg/kg wet	0.05000		94	70-130	1	25	
Trichlorofluoromethane	0.0458	0.0050	mg/kg wet	0.05000		92	70-130	1	25	
Vinyl Acetate	0.0426	0.0050	mg/kg wet	0.05000		85	70-130	1	25	
Vinyl Chloride	0.0495	0.0100	mg/kg wet	0.05000		99	70-130	2	25	
Xylene O	0.0497	0.0050	mg/kg wet	0.05000		99	70-130	0.5	25	
Xylene P,M	0.101	0.0100	mg/kg wet	0.1000		101	70-130	0.4	25	
Xylenes (Total)	0.150	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	0.0447		mg/kg wet	0.05000		89	70-130			
Surrogate: 4-Bromofluorobenzene	0.0449		mg/kg wet	0.05000		90	70-130			
Surrogate: Dibromofluoromethane	0.0465		mg/kg wet	0.05000		93	70-130			
Surrogate: Toluene-d8	0.0469		mg/kg wet	0.05000		94	70-130			

8081B Organochlorine Pesticides

**Batch CI60713 - 3546**

<b>Blank</b>										
4,4'-DDD	ND	0.0025	mg/kg wet							
4,4'-DDD [2C]	ND	0.0025	mg/kg wet							
4,4'-DDE	ND	0.0025	mg/kg wet							
4,4'-DDE [2C]	ND	0.0025	mg/kg wet							
4,4'-DDT	ND	0.0025	mg/kg wet							
4,4'-DDT [2C]	ND	0.0025	mg/kg wet							
Aldrin	ND	0.0025	mg/kg wet							
Aldrin [2C]	ND	0.0025	mg/kg wet							
alpha-BHC	ND	0.0025	mg/kg wet							
alpha-BHC [2C]	ND	0.0025	mg/kg wet							
alpha-Chlordane	ND	0.0025	mg/kg wet							
alpha-Chlordane [2C]	ND	0.0025	mg/kg wet							
beta-BHC	ND	0.0025	mg/kg wet							
beta-BHC [2C]	ND	0.0025	mg/kg wet							
Chlordane (Total)	ND	0.0300	mg/kg wet							
Chlordane (Total) [2C]	ND	0.0300	mg/kg wet							
Chlordane (Total) [2C]	ND	0.0300	mg/kg wet							
Chlordane (Total) [2C]	ND	0.0300	mg/kg wet							
delta-BHC	ND	0.0025	mg/kg wet							
delta-BHC [2C]	ND	0.0025	mg/kg wet							
Dieldrin	ND	0.0025	mg/kg wet							
Dieldrin [2C]	ND	0.0025	mg/kg wet							
Dieldrin [2C]	ND	0.0025	mg/kg wet							
Endosulfan I	ND	0.0025	mg/kg wet							
Endosulfan I [2C]	ND	0.0025	mg/kg wet							
Endosulfan II	ND	0.0025	mg/kg wet							
Endosulfan II [2C]	ND	0.0025	mg/kg wet							
Endosulfan Sulfate	ND	0.0025	mg/kg wet							



*CERTIFICATE OF ANALYSIS*

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ESS Laboratory Work Order: 1609117

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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**8081B Organochlorine Pesticides**

**Batch CI60713 - 3546**

Endosulfan Sulfate [2C]	ND	0.0025	mg/kg wet							
Endrin	ND	0.0025	mg/kg wet							
Endrin [2C]	ND	0.0025	mg/kg wet							
Endrin Aldehyde	ND	0.0025	mg/kg wet							
Endrin Aldehyde [2C]	ND	0.0025	mg/kg wet							
Endrin Ketone	ND	0.0025	mg/kg wet							
Endrin Ketone [2C]	ND	0.0025	mg/kg wet							
gamma-BHC (Lindane)	ND	0.0015	mg/kg wet							
gamma-BHC (Lindane) [2C]	ND	0.0015	mg/kg wet							
gamma-Chlordane	ND	0.0025	mg/kg wet							
gamma-Chlordane [2C]	ND	0.0025	mg/kg wet							
Heptachlor	ND	0.0025	mg/kg wet							
Heptachlor [2C]	ND	0.0025	mg/kg wet							
Heptachlor Epoxide	ND	0.0025	mg/kg wet							
Heptachlor Epoxide [2C]	ND	0.0025	mg/kg wet							
Hexachlorobenzene	ND	0.0025	mg/kg wet							
Hexachlorobenzene [2C]	ND	0.0025	mg/kg wet							
Methoxychlor	ND	0.0025	mg/kg wet							
Methoxychlor [2C]	ND	0.0025	mg/kg wet							
Toxaphene	ND	0.125	mg/kg wet							
Toxaphene [2C]	ND	0.125	mg/kg wet							

Surrogate: Decachlorobiphenyl	0.0126		mg/kg wet	0.01250		101	30-150			
Surrogate: Decachlorobiphenyl	0.0126		mg/kg wet	0.01250		101	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0121		mg/kg wet	0.01250		97	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0121		mg/kg wet	0.01250		97	30-150			
Surrogate: Tetrachloro-m-xylene	0.0125		mg/kg wet	0.01250		100	30-150			
Surrogate: Tetrachloro-m-xylene	0.0125		mg/kg wet	0.01250		100	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0123		mg/kg wet	0.01250		99	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0123		mg/kg wet	0.01250		99	30-150			

**LCS**

4,4'-DDD	0.0129	0.0025	mg/kg wet	0.01250		103	40-140			
4,4'-DDD [2C]	0.0125	0.0025	mg/kg wet	0.01250		100	40-140			
4,4'-DDE	0.0142	0.0025	mg/kg wet	0.01250		114	40-140			
4,4'-DDE [2C]	0.0134	0.0025	mg/kg wet	0.01250		107	40-140			
4,4'-DDT	0.0149	0.0025	mg/kg wet	0.01250		119	40-140			
4,4'-DDT [2C]	0.0132	0.0025	mg/kg wet	0.01250		106	40-140			
Aldrin	0.0134	0.0025	mg/kg wet	0.01250		107	40-140			
Aldrin [2C]	0.0137	0.0025	mg/kg wet	0.01250		110	40-140			
alpha-BHC	0.0130	0.0025	mg/kg wet	0.01250		104	40-140			
alpha-BHC [2C]	0.0136	0.0025	mg/kg wet	0.01250		109	40-140			
alpha-Chlordane	0.0132	0.0025	mg/kg wet	0.01250		105	40-140			
alpha-Chlordane [2C]	0.0129	0.0025	mg/kg wet	0.01250		103	40-140			
beta-BHC	0.0134	0.0025	mg/kg wet	0.01250		107	40-140			
beta-BHC [2C]	0.0133	0.0025	mg/kg wet	0.01250		107	40-140			
delta-BHC	0.0109	0.0025	mg/kg wet	0.01250		87	40-140			



CERTIFICATE OF ANALYSIS

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609117

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8081B Organochlorine Pesticides

**Batch CI60713 - 3546**

delta-BHC [2C]	0.0113	0.0025	mg/kg wet	0.01250		91	40-140			
Dieldrin	0.0136	0.0025	mg/kg wet	0.01250		108	40-140			
Dieldrin	0.0136	0.0025	mg/kg wet	0.01250		108	40-140			
Dieldrin [2C]	0.0136	0.0025	mg/kg wet	0.01250		109	40-140			
Dieldrin [2C]	0.0136	0.0025	mg/kg wet	0.01250		109	40-140			
Endosulfan I	0.0130	0.0025	mg/kg wet	0.01250		104	40-140			
Endosulfan I [2C]	0.0128	0.0025	mg/kg wet	0.01250		103	40-140			
Endosulfan II	0.0126	0.0025	mg/kg wet	0.01250		101	40-140			
Endosulfan II [2C]	0.0121	0.0025	mg/kg wet	0.01250		97	40-140			
Endosulfan Sulfate	0.0138	0.0025	mg/kg wet	0.01250		110	40-140			
Endosulfan Sulfate [2C]	0.0129	0.0025	mg/kg wet	0.01250		103	40-140			
Endrin	0.0138	0.0025	mg/kg wet	0.01250		111	40-140			
Endrin [2C]	0.0137	0.0025	mg/kg wet	0.01250		110	40-140			
Endrin Aldehyde	0.0128	0.0025	mg/kg wet	0.01250		102	40-140			
Endrin Aldehyde [2C]	0.0126	0.0025	mg/kg wet	0.01250		101	40-140			
Endrin Ketone	0.0143	0.0025	mg/kg wet	0.01250		114	40-140			
Endrin Ketone [2C]	0.0137	0.0025	mg/kg wet	0.01250		110	40-140			
gamma-BHC (Lindane)	0.0131	0.0015	mg/kg wet	0.01250		105	40-140			
gamma-BHC (Lindane) [2C]	0.0135	0.0015	mg/kg wet	0.01250		108	40-140			
gamma-Chlordane	0.0132	0.0025	mg/kg wet	0.01250		106	40-140			
gamma-Chlordane [2C]	0.0129	0.0025	mg/kg wet	0.01250		103	40-140			
Heptachlor	0.0135	0.0025	mg/kg wet	0.01250		108	40-140			
Heptachlor [2C]	0.0139	0.0025	mg/kg wet	0.01250		111	40-140			
Heptachlor Epoxide	0.0139	0.0025	mg/kg wet	0.01250		111	40-140			
Heptachlor Epoxide [2C]	0.0138	0.0025	mg/kg wet	0.01250		110	40-140			
Hexachlorobenzene	0.0144	0.0025	mg/kg wet	0.01250		115	40-140			
Hexachlorobenzene [2C]	0.0144	0.0025	mg/kg wet	0.01250		115	40-140			
Methoxychlor	0.0147	0.0025	mg/kg wet	0.01250		118	40-140			
Methoxychlor [2C]	0.0135	0.0025	mg/kg wet	0.01250		108	40-140			

Surrogate: Decachlorobiphenyl	0.0141		mg/kg wet	0.01250		113	30-150			
Surrogate: Decachlorobiphenyl	0.0141		mg/kg wet	0.01250		113	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0136		mg/kg wet	0.01250		109	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0136		mg/kg wet	0.01250		109	30-150			
Surrogate: Tetrachloro-m-xylene	0.0140		mg/kg wet	0.01250		112	30-150			
Surrogate: Tetrachloro-m-xylene	0.0140		mg/kg wet	0.01250		112	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0134		mg/kg wet	0.01250		108	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0134		mg/kg wet	0.01250		108	30-150			

<b>LCS Dup</b>										
4,4'-DDD	0.0131	0.0025	mg/kg wet	0.01250		105	40-140	2	30	
4,4'-DDD [2C]	0.0127	0.0025	mg/kg wet	0.01250		102	40-140	1	30	
4,4'-DDE	0.0144	0.0025	mg/kg wet	0.01250		115	40-140	1	30	
4,4'-DDE [2C]	0.0136	0.0025	mg/kg wet	0.01250		109	40-140	1	30	
4,4'-DDT	0.0153	0.0025	mg/kg wet	0.01250		123	40-140	3	30	
4,4'-DDT [2C]	0.0135	0.0025	mg/kg wet	0.01250		108	40-140	2	30	
Aldrin	0.0135	0.0025	mg/kg wet	0.01250		108	40-140	0.9	30	



CERTIFICATE OF ANALYSIS

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609117

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8081B Organochlorine Pesticides

**Batch CI60713 - 3546**

Aldrin [2C]	0.0138	0.0025	mg/kg wet	0.01250		110	40-140	0.7	30	
alpha-BHC	0.0131	0.0025	mg/kg wet	0.01250		105	40-140	0.6	30	
alpha-BHC [2C]	0.0136	0.0025	mg/kg wet	0.01250		109	40-140	0.2	30	
alpha-Chlordane	0.0132	0.0025	mg/kg wet	0.01250		106	40-140	0.5	30	
alpha-Chlordane [2C]	0.0131	0.0025	mg/kg wet	0.01250		105	40-140	1	30	
beta-BHC	0.0135	0.0025	mg/kg wet	0.01250		108	40-140	1	30	
beta-BHC [2C]	0.0135	0.0025	mg/kg wet	0.01250		108	40-140	0.9	30	
delta-BHC	0.0110	0.0025	mg/kg wet	0.01250		88	40-140	1	30	
delta-BHC [2C]	0.0114	0.0025	mg/kg wet	0.01250		92	40-140	0.9	30	
Dieldrin	0.0138	0.0025	mg/kg wet	0.01250		110	40-140	1	30	
Dieldrin	0.0138	0.0025	mg/kg wet	0.01250		110	40-140	1	30	
Dieldrin [2C]	0.0137	0.0025	mg/kg wet	0.01250		110	40-140	0.9	30	
Dieldrin [2C]	0.0137	0.0025	mg/kg wet	0.01250		110	40-140	0.9	30	
Endosulfan I	0.0132	0.0025	mg/kg wet	0.01250		105	40-140	1	30	
Endosulfan I [2C]	0.0130	0.0025	mg/kg wet	0.01250		104	40-140	1	30	
Endosulfan II	0.0129	0.0025	mg/kg wet	0.01250		103	40-140	2	30	
Endosulfan II [2C]	0.0123	0.0025	mg/kg wet	0.01250		98	40-140	1	30	
Endosulfan Sulfate	0.0141	0.0025	mg/kg wet	0.01250		113	40-140	2	30	
Endosulfan Sulfate [2C]	0.0131	0.0025	mg/kg wet	0.01250		105	40-140	1	30	
Endrin	0.0140	0.0025	mg/kg wet	0.01250		112	40-140	2	30	
Endrin [2C]	0.0139	0.0025	mg/kg wet	0.01250		111	40-140	1	30	
Endrin Aldehyde	0.0131	0.0025	mg/kg wet	0.01250		105	40-140	2	30	
Endrin Aldehyde [2C]	0.0129	0.0025	mg/kg wet	0.01250		103	40-140	2	30	
Endrin Ketone	0.0146	0.0025	mg/kg wet	0.01250		117	40-140	2	30	
Endrin Ketone [2C]	0.0139	0.0025	mg/kg wet	0.01250		111	40-140	1	30	
gamma-BHC (Lindane)	0.0132	0.0015	mg/kg wet	0.01250		106	40-140	0.9	30	
gamma-BHC (Lindane) [2C]	0.0135	0.0015	mg/kg wet	0.01250		108	40-140	0.5	30	
gamma-Chlordane	0.0134	0.0025	mg/kg wet	0.01250		107	40-140	1	30	
gamma-Chlordane [2C]	0.0132	0.0025	mg/kg wet	0.01250		106	40-140	2	30	
Heptachlor	0.0137	0.0025	mg/kg wet	0.01250		109	40-140	1	30	
Heptachlor [2C]	0.0140	0.0025	mg/kg wet	0.01250		112	40-140	1	30	
Heptachlor Epoxide	0.0140	0.0025	mg/kg wet	0.01250		112	40-140	1	30	
Heptachlor Epoxide [2C]	0.0139	0.0025	mg/kg wet	0.01250		111	40-140	1	30	
Hexachlorobenzene	0.0145	0.0025	mg/kg wet	0.01250		116	40-140	0.6	30	
Hexachlorobenzene [2C]	0.0144	0.0025	mg/kg wet	0.01250		115	40-140	0.2	30	
Methoxychlor	0.0152	0.0025	mg/kg wet	0.01250		121	40-140	3	30	
Methoxychlor [2C]	0.0139	0.0025	mg/kg wet	0.01250		111	40-140	3	30	

Surrogate: Decachlorobiphenyl	0.0138		mg/kg wet	0.01250		110	30-150			
Surrogate: Decachlorobiphenyl	0.0138		mg/kg wet	0.01250		110	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0132		mg/kg wet	0.01250		106	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0132		mg/kg wet	0.01250		106	30-150			
Surrogate: Tetrachloro-m-xylene	0.0135		mg/kg wet	0.01250		108	30-150			
Surrogate: Tetrachloro-m-xylene	0.0135		mg/kg wet	0.01250		108	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0130		mg/kg wet	0.01250		104	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0130		mg/kg wet	0.01250		104	30-150			



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609117

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8082A Polychlorinated Biphenyls (PCB)

**Batch CI60709 - 3540C**

**Blank**

Aroclor 1016	ND	0.0500	mg/kg wet							
Aroclor 1221	ND	0.0500	mg/kg wet							
Aroclor 1232	ND	0.0500	mg/kg wet							
Aroclor 1242	ND	0.0500	mg/kg wet							
Aroclor 1248	ND	0.0500	mg/kg wet							
Aroclor 1254	ND	0.0500	mg/kg wet							
Aroclor 1260	ND	0.0500	mg/kg wet							
Aroclor 1262	ND	0.0500	mg/kg wet							
Aroclor 1268	ND	0.0500	mg/kg wet							

Surrogate: Decachlorobiphenyl	0.0159		mg/kg wet	0.02500		64	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0183		mg/kg wet	0.02500		73	30-150			
Surrogate: Tetrachloro-m-xylene	0.0146		mg/kg wet	0.02500		58	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0162		mg/kg wet	0.02500		65	30-150			

**LCS**

Aroclor 1016	0.414	0.0500	mg/kg wet	0.5000		83	40-140			
Aroclor 1260	0.404	0.0500	mg/kg wet	0.5000		81	40-140			

Surrogate: Decachlorobiphenyl	0.0194		mg/kg wet	0.02500		78	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0228		mg/kg wet	0.02500		91	30-150			
Surrogate: Tetrachloro-m-xylene	0.0176		mg/kg wet	0.02500		70	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0182		mg/kg wet	0.02500		73	30-150			

**LCS Dup**

Aroclor 1016	0.418	0.0500	mg/kg wet	0.5000		84	40-140	0.9	30	
Aroclor 1260	0.405	0.0500	mg/kg wet	0.5000		81	40-140	0.3	30	

Surrogate: Decachlorobiphenyl	0.0190		mg/kg wet	0.02500		76	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0218		mg/kg wet	0.02500		87	30-150			
Surrogate: Tetrachloro-m-xylene	0.0171		mg/kg wet	0.02500		68	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0177		mg/kg wet	0.02500		71	30-150			

8100M Total Petroleum Hydrocarbons

**Batch CI60712 - 3546**

**Blank**

Decane (C10)	ND	0.2	mg/kg wet							
Docosane (C22)	ND	0.2	mg/kg wet							
Dodecane (C12)	ND	0.2	mg/kg wet							
Eicosane (C20)	ND	0.2	mg/kg wet							
Hexacosane (C26)	ND	0.2	mg/kg wet							
Hexadecane (C16)	ND	0.2	mg/kg wet							
Nonadecane (C19)	ND	0.2	mg/kg wet							
Nonane (C9)	ND	0.2	mg/kg wet							
Octacosane (C28)	ND	0.2	mg/kg wet							
Octadecane (C18)	ND	0.2	mg/kg wet							



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609117

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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**8100M Total Petroleum Hydrocarbons**

**Batch CI60712 - 3546**

Tetracosane (C24)	ND	0.2	mg/kg wet							
Tetradecane (C14)	ND	0.2	mg/kg wet							
Total Petroleum Hydrocarbons	ND	37.5	mg/kg wet							
Triacontane (C30)	ND	0.2	mg/kg wet							

<i>Surrogate: O-Terphenyl</i>	4.20		mg/kg wet	5.000		84	40-140			
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**LCS**

Decane (C10)	1.6	0.2	mg/kg wet	2.500		65	40-140			
Docosane (C22)	1.9	0.2	mg/kg wet	2.500		74	40-140			
Dodecane (C12)	1.8	0.2	mg/kg wet	2.500		70	40-140			
Eicosane (C20)	1.9	0.2	mg/kg wet	2.500		75	40-140			
Hexacosane (C26)	1.8	0.2	mg/kg wet	2.500		73	40-140			
Hexadecane (C16)	1.9	0.2	mg/kg wet	2.500		74	40-140			
Nonadecane (C19)	1.7	0.2	mg/kg wet	2.500		69	40-140			
Nonane (C9)	1.5	0.2	mg/kg wet	2.500		58	30-140			
Octacosane (C28)	1.8	0.2	mg/kg wet	2.500		73	40-140			
Octadecane (C18)	1.8	0.2	mg/kg wet	2.500		73	40-140			
Tetracosane (C24)	1.8	0.2	mg/kg wet	2.500		73	40-140			
Tetradecane (C14)	1.8	0.2	mg/kg wet	2.500		71	40-140			
Total Petroleum Hydrocarbons	24.4	37.5	mg/kg wet	35.00		70	40-140			
Triacontane (C30)	1.9	0.2	mg/kg wet	2.500		76	40-140			

<i>Surrogate: O-Terphenyl</i>	4.22		mg/kg wet	5.000		84	40-140			
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**LCS Dup**

Decane (C10)	1.6	0.2	mg/kg wet	2.500		65	40-140	0.2	25	
Docosane (C22)	1.9	0.2	mg/kg wet	2.500		76	40-140	2	25	
Dodecane (C12)	1.8	0.2	mg/kg wet	2.500		71	40-140	0.7	25	
Eicosane (C20)	1.9	0.2	mg/kg wet	2.500		76	40-140	2	25	
Hexacosane (C26)	1.9	0.2	mg/kg wet	2.500		75	40-140	2	25	
Hexadecane (C16)	1.8	0.2	mg/kg wet	2.500		74	40-140	0.7	25	
Nonadecane (C19)	1.7	0.2	mg/kg wet	2.500		70	40-140	2	25	
Nonane (C9)	1.4	0.2	mg/kg wet	2.500		58	30-140	0.7	25	
Octacosane (C28)	1.9	0.2	mg/kg wet	2.500		76	40-140	3	25	
Octadecane (C18)	1.8	0.2	mg/kg wet	2.500		74	40-140	2	25	
Tetracosane (C24)	1.9	0.2	mg/kg wet	2.500		75	40-140	2	25	
Tetradecane (C14)	1.8	0.2	mg/kg wet	2.500		72	40-140	0.7	25	
Total Petroleum Hydrocarbons	24.7	37.5	mg/kg wet	35.00		71	40-140	1	25	
Triacontane (C30)	1.9	0.2	mg/kg wet	2.500		77	40-140	2	25	

<i>Surrogate: O-Terphenyl</i>	4.24		mg/kg wet	5.000		85	40-140			
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**Batch CI60817 - 3546**

**Blank**

Decane (C10)	ND	0.2	mg/kg wet							
Docosane (C22)	ND	0.2	mg/kg wet							
Dodecane (C12)	ND	0.2	mg/kg wet							



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609117

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
<b>8100M Total Petroleum Hydrocarbons</b>										
<b>Batch CI60817 - 3546</b>										
Eicosane (C20)	ND	0.2	mg/kg wet							
Hexacosane (C26)	ND	0.2	mg/kg wet							
Hexadecane (C16)	ND	0.2	mg/kg wet							
Nonadecane (C19)	ND	0.2	mg/kg wet							
Nonane (C9)	ND	0.2	mg/kg wet							
Octacosane (C28)	ND	0.2	mg/kg wet							
Octadecane (C18)	ND	0.2	mg/kg wet							
Tetracosane (C24)	ND	0.2	mg/kg wet							
Tetradecane (C14)	ND	0.2	mg/kg wet							
Total Petroleum Hydrocarbons	ND	37.5	mg/kg wet							
Triacontane (C30)	ND	0.2	mg/kg wet							
<i>Surrogate: O-Terphenyl</i>	4.56		mg/kg wet	5.000		91	40-140			
<b>LCS</b>										
Decane (C10)	1.7	0.2	mg/kg wet	2.500		68	40-140			
Docosane (C22)	2.2	0.2	mg/kg wet	2.500		87	40-140			
Dodecane (C12)	1.3	0.2	mg/kg wet	2.500		53	40-140			
Eicosane (C20)	2.1	0.2	mg/kg wet	2.500		83	40-140			
Hexacosane (C26)	2.2	0.2	mg/kg wet	2.500		87	40-140			
Hexadecane (C16)	2.2	0.2	mg/kg wet	2.500		88	40-140			
Nonadecane (C19)	2.0	0.2	mg/kg wet	2.500		78	40-140			
Nonane (C9)	1.5	0.2	mg/kg wet	2.500		61	30-140			
Octacosane (C28)	2.2	0.2	mg/kg wet	2.500		89	40-140			
Octadecane (C18)	2.0	0.2	mg/kg wet	2.500		81	40-140			
Tetracosane (C24)	2.2	0.2	mg/kg wet	2.500		87	40-140			
Tetradecane (C14)	1.9	0.2	mg/kg wet	2.500		74	40-140			
Total Petroleum Hydrocarbons	44.1	37.5	mg/kg wet	35.00		126	40-140			
Triacontane (C30)	2.3	0.2	mg/kg wet	2.500		93	40-140			
<i>Surrogate: O-Terphenyl</i>	4.46		mg/kg wet	5.000		89	40-140			
<b>LCS Dup</b>										
Decane (C10)	1.7	0.2	mg/kg wet	2.500		68	40-140	0.7	25	
Docosane (C22)	2.1	0.2	mg/kg wet	2.500		85	40-140	2	25	
Dodecane (C12)	1.3	0.2	mg/kg wet	2.500		52	40-140	2	25	
Eicosane (C20)	2.1	0.2	mg/kg wet	2.500		83	40-140	0.3	25	
Hexacosane (C26)	2.2	0.2	mg/kg wet	2.500		87	40-140	0.3	25	
Hexadecane (C16)	2.0	0.2	mg/kg wet	2.500		80	40-140	9	25	
Nonadecane (C19)	2.1	0.2	mg/kg wet	2.500		86	40-140	9	25	
Nonane (C9)	1.5	0.2	mg/kg wet	2.500		60	30-140	0.7	25	
Octacosane (C28)	2.2	0.2	mg/kg wet	2.500		88	40-140	0.2	25	
Octadecane (C18)	2.0	0.2	mg/kg wet	2.500		80	40-140	0.6	25	
Tetracosane (C24)	2.1	0.2	mg/kg wet	2.500		86	40-140	1	25	
Tetradecane (C14)	1.9	0.2	mg/kg wet	2.500		76	40-140	3	25	
Total Petroleum Hydrocarbons	27.6	37.5	mg/kg wet	35.00		79	40-140	46	25	D+
Triacontane (C30)	2.3	0.2	mg/kg wet	2.500		92	40-140	0.5	25	





*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609117

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8100M Total Petroleum Hydrocarbons

**Batch CI60817 - 3546**

Surrogate: O-Terphenyl 4.28 mg/kg wet 5.000 86 40-140

8270D Semi-Volatile Organic Compounds

**Batch CI60635 - 3546**

**Blank**

1,1-Biphenyl	ND	0.333	mg/kg wet
1,2,4-Trichlorobenzene	ND	0.333	mg/kg wet
1,2-Dichlorobenzene	ND	0.333	mg/kg wet
1,3-Dichlorobenzene	ND	0.333	mg/kg wet
1,4-Dichlorobenzene	ND	0.333	mg/kg wet
2,3,4,6-Tetrachlorophenol	ND	1.67	mg/kg wet
2,4,5-Trichlorophenol	ND	0.333	mg/kg wet
2,4,6-Trichlorophenol	ND	0.333	mg/kg wet
2,4-Dichlorophenol	ND	0.333	mg/kg wet
2,4-Dimethylphenol	ND	0.333	mg/kg wet
2,4-Dinitrophenol	ND	1.67	mg/kg wet
2,4-Dinitrotoluene	ND	0.333	mg/kg wet
2,6-Dinitrotoluene	ND	0.333	mg/kg wet
2-Chloronaphthalene	ND	0.333	mg/kg wet
2-Chlorophenol	ND	0.333	mg/kg wet
2-Methylnaphthalene	ND	0.333	mg/kg wet
2-Methylphenol	ND	0.333	mg/kg wet
2-Nitroaniline	ND	0.333	mg/kg wet
2-Nitrophenol	ND	0.333	mg/kg wet
3,3'-Dichlorobenzidine	ND	0.667	mg/kg wet
3+4-Methylphenol	ND	0.667	mg/kg wet
3-Nitroaniline	ND	0.333	mg/kg wet
4,6-Dinitro-2-Methylphenol	ND	1.67	mg/kg wet
4-Bromophenyl-phenylether	ND	0.333	mg/kg wet
4-Chloro-3-Methylphenol	ND	0.333	mg/kg wet
4-Chloroaniline	ND	0.667	mg/kg wet
4-Chloro-phenyl-phenyl ether	ND	0.333	mg/kg wet
4-Nitroaniline	ND	0.333	mg/kg wet
4-Nitrophenol	ND	1.67	mg/kg wet
Acenaphthene	ND	0.333	mg/kg wet
Acenaphthylene	ND	0.333	mg/kg wet
Acetophenone	ND	0.667	mg/kg wet
Aniline	ND	0.667	mg/kg wet
Anthracene	ND	0.333	mg/kg wet
Azobenzene	ND	0.333	mg/kg wet
Benzo(a)anthracene	ND	0.333	mg/kg wet
Benzo(a)pyrene	ND	0.167	mg/kg wet
Benzo(b)fluoranthene	ND	0.333	mg/kg wet
Benzo(g,h,i)perylene	ND	0.333	mg/kg wet





*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609117

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8270D Semi-Volatile Organic Compounds

**Batch C160635 - 3546**

Benzo(k)fluoranthene	ND	0.333	mg/kg wet							
Benzoic Acid	ND	1.67	mg/kg wet							
Benzyl Alcohol	ND	0.333	mg/kg wet							
bis(2-Chloroethoxy)methane	ND	0.333	mg/kg wet							
bis(2-Chloroethyl)ether	ND	0.333	mg/kg wet							
bis(2-chloroisopropyl)Ether	ND	0.333	mg/kg wet							
bis(2-Ethylhexyl)phthalate	ND	0.333	mg/kg wet							
Butylbenzylphthalate	ND	0.333	mg/kg wet							
Carbazole	ND	0.333	mg/kg wet							
Chrysene	ND	0.167	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.167	mg/kg wet							
Dibenzofuran	ND	0.333	mg/kg wet							
Diethylphthalate	ND	0.333	mg/kg wet							
Dimethylphthalate	ND	0.333	mg/kg wet							
Di-n-butylphthalate	ND	0.333	mg/kg wet							
Di-n-octylphthalate	ND	0.333	mg/kg wet							
Fluoranthene	ND	0.333	mg/kg wet							
Fluorene	ND	0.333	mg/kg wet							
Hexachlorobenzene	ND	0.167	mg/kg wet							
Hexachlorobutadiene	ND	0.333	mg/kg wet							
Hexachlorocyclopentadiene	ND	1.67	mg/kg wet							
Hexachloroethane	ND	0.333	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.333	mg/kg wet							
Isophorone	ND	0.333	mg/kg wet							
Naphthalene	ND	0.333	mg/kg wet							
Nitrobenzene	ND	0.333	mg/kg wet							
N-Nitrosodimethylamine	ND	0.333	mg/kg wet							
N-Nitroso-Di-n-Propylamine	ND	0.333	mg/kg wet							
N-nitrosodiphenylamine	ND	0.333	mg/kg wet							
Pentachlorophenol	ND	1.67	mg/kg wet							
Phenanthrene	ND	0.333	mg/kg wet							
Phenol	ND	0.333	mg/kg wet							
Pyrene	ND	0.333	mg/kg wet							
Pyridine	ND	1.67	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	2.86		mg/kg wet	3.333		86	30-130			
Surrogate: 2,4,6-Tribromophenol	4.38		mg/kg wet	5.000		88	30-130			
Surrogate: 2-Chlorophenol-d4	4.81		mg/kg wet	5.000		96	30-130			
Surrogate: 2-Fluorobiphenyl	2.83		mg/kg wet	3.333		85	30-130			
Surrogate: 2-Fluorophenol	4.72		mg/kg wet	5.000		94	30-130			
Surrogate: Nitrobenzene-d5	3.11		mg/kg wet	3.333		93	30-130			
Surrogate: Phenol-d6	4.95		mg/kg wet	5.000		99	30-130			
Surrogate: p-Terphenyl-d14	3.33		mg/kg wet	3.333		100	30-130			

**LCS**

1,1-Biphenyl	2.25	0.333	mg/kg wet	3.333		67	40-140			
1,2,4-Trichlorobenzene	2.43	0.333	mg/kg wet	3.333		73	40-140			



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609117

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8270D Semi-Volatile Organic Compounds

**Batch CI60635 - 3546**

1,2-Dichlorobenzene	2.48	0.333	mg/kg wet	3.333		74	40-140			
1,3-Dichlorobenzene	2.51	0.333	mg/kg wet	3.333		75	40-140			
1,4-Dichlorobenzene	2.42	0.333	mg/kg wet	3.333		73	40-140			
2,3,4,6-Tetrachlorophenol	2.62	1.67	mg/kg wet	3.333		79	30-130			
2,4,5-Trichlorophenol	2.91	0.333	mg/kg wet	3.333		87	30-130			
2,4,6-Trichlorophenol	2.80	0.333	mg/kg wet	3.333		84	30-130			
2,4-Dichlorophenol	2.68	0.333	mg/kg wet	3.333		81	30-130			
2,4-Dimethylphenol	2.92	0.333	mg/kg wet	3.333		87	30-130			
2,4-Dinitrophenol	1.71	1.67	mg/kg wet	3.333		51	30-130			
2,4-Dinitrotoluene	2.62	0.333	mg/kg wet	3.333		78	40-140			
2,6-Dinitrotoluene	2.63	0.333	mg/kg wet	3.333		79	40-140			
2-Chloronaphthalene	2.19	0.333	mg/kg wet	3.333		66	40-140			
2-Chlorophenol	2.67	0.333	mg/kg wet	3.333		80	30-130			
2-Methylnaphthalene	2.55	0.333	mg/kg wet	3.333		76	40-140			
2-Methylphenol	2.82	0.333	mg/kg wet	3.333		85	30-130			
2-Nitroaniline	2.06	0.333	mg/kg wet	3.333		62	40-140			
2-Nitrophenol	2.62	0.333	mg/kg wet	3.333		79	30-130			
3,3'-Dichlorobenzidine	2.95	0.667	mg/kg wet	3.333		89	40-140			
3+4-Methylphenol	6.18	0.667	mg/kg wet	6.667		93	30-130			
3-Nitroaniline	2.59	0.333	mg/kg wet	3.333		78	40-140			
4,6-Dinitro-2-Methylphenol	2.08	1.67	mg/kg wet	3.333		62	30-130			
4-Bromophenyl-phenylether	2.47	0.333	mg/kg wet	3.333		74	40-140			
4-Chloro-3-Methylphenol	2.86	0.333	mg/kg wet	3.333		86	30-130			
4-Chloroaniline	2.75	0.667	mg/kg wet	3.333		82	40-140			
4-Chloro-phenyl-phenyl ether	2.64	0.333	mg/kg wet	3.333		79	40-140			
4-Nitroaniline	2.45	0.333	mg/kg wet	3.333		73	40-140			
4-Nitrophenol	2.74	1.67	mg/kg wet	3.333		82	30-130			
Acenaphthene	2.51	0.333	mg/kg wet	3.333		75	40-140			
Acenaphthylene	2.73	0.333	mg/kg wet	3.333		82	40-140			
Acetophenone	2.66	0.667	mg/kg wet	3.333		80	40-140			
Aniline	2.40	0.667	mg/kg wet	3.333		72	40-140			
Anthracene	2.71	0.333	mg/kg wet	3.333		81	40-140			
Azobenzene	2.41	0.333	mg/kg wet	3.333		72	40-140			
Benzo(a)anthracene	2.74	0.333	mg/kg wet	3.333		82	40-140			
Benzo(a)pyrene	2.85	0.167	mg/kg wet	3.333		86	40-140			
Benzo(b)fluoranthene	2.81	0.333	mg/kg wet	3.333		84	40-140			
Benzo(g,h,i)perylene	2.96	0.333	mg/kg wet	3.333		89	40-140			
Benzo(k)fluoranthene	2.65	0.333	mg/kg wet	3.333		80	40-140			
Benzoic Acid	1.05	1.67	mg/kg wet	3.333		32	40-140			B-
Benzyl Alcohol	3.25	0.333	mg/kg wet	3.333		97	40-140			
bis(2-Chloroethoxy)methane	2.55	0.333	mg/kg wet	3.333		77	40-140			
bis(2-Chloroethyl)ether	2.30	0.333	mg/kg wet	3.333		69	40-140			
bis(2-chloroisopropyl)Ether	2.59	0.333	mg/kg wet	3.333		78	40-140			
bis(2-Ethylhexyl)phthalate	2.76	0.333	mg/kg wet	3.333		83	40-140			
Butylbenzylphthalate	2.57	0.333	mg/kg wet	3.333		77	40-140			



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609117

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8270D Semi-Volatile Organic Compounds

**Batch CI60635 - 3546**

Carbazole	2.66	0.333	mg/kg wet	3.333		80	40-140			
Chrysene	2.52	0.167	mg/kg wet	3.333		76	40-140			
Dibenzo(a,h)Anthracene	2.98	0.167	mg/kg wet	3.333		89	40-140			
Dibenzofuran	2.53	0.333	mg/kg wet	3.333		76	40-140			
Diethylphthalate	2.83	0.333	mg/kg wet	3.333		85	40-140			
Dimethylphthalate	2.59	0.333	mg/kg wet	3.333		78	40-140			
Di-n-butylphthalate	2.65	0.333	mg/kg wet	3.333		80	40-140			
Di-n-octylphthalate	2.92	0.333	mg/kg wet	3.333		87	40-140			
Fluoranthene	2.80	0.333	mg/kg wet	3.333		84	40-140			
Fluorene	2.73	0.333	mg/kg wet	3.333		82	40-140			
Hexachlorobenzene	2.50	0.167	mg/kg wet	3.333		75	40-140			
Hexachlorobutadiene	2.53	0.333	mg/kg wet	3.333		76	40-140			
Hexachlorocyclopentadiene	2.07	1.67	mg/kg wet	3.333		62	40-140			
Hexachloroethane	2.51	0.333	mg/kg wet	3.333		75	40-140			
Indeno(1,2,3-cd)Pyrene	2.98	0.333	mg/kg wet	3.333		89	40-140			
Isophorone	2.71	0.333	mg/kg wet	3.333		81	40-140			
Naphthalene	2.49	0.333	mg/kg wet	3.333		75	40-140			
Nitrobenzene	2.56	0.333	mg/kg wet	3.333		77	40-140			
N-Nitrosodimethylamine	1.78	0.333	mg/kg wet	3.333		53	40-140			
N-Nitroso-Di-n-Propylamine	2.71	0.333	mg/kg wet	3.333		81	40-140			
N-nitrosodiphenylamine	2.70	0.333	mg/kg wet	3.333		81	40-140			
Pentachlorophenol	2.69	1.67	mg/kg wet	3.333		81	30-130			
Phenanthrene	2.51	0.333	mg/kg wet	3.333		75	40-140			
Phenol	2.66	0.333	mg/kg wet	3.333		80	30-130			
Pyrene	2.70	0.333	mg/kg wet	3.333		81	40-140			
Pyridine	1.73	1.67	mg/kg wet	3.333		52	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	2.51		mg/kg wet	3.333		75	30-130			
Surrogate: 2,4,6-Tribromophenol	4.09		mg/kg wet	5.000		82	30-130			
Surrogate: 2-Chlorophenol-d4	4.29		mg/kg wet	5.000		86	30-130			
Surrogate: 2-Fluorobiphenyl	2.47		mg/kg wet	3.333		74	30-130			
Surrogate: 2-Fluorophenol	4.11		mg/kg wet	5.000		82	30-130			
Surrogate: Nitrobenzene-d5	2.70		mg/kg wet	3.333		81	30-130			
Surrogate: Phenol-d6	4.33		mg/kg wet	5.000		87	30-130			
Surrogate: p-Terphenyl-d14	2.78		mg/kg wet	3.333		83	30-130			

**LCS Dup**

1,1-Biphenyl	2.18	0.333	mg/kg wet	3.333		65	40-140	3	30	
1,2,4-Trichlorobenzene	2.33	0.333	mg/kg wet	3.333		70	40-140	4	30	
1,2-Dichlorobenzene	2.31	0.333	mg/kg wet	3.333		69	40-140	7	30	
1,3-Dichlorobenzene	2.34	0.333	mg/kg wet	3.333		70	40-140	7	30	
1,4-Dichlorobenzene	2.30	0.333	mg/kg wet	3.333		69	40-140	5	30	
2,3,4,6-Tetrachlorophenol	2.56	1.67	mg/kg wet	3.333		77	30-130	2	30	
2,4,5-Trichlorophenol	2.84	0.333	mg/kg wet	3.333		85	30-130	2	30	
2,4,6-Trichlorophenol	2.73	0.333	mg/kg wet	3.333		82	30-130	3	30	
2,4-Dichlorophenol	2.68	0.333	mg/kg wet	3.333		80	30-130	0.06	30	
2,4-Dimethylphenol	2.82	0.333	mg/kg wet	3.333		85	30-130	3	30	



CERTIFICATE OF ANALYSIS

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609117

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8270D Semi-Volatile Organic Compounds

**Batch CI60635 - 3546**

2,4-Dinitrophenol	1.66	1.67	mg/kg wet	3.333		50	30-130	3	30	
2,4-Dinitrotoluene	2.54	0.333	mg/kg wet	3.333		76	40-140	3	30	
2,6-Dinitrotoluene	2.59	0.333	mg/kg wet	3.333		78	40-140	1	30	
2-Chloronaphthalene	2.13	0.333	mg/kg wet	3.333		64	40-140	3	30	
2-Chlorophenol	2.55	0.333	mg/kg wet	3.333		76	30-130	5	30	
2-Methylnaphthalene	2.48	0.333	mg/kg wet	3.333		75	40-140	3	30	
2-Methylphenol	2.69	0.333	mg/kg wet	3.333		81	30-130	5	30	
2-Nitroaniline	2.01	0.333	mg/kg wet	3.333		60	40-140	2	30	
2-Nitrophenol	2.58	0.333	mg/kg wet	3.333		78	30-130	1	30	
3,3'-Dichlorobenzidine	2.87	0.667	mg/kg wet	3.333		86	40-140	3	30	
3+4-Methylphenol	5.79	0.667	mg/kg wet	6.667		87	30-130	6	30	
3-Nitroaniline	2.52	0.333	mg/kg wet	3.333		75	40-140	3	30	
4,6-Dinitro-2-Methylphenol	2.13	1.67	mg/kg wet	3.333		64	30-130	3	30	
4-Bromophenyl-phenylether	2.43	0.333	mg/kg wet	3.333		73	40-140	2	30	
4-Chloro-3-Methylphenol	2.77	0.333	mg/kg wet	3.333		83	30-130	3	30	
4-Chloroaniline	2.64	0.667	mg/kg wet	3.333		79	40-140	4	30	
4-Chloro-phenyl-phenyl ether	2.54	0.333	mg/kg wet	3.333		76	40-140	4	30	
4-Nitroaniline	2.39	0.333	mg/kg wet	3.333		72	40-140	2	30	
4-Nitrophenol	2.66	1.67	mg/kg wet	3.333		80	30-130	3	30	
Acenaphthene	2.43	0.333	mg/kg wet	3.333		73	40-140	3	30	
Acenaphthylene	2.63	0.333	mg/kg wet	3.333		79	40-140	3	30	
Acetophenone	2.54	0.667	mg/kg wet	3.333		76	40-140	5	30	
Aniline	2.29	0.667	mg/kg wet	3.333		69	40-140	5	30	
Anthracene	2.64	0.333	mg/kg wet	3.333		79	40-140	3	30	
Azobenzene	2.34	0.333	mg/kg wet	3.333		70	40-140	3	30	
Benzo(a)anthracene	2.66	0.333	mg/kg wet	3.333		80	40-140	3	30	
Benzo(a)pyrene	2.77	0.167	mg/kg wet	3.333		83	40-140	3	30	
Benzo(b)fluoranthene	2.72	0.333	mg/kg wet	3.333		82	40-140	3	30	
Benzo(g,h,i)perylene	3.01	0.333	mg/kg wet	3.333		90	40-140	1	30	
Benzo(k)fluoranthene	2.57	0.333	mg/kg wet	3.333		77	40-140	3	30	
Benzoic Acid	1.05	1.67	mg/kg wet	3.333		32	40-140	0.4	30	B-
Benzyl Alcohol	3.11	0.333	mg/kg wet	3.333		93	40-140	4	30	
bis(2-Chloroethoxy)methane	2.48	0.333	mg/kg wet	3.333		74	40-140	3	30	
bis(2-Chloroethyl)ether	2.19	0.333	mg/kg wet	3.333		66	40-140	5	30	
bis(2-chloroisopropyl)Ether	2.46	0.333	mg/kg wet	3.333		74	40-140	5	30	
bis(2-Ethylhexyl)phthalate	2.68	0.333	mg/kg wet	3.333		80	40-140	3	30	
Butylbenzylphthalate	2.49	0.333	mg/kg wet	3.333		75	40-140	3	30	
Carbazole	2.55	0.333	mg/kg wet	3.333		76	40-140	4	30	
Chrysene	2.46	0.167	mg/kg wet	3.333		74	40-140	3	30	
Dibenzo(a,h)Anthracene	3.01	0.167	mg/kg wet	3.333		90	40-140	1	30	
Dibenzofuran	2.44	0.333	mg/kg wet	3.333		73	40-140	3	30	
Diethylphthalate	2.74	0.333	mg/kg wet	3.333		82	40-140	3	30	
Dimethylphthalate	2.53	0.333	mg/kg wet	3.333		76	40-140	2	30	
Di-n-butylphthalate	2.57	0.333	mg/kg wet	3.333		77	40-140	3	30	
Di-n-octylphthalate	2.84	0.333	mg/kg wet	3.333		85	40-140	3	30	



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609117

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8270D Semi-Volatile Organic Compounds

**Batch CI60635 - 3546**

Fluoranthene	2.68	0.333	mg/kg wet	3.333		80	40-140	4	30	
Fluorene	2.65	0.333	mg/kg wet	3.333		79	40-140	3	30	
Hexachlorobenzene	2.43	0.167	mg/kg wet	3.333		73	40-140	3	30	
Hexachlorobutadiene	2.40	0.333	mg/kg wet	3.333		72	40-140	5	30	
Hexachlorocyclopentadiene	1.68	1.67	mg/kg wet	3.333		50	40-140	21	30	
Hexachloroethane	2.35	0.333	mg/kg wet	3.333		70	40-140	7	30	
Indeno(1,2,3-cd)Pyrene	3.00	0.333	mg/kg wet	3.333		90	40-140	0.8	30	
Isophorone	2.63	0.333	mg/kg wet	3.333		79	40-140	3	30	
Naphthalene	2.39	0.333	mg/kg wet	3.333		72	40-140	4	30	
Nitrobenzene	2.46	0.333	mg/kg wet	3.333		74	40-140	4	30	
N-Nitrosodimethylamine	1.71	0.333	mg/kg wet	3.333		51	40-140	4	30	
N-Nitroso-Di-n-Propylamine	2.60	0.333	mg/kg wet	3.333		78	40-140	4	30	
N-nitrosodiphenylamine	2.63	0.333	mg/kg wet	3.333		79	40-140	3	30	
Pentachlorophenol	2.70	1.67	mg/kg wet	3.333		81	30-130	0.3	30	
Phenanthrene	2.44	0.333	mg/kg wet	3.333		73	40-140	3	30	
Phenol	2.59	0.333	mg/kg wet	3.333		78	30-130	3	30	
Pyrene	2.60	0.333	mg/kg wet	3.333		78	40-140	4	30	
Pyridine	1.64	1.67	mg/kg wet	3.333		49	40-140	5	30	
Surrogate: 1,2-Dichlorobenzene-d4	2.35		mg/kg wet	3.333		70	30-130			
Surrogate: 2,4,6-Tribromophenol	4.04		mg/kg wet	5.000		81	30-130			
Surrogate: 2-Chlorophenol-d4	4.11		mg/kg wet	5.000		82	30-130			
Surrogate: 2-Fluorobiphenyl	2.40		mg/kg wet	3.333		72	30-130			
Surrogate: 2-Fluorophenol	3.95		mg/kg wet	5.000		79	30-130			
Surrogate: Nitrobenzene-d5	2.61		mg/kg wet	3.333		78	30-130			
Surrogate: Phenol-d6	4.18		mg/kg wet	5.000		84	30-130			
Surrogate: p-Terphenyl-d14	2.69		mg/kg wet	3.333		81	30-130			

**Batch CI60818 - 3546**

<b>Blank</b>										
1,1-Biphenyl	ND	0.333	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.333	mg/kg wet							
1,2-Dichlorobenzene	ND	0.333	mg/kg wet							
1,3-Dichlorobenzene	ND	0.333	mg/kg wet							
1,4-Dichlorobenzene	ND	0.333	mg/kg wet							
2,3,4,6-Tetrachlorophenol	ND	1.67	mg/kg wet							
2,4,5-Trichlorophenol	ND	0.333	mg/kg wet							
2,4,6-Trichlorophenol	ND	0.333	mg/kg wet							
2,4-Dichlorophenol	ND	0.333	mg/kg wet							
2,4-Dimethylphenol	ND	0.333	mg/kg wet							
2,4-Dinitrophenol	ND	1.67	mg/kg wet							
2,4-Dinitrotoluene	ND	0.333	mg/kg wet							
2,6-Dinitrotoluene	ND	0.333	mg/kg wet							
2-Chloronaphthalene	ND	0.333	mg/kg wet							
2-Chlorophenol	ND	0.333	mg/kg wet							
2-Methylnaphthalene	ND	0.333	mg/kg wet							
2-Methylphenol	ND	0.333	mg/kg wet							



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609117

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8270D Semi-Volatile Organic Compounds

**Batch CI60818 - 3546**

2-Nitroaniline	ND	0.333	mg/kg wet							
2-Nitrophenol	ND	0.333	mg/kg wet							
3,3'-Dichlorobenzidine	ND	0.667	mg/kg wet							
3+4-Methylphenol	ND	0.667	mg/kg wet							
3-Nitroaniline	ND	0.333	mg/kg wet							
4,6-Dinitro-2-Methylphenol	ND	1.67	mg/kg wet							
4-Bromophenyl-phenylether	ND	0.333	mg/kg wet							
4-Chloro-3-Methylphenol	ND	0.333	mg/kg wet							
4-Chloroaniline	ND	0.667	mg/kg wet							
4-Chloro-phenyl-phenyl ether	ND	0.333	mg/kg wet							
4-Nitroaniline	ND	0.333	mg/kg wet							
4-Nitrophenol	ND	1.67	mg/kg wet							
Acenaphthene	ND	0.333	mg/kg wet							
Acenaphthylene	ND	0.333	mg/kg wet							
Acetophenone	ND	0.667	mg/kg wet							
Aniline	ND	0.667	mg/kg wet							
Anthracene	ND	0.333	mg/kg wet							
Azobenzene	ND	0.333	mg/kg wet							
Benzo(a)anthracene	ND	0.333	mg/kg wet							
Benzo(a)pyrene	ND	0.167	mg/kg wet							
Benzo(b)fluoranthene	ND	0.333	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.333	mg/kg wet							
Benzo(k)fluoranthene	ND	0.333	mg/kg wet							
Benzoic Acid	ND	1.67	mg/kg wet							
Benzyl Alcohol	ND	0.333	mg/kg wet							
bis(2-Chloroethoxy)methane	ND	0.333	mg/kg wet							
bis(2-Chloroethyl)ether	ND	0.333	mg/kg wet							
bis(2-chloroisopropyl)Ether	ND	0.333	mg/kg wet							
bis(2-Ethylhexyl)phthalate	ND	0.333	mg/kg wet							
Butylbenzylphthalate	ND	0.333	mg/kg wet							
Carbazole	ND	0.333	mg/kg wet							
Chrysene	ND	0.167	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.167	mg/kg wet							
Dibenzofuran	ND	0.333	mg/kg wet							
Diethylphthalate	ND	0.333	mg/kg wet							
Dimethylphthalate	ND	0.333	mg/kg wet							
Di-n-butylphthalate	ND	0.333	mg/kg wet							
Di-n-octylphthalate	ND	0.333	mg/kg wet							
Fluoranthene	ND	0.333	mg/kg wet							
Fluorene	ND	0.333	mg/kg wet							
Hexachlorobenzene	ND	0.167	mg/kg wet							
Hexachlorobutadiene	ND	0.333	mg/kg wet							
Hexachlorocyclopentadiene	ND	1.67	mg/kg wet							
Hexachloroethane	ND	0.333	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.333	mg/kg wet							



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609117

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8270D Semi-Volatile Organic Compounds

**Batch CI60818 - 3546**

Isophorone	ND	0.333	mg/kg wet							
Naphthalene	ND	0.333	mg/kg wet							
Nitrobenzene	ND	0.333	mg/kg wet							
N-Nitrosodimethylamine	ND	0.333	mg/kg wet							
N-Nitroso-Di-n-Propylamine	ND	0.333	mg/kg wet							
N-nitrosodiphenylamine	ND	0.333	mg/kg wet							
Pentachlorophenol	ND	1.67	mg/kg wet							
Phenanthrene	ND	0.333	mg/kg wet							
Phenol	ND	0.333	mg/kg wet							
Pyrene	ND	0.333	mg/kg wet							
Pyridine	ND	1.67	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	2.60		mg/kg wet	3.333		78	30-130			
Surrogate: 2,4,6-Tribromophenol	3.52		mg/kg wet	5.000		70	30-130			
Surrogate: 2-Chlorophenol-d4	4.05		mg/kg wet	5.000		81	30-130			
Surrogate: 2-Fluorobiphenyl	2.68		mg/kg wet	3.333		80	30-130			
Surrogate: 2-Fluorophenol	4.01		mg/kg wet	5.000		80	30-130			
Surrogate: Nitrobenzene-d5	2.80		mg/kg wet	3.333		84	30-130			
Surrogate: Phenol-d6	4.22		mg/kg wet	5.000		84	30-130			
Surrogate: p-Terphenyl-d14	3.33		mg/kg wet	3.333		100	30-130			

**LCS**

1,1-Biphenyl	2.30	0.333	mg/kg wet	3.333		69	40-140			
1,2,4-Trichlorobenzene	2.28	0.333	mg/kg wet	3.333		68	40-140			
1,2-Dichlorobenzene	2.18	0.333	mg/kg wet	3.333		65	40-140			
1,3-Dichlorobenzene	2.19	0.333	mg/kg wet	3.333		66	40-140			
1,4-Dichlorobenzene	2.16	0.333	mg/kg wet	3.333		65	40-140			
2,3,4,6-Tetrachlorophenol	2.34	1.67	mg/kg wet	3.333		70	30-130			
2,4,5-Trichlorophenol	2.59	0.333	mg/kg wet	3.333		78	30-130			
2,4,6-Trichlorophenol	2.45	0.333	mg/kg wet	3.333		73	30-130			
2,4-Dichlorophenol	2.40	0.333	mg/kg wet	3.333		72	30-130			
2,4-Dimethylphenol	2.41	0.333	mg/kg wet	3.333		72	30-130			
2,4-Dinitrophenol	2.26	1.67	mg/kg wet	3.333		68	30-130			
2,4-Dinitrotoluene	2.77	0.333	mg/kg wet	3.333		83	40-140			
2,6-Dinitrotoluene	2.48	0.333	mg/kg wet	3.333		74	40-140			
2-Chloronaphthalene	2.25	0.333	mg/kg wet	3.333		68	40-140			
2-Chlorophenol	2.32	0.333	mg/kg wet	3.333		70	30-130			
2-Methylnaphthalene	2.34	0.333	mg/kg wet	3.333		70	40-140			
2-Methylphenol	2.36	0.333	mg/kg wet	3.333		71	30-130			
2-Nitroaniline	2.52	0.333	mg/kg wet	3.333		75	40-140			
2-Nitrophenol	2.33	0.333	mg/kg wet	3.333		70	30-130			
3,3'-Dichlorobenzidine	1.28	0.667	mg/kg wet	3.333		38	40-140			B-
3+4-Methylphenol	4.70	0.667	mg/kg wet	6.667		71	30-130			
3-Nitroaniline	2.54	0.333	mg/kg wet	3.333		76	40-140			
4,6-Dinitro-2-Methylphenol	2.71	1.67	mg/kg wet	3.333		81	30-130			
4-Bromophenyl-phenylether	2.57	0.333	mg/kg wet	3.333		77	40-140			
4-Chloro-3-Methylphenol	2.46	0.333	mg/kg wet	3.333		74	30-130			





*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609117

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8270D Semi-Volatile Organic Compounds

**Batch CI60818 - 3546**

4-Chloroaniline	2.17	0.667	mg/kg wet	3.333		65	40-140			
4-Chloro-phenyl-phenyl ether	2.48	0.333	mg/kg wet	3.333		74	40-140			
4-Nitroaniline	2.73	0.333	mg/kg wet	3.333		82	40-140			
4-Nitrophenol	2.60	1.67	mg/kg wet	3.333		78	30-130			
Acenaphthene	2.52	0.333	mg/kg wet	3.333		76	40-140			
Acenaphthylene	2.52	0.333	mg/kg wet	3.333		76	40-140			
Acetophenone	2.36	0.667	mg/kg wet	3.333		71	40-140			
Aniline	1.39	0.667	mg/kg wet	3.333		42	40-140			
Anthracene	2.79	0.333	mg/kg wet	3.333		84	40-140			
Azobenzene	2.65	0.333	mg/kg wet	3.333		79	40-140			
Benzo(a)anthracene	2.85	0.333	mg/kg wet	3.333		86	40-140			
Benzo(a)pyrene	2.92	0.167	mg/kg wet	3.333		88	40-140			
Benzo(b)fluoranthene	2.88	0.333	mg/kg wet	3.333		86	40-140			
Benzo(g,h,i)perylene	3.46	0.333	mg/kg wet	3.333		104	40-140			
Benzo(k)fluoranthene	2.89	0.333	mg/kg wet	3.333		87	40-140			
Benzoic Acid	2.73	1.67	mg/kg wet	3.333		82	40-140			
Benzyl Alcohol	2.53	0.333	mg/kg wet	3.333		76	40-140			
bis(2-Chloroethoxy)methane	2.42	0.333	mg/kg wet	3.333		72	40-140			
bis(2-Chloroethyl)ether	2.17	0.333	mg/kg wet	3.333		65	40-140			
bis(2-chloroisopropyl)Ether	2.29	0.333	mg/kg wet	3.333		69	40-140			
bis(2-Ethylhexyl)phthalate	2.80	0.333	mg/kg wet	3.333		84	40-140			
Butylbenzylphthalate	2.72	0.333	mg/kg wet	3.333		82	40-140			
Carbazole	2.87	0.333	mg/kg wet	3.333		86	40-140			
Chrysene	2.71	0.167	mg/kg wet	3.333		81	40-140			
Dibenzo(a,h)Anthracene	3.40	0.167	mg/kg wet	3.333		102	40-140			
Dibenzofuran	2.43	0.333	mg/kg wet	3.333		73	40-140			
Diethylphthalate	2.85	0.333	mg/kg wet	3.333		85	40-140			
Dimethylphthalate	2.62	0.333	mg/kg wet	3.333		79	40-140			
Di-n-butylphthalate	2.89	0.333	mg/kg wet	3.333		87	40-140			
Di-n-octylphthalate	2.71	0.333	mg/kg wet	3.333		81	40-140			
Fluoranthene	3.00	0.333	mg/kg wet	3.333		90	40-140			
Fluorene	2.59	0.333	mg/kg wet	3.333		78	40-140			
Hexachlorobenzene	2.60	0.167	mg/kg wet	3.333		78	40-140			
Hexachlorobutadiene	2.34	0.333	mg/kg wet	3.333		70	40-140			
Hexachlorocyclopentadiene	ND	1.67	mg/kg wet	3.333			40-140			B-
Hexachloroethane	2.29	0.333	mg/kg wet	3.333		69	40-140			
Indeno(1,2,3-cd)Pyrene	3.38	0.333	mg/kg wet	3.333		101	40-140			
Isophorone	2.67	0.333	mg/kg wet	3.333		80	40-140			
Naphthalene	2.28	0.333	mg/kg wet	3.333		68	40-140			
Nitrobenzene	2.46	0.333	mg/kg wet	3.333		74	40-140			
N-Nitrosodimethylamine	2.22	0.333	mg/kg wet	3.333		67	40-140			
N-Nitroso-Di-n-Propylamine	2.47	0.333	mg/kg wet	3.333		74	40-140			
N-nitrosodiphenylamine	2.78	0.333	mg/kg wet	3.333		83	40-140			
Pentachlorophenol	2.82	1.67	mg/kg wet	3.333		85	30-130			
Phenanthrene	2.61	0.333	mg/kg wet	3.333		78	40-140			





*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609117

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8270D Semi-Volatile Organic Compounds

**Batch CI60818 - 3546**

Phenol	2.31	0.333	mg/kg wet	3.333		69	30-130			
Pyrene	2.82	0.333	mg/kg wet	3.333		85	40-140			
Pyridine	1.70	1.67	mg/kg wet	3.333		51	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	2.42		mg/kg wet	3.333		73	30-130			
Surrogate: 2,4,6-Tribromophenol	4.33		mg/kg wet	5.000		87	30-130			
Surrogate: 2-Chlorophenol-d4	3.82		mg/kg wet	5.000		76	30-130			
Surrogate: 2-Fluorobiphenyl	2.68		mg/kg wet	3.333		80	30-130			
Surrogate: 2-Fluorophenol	3.83		mg/kg wet	5.000		77	30-130			
Surrogate: Nitrobenzene-d5	2.75		mg/kg wet	3.333		83	30-130			
Surrogate: Phenol-d6	3.94		mg/kg wet	5.000		79	30-130			
Surrogate: p-Terphenyl-d14	3.27		mg/kg wet	3.333		98	30-130			

**LCS Dup**

1,1-Biphenyl	2.24	0.333	mg/kg wet	3.333		67	40-140	3	30	
1,2,4-Trichlorobenzene	2.24	0.333	mg/kg wet	3.333		67	40-140	2	30	
1,2-Dichlorobenzene	2.23	0.333	mg/kg wet	3.333		67	40-140	3	30	
1,3-Dichlorobenzene	2.22	0.333	mg/kg wet	3.333		67	40-140	1	30	
1,4-Dichlorobenzene	2.18	0.333	mg/kg wet	3.333		65	40-140	0.9	30	
2,3,4,6-Tetrachlorophenol	2.13	1.67	mg/kg wet	3.333		64	30-130	10	30	
2,4,5-Trichlorophenol	2.47	0.333	mg/kg wet	3.333		74	30-130	5	30	
2,4,6-Trichlorophenol	2.28	0.333	mg/kg wet	3.333		68	30-130	7	30	
2,4-Dichlorophenol	2.35	0.333	mg/kg wet	3.333		70	30-130	2	30	
2,4-Dimethylphenol	2.37	0.333	mg/kg wet	3.333		71	30-130	2	30	
2,4-Dinitrophenol	1.65	1.67	mg/kg wet	3.333		50	30-130	31	30	D+
2,4-Dinitrotoluene	2.67	0.333	mg/kg wet	3.333		80	40-140	4	30	
2,6-Dinitrotoluene	2.44	0.333	mg/kg wet	3.333		73	40-140	2	30	
2-Chloronaphthalene	2.20	0.333	mg/kg wet	3.333		66	40-140	2	30	
2-Chlorophenol	2.41	0.333	mg/kg wet	3.333		72	30-130	4	30	
2-Methylnaphthalene	2.30	0.333	mg/kg wet	3.333		69	40-140	2	30	
2-Methylphenol	2.42	0.333	mg/kg wet	3.333		73	30-130	3	30	
2-Nitroaniline	2.46	0.333	mg/kg wet	3.333		74	40-140	2	30	
2-Nitrophenol	2.30	0.333	mg/kg wet	3.333		69	30-130	1	30	
3,3'-Dichlorobenzidine	0.219	0.667	mg/kg wet	3.333		7	40-140	141	30	B-, D+
3+4-Methylphenol	5.99	0.667	mg/kg wet	6.667		90	30-130	24	30	
3-Nitroaniline	2.43	0.333	mg/kg wet	3.333		73	40-140	4	30	
4,6-Dinitro-2-Methylphenol	2.16	1.67	mg/kg wet	3.333		65	30-130	22	30	
4-Bromophenyl-phenylether	2.51	0.333	mg/kg wet	3.333		75	40-140	2	30	
4-Chloro-3-Methylphenol	2.39	0.333	mg/kg wet	3.333		72	30-130	3	30	
4-Chloroaniline	2.04	0.667	mg/kg wet	3.333		61	40-140	6	30	
4-Chloro-phenyl-phenyl ether	2.40	0.333	mg/kg wet	3.333		72	40-140	3	30	
4-Nitroaniline	2.58	0.333	mg/kg wet	3.333		77	40-140	6	30	
4-Nitrophenol	2.28	1.67	mg/kg wet	3.333		68	30-130	13	30	
Acenaphthene	2.42	0.333	mg/kg wet	3.333		73	40-140	4	30	
Acenaphthylene	2.43	0.333	mg/kg wet	3.333		73	40-140	4	30	
Acetophenone	2.43	0.667	mg/kg wet	3.333		73	40-140	3	30	
Aniline	1.33	0.667	mg/kg wet	3.333		40	40-140	4	30	



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609117

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8270D Semi-Volatile Organic Compounds

**Batch CI60818 - 3546**

Anthracene	2.69	0.333	mg/kg wet	3.333		81	40-140	4	30	
Azobenzene	2.59	0.333	mg/kg wet	3.333		78	40-140	2	30	
Benzo(a)anthracene	2.72	0.333	mg/kg wet	3.333		82	40-140	5	30	
Benzo(a)pyrene	2.78	0.167	mg/kg wet	3.333		84	40-140	5	30	
Benzo(b)fluoranthene	2.77	0.333	mg/kg wet	3.333		83	40-140	4	30	
Benzo(g,h,i)perylene	3.08	0.333	mg/kg wet	3.333		92	40-140	12	30	
Benzo(k)fluoranthene	2.77	0.333	mg/kg wet	3.333		83	40-140	4	30	
Benzoic Acid	1.48	1.67	mg/kg wet	3.333		44	40-140	59	30	D+
Benzyl Alcohol	2.59	0.333	mg/kg wet	3.333		78	40-140	2	30	
bis(2-Chloroethoxy)methane	2.38	0.333	mg/kg wet	3.333		71	40-140	2	30	
bis(2-Chloroethyl)ether	2.25	0.333	mg/kg wet	3.333		68	40-140	4	30	
bis(2-chloroisopropyl)Ether	2.38	0.333	mg/kg wet	3.333		71	40-140	4	30	
bis(2-Ethylhexyl)phthalate	2.72	0.333	mg/kg wet	3.333		82	40-140	3	30	
Butylbenzylphthalate	2.65	0.333	mg/kg wet	3.333		79	40-140	3	30	
Carbazole	2.64	0.333	mg/kg wet	3.333		79	40-140	8	30	
Chrysene	2.62	0.167	mg/kg wet	3.333		78	40-140	3	30	
Dibenzo(a,h)Anthracene	3.20	0.167	mg/kg wet	3.333		96	40-140	6	30	
Dibenzofuran	2.35	0.333	mg/kg wet	3.333		71	40-140	3	30	
Diethylphthalate	2.76	0.333	mg/kg wet	3.333		83	40-140	3	30	
Dimethylphthalate	2.53	0.333	mg/kg wet	3.333		76	40-140	4	30	
Di-n-butylphthalate	2.77	0.333	mg/kg wet	3.333		83	40-140	4	30	
Di-n-octylphthalate	2.59	0.333	mg/kg wet	3.333		78	40-140	5	30	
Fluoranthene	2.88	0.333	mg/kg wet	3.333		86	40-140	4	30	
Fluorene	2.51	0.333	mg/kg wet	3.333		75	40-140	3	30	
Hexachlorobenzene	2.55	0.167	mg/kg wet	3.333		77	40-140	2	30	
Hexachlorobutadiene	2.32	0.333	mg/kg wet	3.333		70	40-140	1	30	
Hexachlorocyclopentadiene	ND	1.67	mg/kg wet	3.333			40-140	200	30	B-, D+
Hexachloroethane	2.32	0.333	mg/kg wet	3.333		70	40-140	1	30	
Indeno(1,2,3-cd)Pyrene	3.17	0.333	mg/kg wet	3.333		95	40-140	6	30	
Isophorone	2.65	0.333	mg/kg wet	3.333		79	40-140	0.8	30	
Naphthalene	2.26	0.333	mg/kg wet	3.333		68	40-140	1	30	
Nitrobenzene	2.45	0.333	mg/kg wet	3.333		73	40-140	0.5	30	
N-Nitrosodimethylamine	2.22	0.333	mg/kg wet	3.333		67	40-140	0.05	30	
N-Nitroso-Di-n-Propylamine	2.59	0.333	mg/kg wet	3.333		78	40-140	5	30	
N-nitrosodiphenylamine	2.63	0.333	mg/kg wet	3.333		79	40-140	6	30	
Pentachlorophenol	1.74	1.67	mg/kg wet	3.333		52	30-130	47	30	D+
Phenanthrene	2.54	0.333	mg/kg wet	3.333		76	40-140	3	30	
Phenol	2.43	0.333	mg/kg wet	3.333		73	30-130	5	30	
Pyrene	2.79	0.333	mg/kg wet	3.333		84	40-140	1	30	
Pyridine	1.56	1.67	mg/kg wet	3.333		47	40-140	8	30	
Surrogate: 1,2-Dichlorobenzene-d4	2.38		mg/kg wet	3.333		71	30-130			
Surrogate: 2,4,6-Tribromophenol	3.58		mg/kg wet	5.000		72	30-130			
Surrogate: 2-Chlorophenol-d4	3.82		mg/kg wet	5.000		76	30-130			
Surrogate: 2-Fluorobiphenyl	2.49		mg/kg wet	3.333		75	30-130			
Surrogate: 2-Fluorophenol	3.80		mg/kg wet	5.000		76	30-130			
Surrogate: Nitrobenzene-d5	2.62		mg/kg wet	3.333		79	30-130			



CERTIFICATE OF ANALYSIS

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609117

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8270D Semi-Volatile Organic Compounds

**Batch CI60818 - 3546**

Surrogate: Phenol-d6	3.95		mg/kg wet	5.000		79	30-130			
Surrogate: p-Terphenyl-d14	3.09		mg/kg wet	3.333		93	30-130			

Classical Chemistry

**Batch CI60931 - TCN Prep**

**Blank**

Total Cyanide	ND	1.00	mg/kg wet							
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**LCS**

Total Cyanide	5.06	1.00	mg/kg wet	5.015		101	90-110			
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**Reference**

Total Cyanide	49.1	4.87	mg/kg wet	48.40		101	36.1577-206.6 12			
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**Reference**

Total Cyanide	49.7	4.84	mg/kg wet	48.40		103	36.1577-206.6 12			
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**Batch CI61224 - General Preparation**

**Blank**

Hexavalent Chromium	ND	0.7	mg/kg wet							
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**LCS**

Hexavalent Chromium	32.9	0.7	mg/kg wet	33.32		99	80-120			
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**LCS Dup**

Hexavalent Chromium	32.7	0.7	mg/kg wet	33.32		98	80-120	0.4	20	
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**Reference**

Hexavalent Chromium	70.3	2.0	mg/kg wet	71.00		99	20.3-222.5			
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*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)

Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609117

**Notes and Definitions**

- U Analyte included in the analysis, but not detected
- Q Calibration required quadratic regression (Q).
- D+ Relative percent difference for duplicate is outside of criteria (D+).
- D Diluted.
- CD+ Continuing Calibration %Diff/Drift is above control limit (CD+).
- CD- Continuing Calibration %Diff/Drift is below control limit (CD-).
- B+ Blank Spike recovery is above upper control limit (B+).
- B- Blank Spike recovery is below lower control limit (B-).
- ND Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- MDL Method Detection Limit
- MRL Method Reporting Limit
- LOD Limit of Detection
- LOQ Limit of Quantitation
- DL Detection Limit
- I/V Initial Volume
- F/V Final Volume
- § Subcontracted analysis; see attached report
- 1 Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
- 2 Range result excludes concentrations of target analytes eluting in that range.
- 3 Range result excludes the concentration of the C9-C10 aromatic range.
- Avg Results reported as a mathematical average.
- NR No Recovery
- [CALC] Calculated Analyte
- SUB Subcontracted analysis; see attached report



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609117

**ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS**

**ENVIRONMENTAL**

Rhode Island Potable and Non Potable Water: LAI00179

<http://www.health.ri.gov/find/labs/analytical/ESS.pdf>

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750

[http://www.ct.gov/dph/lib/dph/environmental\\_health/environmental\\_laboratories/pdf/OutOfStateCommercialLaboratories.pdf](http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutOfStateCommercialLaboratories.pdf)

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002

<http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/documents/AllLabs.xls>

Massachusetts Potable and Non Potable Water: M-RI002

<http://public.dep.state.ma.us/Labcert/Labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424

<http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm>

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313

<http://www.wadsworth.org/labcert/elap/comm.html>

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006

[http://datamine2.state.nj.us/DEP\\_OPRA/OpraMain/pi\\_main?mode=pi\\_by\\_site&sort\\_order=PI\\_NAMEA&Select+a+Site:=58715](http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715)

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752

[http://www.depweb.state.pa.us/portal/server.pt/community/labs/13780/laboratory\\_accreditation\\_program/590095](http://www.depweb.state.pa.us/portal/server.pt/community/labs/13780/laboratory_accreditation_program/590095)

**PESTICIDES BREAKDOWN CHECK SUMMARY**

Data File Name GM002510.D  
 Data File Path Q:\SVOA\GC11\_GM\DATA\GM0916\090716\  
 Date Acquired 9-7-2016 08:23:29 PM  
 Sample Name **CZI0092-PEM1**  
 Instrument Name SVOAGC11

# Name	Ret Time 1	Ret Time 2	Response 1	Response 2
1) Tetrachloro-m-xylene	6.36	7.42	444614858.3	414158866.9
13) 4,4'-DDE	12.37	14.15	1990244.85	1836142.762
16) Endrin	13.50	15.25	696405539.7	709594380.1
17) 4,4'-DDD	13.67	15.43	37320313.87	43484139.56
19) 4,4'-DDT	14.26	16.15	505157767.2	610542008
20) Endrin Aldehyde	0.00	0.00	0	0
23) Endrin Ketone	16.50	18.80	11244187.41	15675295.5
29) Decachlorobiphenyl	19.33	24.02	297862450	350175422.3

**Breakdown Column 1**

Endrin: 1.59 %  
 4,4'-DDT: 7.22 %  
 Total: 8.81 %

**Breakdown Column 2**

Endrin: 2.16 %  
 4,4'-DDT: 6.91 %  
 Total: 9.07 %

Passing Criteria (for each column):  
 Individual breakdown is not to exceed 15.0%

**PESTICIDES BREAKDOWN CHECK SUMMARY**

Data File Name GM002527.D  
 Data File Path Q:\SVOA\GC11\_GM\DATA\GM0916\090716\  
 Date Acquired 9-8-2016 04:30:56 AM  
 Sample Name **CZI0092-PEM2**  
 Instrument Name SVOAGC11

# Name	Ret Time 1	Ret Time 2	Response 1	Response 2
1) Tetrachloro-m-xylene	6.37	7.42	444603868.7	403866260.5
13) 4,4'-DDE	12.37	14.15	2138989.49	1620668.386
16) Endrin	13.50	15.25	719400543.8	687256452.6
17) 4,4'-DDD	13.67	15.43	44057568.87	45152021.54
19) 4,4'-DDT	14.27	16.15	516206151.1	594283986
20) Endrin Aldehyde	0.00	0.00	0	0
23) Endrin Ketone	16.51	18.81	10685709.21	12666351.57
29) Decachlorobiphenyl	19.33	24.03	297710190	338608866

**Breakdown Column 1**

**Endrin: 1.46 %**  
**4,4'-DDT: 8.21 %**  
**Total: 9.68 %**

**Breakdown Column 2**

**Endrin: 1.81 %**  
**4,4'-DDT: 7.30 %**  
**Total: 9.11 %**

Passing Criteria (for each column):  
 Individual breakdown is not to exceed 15.0%

**PESTICIDES BREAKDOWN CHECK SUMMARY**

Data File Name GM002535.D  
 Data File Path Q:\SVOA\GC11\_GM\DATA\GM0916\090716\  
 Date Acquired 08 Sep 2016 12:04 pm  
 Sample Name **CZI0092-PEM3**  
 Instrument Name SVOAGC11

# Name	Ret Time 1	Ret Time 2	Response 1	Response 2
1) Tetrachloro-m-xylene	6.36	7.40	448617486.3	418142415.3
13) 4,4'-DDE	12.35	14.13	1935669.983	1424602.564
16) Endrin	13.49	15.23	711995392.7	735600031.6
17) 4,4'-DDD	13.66	15.41	41981955.73	42778396.89
19) 4,4'-DDT	14.25	16.12	529978433.4	643925983.2
20) Endrin Aldehyde	0.00	0.00	0	0
23) Endrin Ketone	16.49	18.79	9006601.521	8756472.757
29) Decachlorobiphenyl	19.31	0.00	302559177.6	0

**Breakdown Column 1**

Endrin: 1.25 %  
 4,4'-DDT: 7.65 %  
 Total: 8.90 %

**Breakdown Column 2**

Endrin: 1.18 %  
 4,4'-DDT: 6.42 %  
 Total: 7.60 %

Passing Criteria (for each column):  
 Individual breakdown is not to exceed 15.0%



## ESS Laboratory Sample and Cooler Receipt Checklist

Client: ESS Group, Inc. (MA) - KPB/HDM

ESS Project ID: 1609117

Date Received: 9/7/2016

Shipped/Delivered Via: Client

Project Due Date: 9/14/2016

Days for Project: 5 Day

1. Air bill manifest present?  No  
Air No.: NA
2. Were custody seals present?  NA
3. Is radiation count <100 CPM?  Yes
4. Is a Cooler Present?  Yes  
Temp: 7.4 Iced with: Ice
5. Was COC signed and dated by client?  Yes

6. Does COC match bottles?  Yes
7. Is COC complete and correct?  Yes
8. Were samples received intact?  Yes
9. Were labs informed about short holds & rushes?  Yes / No / NA
10. Were any analyses received outside of hold time? Yes  No

11. Any Subcontracting needed? Yes /  No  
ESS Sample IDs: \_\_\_\_\_  
Analysis: \_\_\_\_\_  
TAT: \_\_\_\_\_

12. Were VOAs received?  Yes / No  
a. Air bubbles in aqueous VOAs? Yes / No  
b. Does methanol cover soil completely?  Yes / No / NA

13. Are the samples properly preserved?  Yes / No  
a. If metals preserved upon receipt: Date: \_\_\_\_\_ Time: \_\_\_\_\_ By: \_\_\_\_\_  
b. Low Level VOAs brought to freezer: Date: 9/7/16 Time: 1725 By: JC

Sample Receiving Notes:

on vial 65870

COC = ESS-47(8.5) Label = ESS-47(3-8) COC = ESS-33(3-8) Label = ESS-38(3-8)  
COC = ESS-36(3-8) Label = ESS-38(3-8) on vial 65882 A13 9/7/16

14. Was there a need to contact Project Manager?  Yes / No  
a. Was there a need to contact the client?  Yes / No  
Who was contacted? \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ By: \_\_\_\_\_

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
01	65843	Yes	NA	Yes	8 oz. Jar - Unpres	NP	
01	65844	Yes	NA	Yes	8 oz. Jar - Unpres	NP	
01	65845	Yes	NA	Yes	8 oz. Jar - Unpres	NP	
01	65859	Yes	NA	Yes	2 oz. Jar - Unpres	NP	
01	65873	Yes	No	Yes	VOA Vial - Methanol	MeOH	
01	65900	Yes	No	Yes	VOA Vial - Other	other	
01	65901	Yes	No	Yes	VOA Vial - Other	other	
01	65902	Yes	NA	Yes	4 oz. Jar - Unpres	NP	
02	65840	Yes	NA	Yes	8 oz. Jar - Unpres	NP	
02	65841	Yes	NA	Yes	8 oz. Jar - Unpres	NP	
02	65842	Yes	NA	Yes	8 oz. Jar - Unpres	NP	
02	65858	Yes	NA	Yes	2 oz. Jar - Unpres	NP	
02	65872	Yes	No	Yes	VOA Vial - Methanol	MeOH	
02	65898	Yes	No	Yes	VOA Vial - Other	other	
02	65899	Yes	No	Yes	VOA Vial - Other	other	
03	65837	Yes	NA	Yes	8 oz. Jar - Unpres	NP	
03	65838	Yes	NA	Yes	8 oz. Jar - Unpres	NP	
03	65839	Yes	NA	Yes	8 oz. Jar - Unpres	NP	
03	65857	Yes	NA	Yes	2 oz. Jar - Unpres	NP	
03	65871	Yes	No	Yes	VOA Vial - Methanol	MeOH	
03	65896	Yes	No	Yes	VOA Vial - Other	other	
03	65897	Yes	No	Yes	VOA Vial - Other	other	
04	65834	Yes	NA	Yes	8 oz. Jar - Unpres	NP	

# ESS Laboratory Sample and Cooler Receipt Checklist

Client: ESS Group, Inc. (MA) - KPB/HDM

ESS Project ID: 1609117

Date Received: 9/7/2016

14    65875    Yes    No    Yes    VOA Vial - Other    other

## 2nd Review

Are barcode labels on correct containers?

Yes  No

Completed By: <u>Adam Bystro</u>	Date & Time: <u>9/7/16</u>	<u>1656</u>
Reviewed By: <u>JM 25</u>	Date & Time: <u>9/7/16</u>	<u>1725</u>
Delivered By: <u>JM 25</u>	<u>9/7/16</u>	<u>1725</u>

1609117

# CHAIN OF CUSTODY

ESS Lab # 16009 113 9/17/16

Reporting Limits: BIDEMGA

Turn Time:  Standard  Other

Regulatory State: MA  CT  NH  NJ  NY  ME  Other

is this project for any of the following: (please circle)  
 MA-MCP  Navy  USACE  CT DEP  Other

Project # P312  
 Project Name Hops Mill  
 Address 100 5th Avenue  
 Zip \_\_\_\_\_

ESS Lab # 16009 113 9/17/16

Project # P312  
 Project Name Hops Mill  
 Address 100 5th Avenue  
 Zip \_\_\_\_\_

ESS Lab # 16009 113 9/17/16

ESS Lab ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample ID	Pres Code	# of Containers	Type of Container	Vol of Container	Analysis
1	9-7-16	0930	G	S	ESS-30 (3-8)	1/2				VOCs (8260/5035) X Pesticides (80818) X Total PCBs (8032/35) X Metals (6010/3770) X Cyanide (9010) X SPLP (8090) X TCLP (8090) X TPH X SPLP Mercury X
2	9-7-16	1020	G	S	ESS-31 (3-8)	1/2				VOCs (8260/5035) X Pesticides (80818) X Total PCBs (8032/35) X Metals (6010/3770) X Cyanide (9010) X SPLP (8090) X TCLP (8090) X TPH X SPLP Mercury X
3	9-7-16	1000	G	S	ESS-32 (3-8)	1/2				VOCs (8260/5035) X Pesticides (80818) X Total PCBs (8032/35) X Metals (6010/3770) X Cyanide (9010) X SPLP (8090) X TCLP (8090) X TPH X SPLP Mercury X
4	9-7-16	1100	G	S	ESS-33 (3-8)	1/2				VOCs (8260/5035) X Pesticides (80818) X Total PCBs (8032/35) X Metals (6010/3770) X Cyanide (9010) X SPLP (8090) X TCLP (8090) X TPH X SPLP Mercury X
5	9-7-16	1200	G	S	ESS-34 (3-8)	1/2				VOCs (8260/5035) X Pesticides (80818) X Total PCBs (8032/35) X Metals (6010/3770) X Cyanide (9010) X SPLP (8090) X TCLP (8090) X TPH X SPLP Mercury X
6	9-7-16	1220	G	S	ESS-35 (3-8)	1/2				VOCs (8260/5035) X Pesticides (80818) X Total PCBs (8032/35) X Metals (6010/3770) X Cyanide (9010) X SPLP (8090) X TCLP (8090) X TPH X SPLP Mercury X
7	9-7-16	1030	C	S	Comp-1	1/2				VOCs (8260/5035) X Pesticides (80818) X Total PCBs (8032/35) X Metals (6010/3770) X Cyanide (9010) X SPLP (8090) X TCLP (8090) X TPH X SPLP Mercury X
8	9-7-16	1230	C	S	Comp-2	1/2				VOCs (8260/5035) X Pesticides (80818) X Total PCBs (8032/35) X Metals (6010/3770) X Cyanide (9010) X SPLP (8090) X TCLP (8090) X TPH X SPLP Mercury X
9	9-7-16	1240	G	S	ESS-47 (8.5)	1				VOCs (8260/5035) X Pesticides (80818) X Total PCBs (8032/35) X Metals (6010/3770) X Cyanide (9010) X SPLP (8090) X TCLP (8090) X TPH X SPLP Mercury X

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WWA-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Internal Use Only  
 Pickup  
 Technician

Cooler Present  Yes  No  
 Seals Intact  Yes  No NA:  Ice

Cooler Temperature: 7.4°C

Received by: (Signature, Date & Time) [Signature] 9/17/16 15:35

Reinquisitioned by: (Signature, Date & Time) \_\_\_\_\_

Received by: (Signature, Date & Time) \_\_\_\_\_

Reinquisitioned by: (Signature, Date & Time) \_\_\_\_\_

Comments: TCLP/SPLP

ESS Lab # 16009 113 9/17/16

Project # P312  
 Project Name Hops Mill  
 Address 100 5th Avenue  
 Zip \_\_\_\_\_

ESS Lab # 16009 113 9/17/16

Received by: (Signature, Date & Time) \_\_\_\_\_

Reinquisitioned by: (Signature, Date & Time) \_\_\_\_\_

Received by: (Signature, Date & Time) \_\_\_\_\_

Reinquisitioned by: (Signature, Date & Time) \_\_\_\_\_

Comments: TCLP/SPLP

1 (White) Lab Copy  
 2 (Yellow) Client Receipt

Please fax to the laboratory all changes to Chain of Custody

# ESS Laboratory

Division of Thielisch Engineering, Inc.  
 185 Frances Avenue, Cranston, RI 02910-2211  
 Tel. (401) 461-7181 Fax (401) 461-4486  
 www.esslaboratory.com

# CHAIN OF CUSTODY

Turn Time  Standard Other \_\_\_\_\_  
 Regulatory State: MA  RI  CT  NH  NJ  NY  ME  Other \_\_\_\_\_  
 is this project for any of the following: (please circle)  
 MA-MCP Navy USACE CT DEP Other \_\_\_\_\_

ESS Lab # **1609117**

Reporting Limits - **RDEM GA**

Electronic Deliverables  Access  PDF

Co. Name **ESS Group, Inc.**  
 Contact Person **Craig Paradis**  
 City **Waltham** State **MA**  
 Address **100 5th Avenue** Zip \_\_\_\_\_ PO# \_\_\_\_\_  
 Project Name **Hope Mill**  
 Project # **P312**  
 Email: **ESBL5083418103**

ESS Lab ID	Date	Collection Time	Grab-G Composite-C	Matrix	Sample ID	Pres Code	# of Containers	Type of Container	Vol of Container	Analysis
10	9-7-16	1400	G	S	ESS-36 (3-8)		1/2			VOCs (8266/5035) SVOCs (8270) Pesticides (A/C) Total PCBs (5082/3540) Metals (6010/790) CYANIDE (9010) SCLP/TCLP TOH SCLP Mercury Pest-Chlorine Pesticides
11	9-7-16	1330	G	S	ESS-38 (3-8)		1/2			
12	9-7-16	1430	G	S	ESS-37 (3-8)		1/2			
13	9-7-16	1445	C	S	COMP-3		1/2			
14	9-7-16	1500	G	S	ESS-46(8)		1/2			

Container Type: P-Poly G-Glass AG-Ambur Glass S-Sterile V-VOA  
 Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present  Yes  No No NA:   
 Seals Intact  Yes  No NA:

Cooler Temperature: **7.4°C** Ice

Relinquished by: (Signature, Date & Time) **9-7-2016 1535**

Relinquished by: (Signature, Date & Time) **9/7/16 1540**

Relinquished by: (Signature, Date & Time)

Internal Use Only  
 Pickup  
 Technician

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Ascorbic Acid, 8-ZnAc2, 9-\_\_\_\_\_

Sampled by: \*Metals pp13, Ba, Mn, V + Tri & Hex CR -20x RULE for metals TCLP and SPLP per CP (CMT) **9/8/10**

Comments: **36, 37, 38 - SCLP ONLY**

Received by: (Signature, Date & Time)

Received by: (Signature, Date & Time)

1 (White) Lab Copy  
 2 (Yellow) Client Receipt

Please fax to the laboratory all changes to Chain of Custody

\* By circling MA-MCP, client acknowledged samples were collected in accordance with MADEP CAM VIII.

1609117

# CHAIN OF CUSTODY

ESS Lab # 16009 113 9/17/16

Reporting Limits: BIDEM GA

Turn Time:  Standard  Other

Regulatory State: MA  CT NH NJ NY ME Other

is this project for any of the following: (please circle)  
 MA-MCP Navy USACE CT DEP Other

Project # P312 Project Name Hops Mill

Address 100 5th Avenue PO #

City Waltham MA State MA

Tel. 781-419-7714 Fax 781-419-7714 email: cpardise@essgroup.com

ESS Lab ID Date Collection Time

Grab -G Composite-C Matrix Sample ID Pres Code # of Containers Type of Container

1 9-7-16 0930 G S ESS-30 (3-8) 1/2

2 9-7-16 1020 G S ESS-31 (3-8) 1/2

3 9-7-16 1000 G S ESS-32 (3-8) 1/2

4 9-7-16 1100 G S ESS-33 (3-8) 1/2

5 9-7-16 1200 G S ESS-34 (3-8) 1/2

6 9-7-16 1220 G S ESS-35 (3-8) 1/2

~~7 9-7-16 1415 G S ESS-36 (3-8) 1/2~~

7 9-7-16 1030 C S Comp-1 1/2

8 9-7-16 1230 C S Comp-2 1/2

9 9-7-16 1240 G S ESS-47 (8.5) 1

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SD-Solid D-Sludge WWA-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present  Yes  No

Seals Intact  Yes  No NA:

Cooler Temperature: 7.4°C Ice

Received by: (Signature, Date & Time) [Signature] 9/17/16 15:35

Reinquinshed by: (Signature, Date & Time) [Signature] 9/17/16 15:35

Received by: (Signature, Date & Time) [Signature] 9/17/16 15:35

Reinquinshed by: (Signature, Date & Time) [Signature] 9/17/16 15:35

ESS Laboratory  
 Division of Thielsch Engineering, Inc.  
 185 Frances Avenue, Cranston, RI 02910-2211  
 Tel. (401) 461-7181 Fax (401) 461-4486  
 www.esslaboratory.com

Co. Name ESS Group, Inc.  
 Contact Person Craig Paradise  
 City Waltham MA State MA

ESS Lab ID	Date	Collection Time	Grab -G Composite-C	Matrix	Sample ID	Pres Code	# of Containers	Type of Container	Vol of Container	Analysis
1	9-7-16	0930	G	S	ESS-30 (3-8)	1/2				VOCs (8260/5035) X SVOCs (8270 D) X Pesticides (80818) X Total PCBs (8032/35) X Metals (6010/7470) X Cyanide (9010) X SPLP (8090) X TCLP (8010) X TPH X SPLP Mercury X
2	9-7-16	1020	G	S	ESS-31 (3-8)	1/2				VOCs (8260/5035) X SVOCs (8270 D) X Pesticides (80818) X Total PCBs (8032/35) X Metals (6010/7470) X Cyanide (9010) X SPLP (8090) X TCLP (8010) X TPH X SPLP Mercury X
3	9-7-16	1000	G	S	ESS-32 (3-8)	1/2				VOCs (8260/5035) X SVOCs (8270 D) X Pesticides (80818) X Total PCBs (8032/35) X Metals (6010/7470) X Cyanide (9010) X SPLP (8090) X TCLP (8010) X TPH X SPLP Mercury X
4	9-7-16	1100	G	S	ESS-33 (3-8)	1/2				VOCs (8260/5035) X SVOCs (8270 D) X Pesticides (80818) X Total PCBs (8032/35) X Metals (6010/7470) X Cyanide (9010) X SPLP (8090) X TCLP (8010) X TPH X SPLP Mercury X
5	9-7-16	1200	G	S	ESS-34 (3-8)	1/2				VOCs (8260/5035) X SVOCs (8270 D) X Pesticides (80818) X Total PCBs (8032/35) X Metals (6010/7470) X Cyanide (9010) X SPLP (8090) X TCLP (8010) X TPH X SPLP Mercury X
6	9-7-16	1220	G	S	ESS-35 (3-8)	1/2				VOCs (8260/5035) X SVOCs (8270 D) X Pesticides (80818) X Total PCBs (8032/35) X Metals (6010/7470) X Cyanide (9010) X SPLP (8090) X TCLP (8010) X TPH X SPLP Mercury X
<del>7</del>	<del>9-7-16</del>	<del>1415</del>	<del>G</del>	<del>S</del>	<del>ESS-36 (3-8)</del>	<del>1/2</del>				<del>VOCs (8260/5035) X SVOCs (8270 D) X Pesticides (80818) X Total PCBs (8032/35) X Metals (6010/7470) X Cyanide (9010) X SPLP (8090) X TCLP (8010) X TPH X SPLP Mercury X</del>
7	9-7-16	1030	C	S	Comp-1	1/2				VOCs (8260/5035) X SVOCs (8270 D) X Pesticides (80818) X Total PCBs (8032/35) X Metals (6010/7470) X Cyanide (9010) X SPLP (8090) X TCLP (8010) X TPH X SPLP Mercury X
8	9-7-16	1230	C	S	Comp-2	1/2				VOCs (8260/5035) X SVOCs (8270 D) X Pesticides (80818) X Total PCBs (8032/35) X Metals (6010/7470) X Cyanide (9010) X SPLP (8090) X TCLP (8010) X TPH X SPLP Mercury X
9	9-7-16	1240	G	S	ESS-47 (8.5)	1				VOCs (8260/5035) X SVOCs (8270 D) X Pesticides (80818) X Total PCBs (8032/35) X Metals (6010/7470) X Cyanide (9010) X SPLP (8090) X TCLP (8010) X TPH X SPLP Mercury X

Internal Use Only  
 [ ] Pickup  
 [ ] Technician  
 Comments: TCLP/SPLP  
 Received by: (Signature, Date & Time)  
 Reinquinshed by: (Signature, Date & Time)  
 Received by: (Signature, Date & Time)  
 Reinquinshed by: (Signature, Date & Time)

1 (White) Lab Copy  
 2 (Yellow) Client Receipt

Please fax to the laboratory all changes to Chain of Custody

# ESS Laboratory

Division of Thielisch Engineering, Inc.  
 185 Frances Avenue, Cranston, RI 02910-2211  
 Tel. (401) 461-7181 Fax (401) 461-4486  
 www.esslaboratory.com

# CHAIN OF CUSTODY

Turn Time  Standard Other \_\_\_\_\_  
 Regulatory State: MA  RI  CT  NH  NJ  NY  ME  Other \_\_\_\_\_  
 is this project for any of the following: (please circle)  
 MA-MCP Navy USACE CT DEP Other \_\_\_\_\_  
 Project # P312 Project Name Hops Mill  
 Address 100 5th Avenue Zip \_\_\_\_\_ PO # \_\_\_\_\_  
 State MA  
 City Waltham email: \_\_\_\_\_  
 Tel. 781-419-7714 Fax 508 341 8103

ESS Lab # 1609117

Reporting Limits - RDEM GA

Analysis	Vol of Container	Type of Container	# of Containers	Pres Code	Sample ID	Matrix	Grab-G Composite-C	Collection Time	Date	Electronic Deliverables <input checked="" type="checkbox"/> Access PDF											
										VOCs (8266/5035)	SVOCs (8270)	Pesticides (A/C)	Total PCBs (3540)	Metals (6010/790)	CYANIDE (901)	SCLP/TCSP	TOH	SCLP Mercury	Pest-Chlorine Pesticides		
	X		1/2		ESS-26 (3-8)	S	G	1400	9-7-16	X	X	X	X	X	X	X	X	X	X	X	X
	X		1/2		ESS-38 (3-8)	S	G	1330	9-7-16	X	X	X	X	X	X	X	X	X	X	X	X
	X		1/2		ESS-37 (3-8)	S	G	1430	9-7-16	X	X	X	X	X	X	X	X	X	X	X	X
	X		1/2		COMP-3	S	C	1445	9-7-16	X	X	X	X	X	X	X	X	X	X	X	X
	X		4/21		ESS-46(8)	S	G	1500	9-7-16	X	X	X	X	X	X	X	X	X	X	X	X

Container Type: P-Poly G-Glass AG-Ambur Glass S-Sterile V-VOA Matrix: S-Soil SD-Solid D-Sludge W-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present  Yes  No No NA:   
 Seals Intact  Yes  No NA:   
 Cooler Temperature: 7.4°C Ice  
 Relinquished by: (Signature, Date & Time) [Signature] 9-7-2016 1535  
 Relinquished by: (Signature, Date & Time) [Signature] 9/7/16 1540  
 Relinquished by: (Signature, Date & Time) \_\_\_\_\_  
 Relinquished by: (Signature, Date & Time) \_\_\_\_\_

Internal Use Only  
 [ ] Pickup  
 [ ] Technician  
 Comments: 36, 37, 38 - SCLP ONLY  
 Relinquished by: (Signature, Date & Time) \_\_\_\_\_  
 Relinquished by: (Signature, Date & Time) \_\_\_\_\_  
 Relinquished by: (Signature, Date & Time) \_\_\_\_\_  
 Relinquished by: (Signature, Date & Time) \_\_\_\_\_

\* By circling MA-MCP, client acknowledged gas samples were collected in accordance with MADEP CAM VIII.

Please fax to the laboratory all changes to Chain of Custody  
 1 (White) Lab Copy  
 2 (Yellow) Client Receipt



*CERTIFICATE OF ANALYSIS*

Craig Paradis  
ESS Group, Inc. (MA)  
100 Fifth Avenue, 5th Floor  
Waltham, MA 02451

**RE: Hope Mill (P312)**  
**ESS Laboratory Work Order Number: 1609159**

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard  
Laboratory Director

**REVIEWED**

**By ESS Laboratory at 1:42 pm, Sep 30, 2016**

**Analytical Summary**

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with NELAC Standards, A2LA and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609159

**SAMPLE RECEIPT**

The following samples were received on September 08, 2016 for the analyses specified on the enclosed Chain of Custody Record.

**The cooler temperature was not within the acceptance limit of <6°C, however, samples were delivered on ice.**

**Low Level VOA vials were frozen by ESS Laboratory on September 8, 2016 at 16:30.**

**Revision 1 September 30, 2016: This report has been revised to include Barium, Manganese and Vanadium.**

Lab Number	Sample Name	Matrix	Analysis
1609159-01	ESS-43 (2-8)	Soil	6010C, 6020A, 7196A, 7471B, 8081B, 8082A, 8260B Low, 8270D, 9014, Calc
1609159-02	ESS-44 (2-8)	Soil	6010C, 6020A, 7196A, 7471B, 8081B, 8082A, 8260B Low, 8270D, 9014, Calc
1609159-03	ESS-45 (2-8)	Soil	6010C, 6020A, 7196A, 7471B, 8081B, 8082A, 8260B Low, 8270D, 9014, Calc
1609159-04	Comp-7	Soil	6010C, 6020A, 7196A, 7471B, 8081B, 8082A, 8260B Low, 8270D, 9014, Calc





*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609159

**PROJECT NARRATIVE**

**8081B Organochlorine Pesticides**

- CZI0136-CCV2 [Continuing Calibration %Diff/Drift is above control limit \(CD+\).](#)  
Decachlorobiphenyl (22% @ 20%), Decachlorobiphenyl [2C] (28% @ 20%), Tetrachloro-m-xylene [2C] (21% @ 20%)
- CZI0136-CCV4 [Continuing Calibration %Diff/Drift is above control limit \(CD+\).](#)  
Decachlorobiphenyl [2C] (22% @ 20%)

**8270D Semi-Volatile Organic Compounds**

- CI60818-BS1 [Blank Spike recovery is below lower control limit \(B-\).](#)  
3,3'-Dichlorobenzidine (38% @ 40-140%), Hexachlorocyclopentadiene (% @ 40-140%)
- CI60818-BSD1 [Blank Spike recovery is below lower control limit \(B-\).](#)  
3,3'-Dichlorobenzidine (7% @ 40-140%), Hexachlorocyclopentadiene (% @ 40-140%)
- CI60818-BSD1 [Relative percent difference for duplicate is outside of criteria \(D+\).](#)  
2,4-Dinitrophenol (31% @ 30%), 3,3'-Dichlorobenzidine (141% @ 30%), Benzoic Acid (59% @ 30%), Hexachlorocyclopentadiene (200% @ 30%), Pentachlorophenol (47% @ 30%)
- CZI0096-CCV1 [Calibration required quadratic regression \(Q\).](#)  
2,4-Dinitrophenol (97% @ 80-120%), Benzoic Acid (95% @ 80-120%), Di-n-octylphthalate (99% @ 80-120%)
- CZI0143-CCV1 [Calibration required quadratic regression \(Q\).](#)  
2,4-Dinitrophenol (141% @ 80-120%), Benzoic Acid (111% @ 80-120%), Di-n-octylphthalate (88% @ 80-120%)
- CZI0143-CCV1 [Continuing Calibration %Diff/Drift is above control limit \(CD+\).](#)  
2,4-Dinitrophenol (41% @ 20%), 4,6-Dinitro-2-Methylphenol (23% @ 20%), Benzo(g,h,i)perylene (32% @ 20%), Dibenzo(a,h)Anthracene (28% @ 20%), Indeno(1,2,3-cd)Pyrene (27% @ 20%)
- CZI0162-CCV1 [Calibration required quadratic regression \(Q\).](#)  
2,4-Dinitrophenol (81% @ 80-120%), Benzoic Acid (90% @ 80-120%)

**No other observations noted.**

**End of Project Narrative.**

**DATA USABILITY LINKS**

- [Definitions of Quality Control Parameters](#)
- [Semivolatile Organics Internal Standard Information](#)
- [Semivolatile Organics Surrogate Information](#)
- [Volatile Organics Internal Standard Information](#)
- [Volatile Organics Surrogate Information](#)
- [EPH and VPH Alkane Lists](#)



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609159

**CURRENT SW-846 METHODOLOGY VERSIONS**

**Analytical Methods**

- 1010A - Flashpoint
- 6010C - ICP
- 6020A - ICP MS
- 7010 - Graphite Furnace
- 7196A - Hexavalent Chromium
- 7470A - Aqueous Mercury
- 7471B - Solid Mercury
- 8011 - EDB/DBCP/TCP
- 8015D - GRO/DRO
- 8081B - Pesticides
- 8082A - PCB
- 8100M - TPH
- 8151A - Herbicides
- 8260B - VOA
- 8270D - SVOA
- 8270D SIM - SVOA Low Level
- 9014 - Cyanide
- 9038 - Sulfate
- 9040C - Aqueous pH
- 9045D - Solid pH (Corrosivity)
- 9050A - Specific Conductance
- 9056A - Anions (IC)
- 9060A - TOC
- 9095B - Paint Filter
- MADEP 04-1.1 - EPH / VPH

**Prep Methods**

- 3005A - Aqueous ICP Digestion
- 3020A - Aqueous Graphite Furnace / ICP MS Digestion
- 3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
- 3060A - Solid Hexavalent Chromium Digestion
- 3510C - Separatory Funnel Extraction
- 3520C - Liquid / Liquid Extraction
- 3540C - Manual Soxhlet Extraction
- 3541 - Automated Soxhlet Extraction
- 3546 - Microwave Extraction
- 3580A - Waste Dilution
- 5030B - Aqueous Purge and Trap
- 5030C - Aqueous Purge and Trap
- 5035 - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-43 (2-8)  
Date Sampled: 09/08/16 09:45  
Percent Solids: 98

ESS Laboratory Work Order: 1609159  
ESS Laboratory Sample ID: 1609159-01  
Sample Matrix: Soil  
Units: mg/kg dry

Extraction Method: 3050B

**Total Metals**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Antimony	ND (0.39)		6020A		20	NAR	09/12/16 11:46	2.6	100	CI60811
Arsenic	<b>3.00</b> (1.97)		6010C		1	KJK	09/09/16 21:34	2.6	100	CI60811
Barium	<b>11.2</b> (1.97)		6010C		1	KJK	09/09/16 21:34	2.6	100	CI60811
Beryllium	<b>0.45</b> (0.09)		6010C		1	KJK	09/09/16 21:34	2.6	100	CI60811
Cadmium	ND (0.39)		6010C		1	KJK	09/09/16 21:34	2.6	100	CI60811
Chromium	ND (0.79)		6010C		1	KJK	09/09/16 21:34	2.6	100	CI60811
Chromium (III)	ND (0.8)		Calc		1	EEM	09/12/16 15:30	1	1	[CALC]
Copper	ND (1.97)		6010C		1	KJK	09/09/16 21:34	2.6	100	CI60811
Lead	ND (3.93)		6010C		1	KJK	09/09/16 21:34	2.6	100	CI60811
Manganese	<b>128</b> (0.79)		6010C		1	KJK	09/09/16 21:34	2.6	100	CI60811
Mercury	ND (0.030)		7471B		1	KJK	09/09/16 12:21	0.67	40	CI60844
Nickel	ND (1.97)		6010C		1	KJK	09/09/16 21:34	2.6	100	CI60811
Selenium	ND (0.39)		6020A		20	NAR	09/12/16 11:46	2.6	100	CI60811
Silver	ND (0.39)		6010C		1	KJK	09/09/16 21:34	2.6	100	CI60811
Thallium	ND (0.39)		6020A		20	NAR	09/12/16 11:46	2.6	100	CI60811
Vanadium	<b>1.56</b> (0.79)		6010C		1	KJK	09/09/16 21:34	2.6	100	CI60811
Zinc	<b>32.7</b> (1.97)		6010C		1	KJK	09/09/16 21:34	2.6	100	CI60811



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-43 (2-8)  
Date Sampled: 09/08/16 09:45  
Percent Solids: 98  
Initial Volume: 7.2  
Final Volume: 10  
Extraction Method: 5035

ESS Laboratory Work Order: 1609159  
ESS Laboratory Sample ID: 1609159-01  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: MD

**5035/8260B Volatile Organic Compounds / Low Level**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
1,1,1-Trichloroethane	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
1,1,2,2-Tetrachloroethane	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
1,1,2-Trichloroethane	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
1,1-Dichloroethane	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
1,1-Dichloroethene	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
1,1-Dichloropropene	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
1,2,3-Trichlorobenzene	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
1,2,3-Trichloropropane	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
1,2,4-Trichlorobenzene	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
1,2,4-Trimethylbenzene	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
1,2-Dibromo-3-Chloropropane	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
1,2-Dibromoethane	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
1,2-Dichlorobenzene	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
1,2-Dichloroethane	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
1,2-Dichloropropane	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
1,3,5-Trimethylbenzene	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
1,3-Dichlorobenzene	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
1,3-Dichloropropane	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
1,4-Dichlorobenzene	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
1,4-Dioxane	ND (0.0710)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
1-Chlorohexane	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
2,2-Dichloropropane	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
2-Butanone	ND (0.0355)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
2-Chlorotoluene	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
2-Hexanone	ND (0.0355)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
4-Chlorotoluene	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
4-Isopropyltoluene	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
4-Methyl-2-Pentanone	ND (0.0355)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
Acetone	ND (0.0355)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
Benzene	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
Bromobenzene	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-43 (2-8)  
Date Sampled: 09/08/16 09:45  
Percent Solids: 98  
Initial Volume: 7.2  
Final Volume: 10  
Extraction Method: 5035

ESS Laboratory Work Order: 1609159  
ESS Laboratory Sample ID: 1609159-01  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: MD

**5035/8260B Volatile Organic Compounds / Low Level**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
Bromodichloromethane	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
Bromoform	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
Bromomethane	ND (0.0071)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
Carbon Disulfide	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
Carbon Tetrachloride	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
Chlorobenzene	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
Chloroethane	ND (0.0071)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
Chloroform	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
Chloromethane	ND (0.0071)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
cis-1,2-Dichloroethene	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
cis-1,3-Dichloropropene	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
Dibromochloromethane	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
Dibromomethane	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
Dichlorodifluoromethane	ND (0.0071)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
Diethyl Ether	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
Di-isopropyl ether	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
Ethyl tertiary-butyl ether	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
Ethylbenzene	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
Hexachlorobutadiene	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
Isopropylbenzene	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
Methyl tert-Butyl Ether	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
Methylene Chloride	ND (0.0178)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
Naphthalene	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
n-Butylbenzene	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
n-Propylbenzene	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
sec-Butylbenzene	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
Styrene	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
tert-Butylbenzene	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
Tertiary-amyl methyl ether	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
Tetrachloroethene	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
Tetrahydrofuran	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-43 (2-8)  
Date Sampled: 09/08/16 09:45  
Percent Solids: 98  
Initial Volume: 7.2  
Final Volume: 10  
Extraction Method: 5035

ESS Laboratory Work Order: 1609159  
ESS Laboratory Sample ID: 1609159-01  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: MD

**5035/8260B Volatile Organic Compounds / Low Level**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Toluene	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
trans-1,2-Dichloroethene	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
trans-1,3-Dichloropropene	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
Trichloroethene	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
Trichlorofluoromethane	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
Vinyl Acetate	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
Vinyl Chloride	ND (0.0071)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
Xylene O	ND (0.0036)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
Xylene P,M	ND (0.0071)		8260B Low		1	09/12/16 19:05	CZI0150	CI61229
Xylenes (Total)	ND (0.0071)		8260B Low		1	09/12/16 19:05		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>87 %</i>		<i>70-130</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>103 %</i>		<i>70-130</i>
<i>Surrogate: Dibromofluoromethane</i>	<i>89 %</i>		<i>70-130</i>
<i>Surrogate: Toluene-d8</i>	<i>91 %</i>		<i>70-130</i>



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-43 (2-8)  
Date Sampled: 09/08/16 09:45  
Percent Solids: 98  
Initial Volume: 19.7  
Final Volume: 5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609159  
ESS Laboratory Sample ID: 1609159-01  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: JXS  
Prepared: 9/9/16 9:55

**8081B Organochlorine Pesticides**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Chlordane (Total)	ND (0.0311)		8081B		1	09/10/16 14:26	CZI0136	CI60917
Dieldrin	ND (0.0026)		8081B		1	09/10/16 14:26	CZI0136	CI60917

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	90 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	90 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	64 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	68 %		30-150





*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-43 (2-8)  
Date Sampled: 09/08/16 09:45  
Percent Solids: 98  
Initial Volume: 19.4  
Final Volume: 10  
Extraction Method: 3540C

ESS Laboratory Work Order: 1609159  
ESS Laboratory Sample ID: 1609159-01  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: SMR  
Prepared: 9/9/16 11:07

**8082A Polychlorinated Biphenyls (PCB)**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.0527)		8082A		1	09/12/16 23:57		CI60813
Aroclor 1221	ND (0.0527)		8082A		1	09/12/16 23:57		CI60813
Aroclor 1232	ND (0.0527)		8082A		1	09/12/16 23:57		CI60813
Aroclor 1242	ND (0.0527)		8082A		1	09/12/16 23:57		CI60813
Aroclor 1248	ND (0.0527)		8082A		1	09/12/16 23:57		CI60813
Aroclor 1254	ND (0.0527)		8082A		1	09/12/16 23:57		CI60813
Aroclor 1260	ND (0.0527)		8082A		1	09/12/16 23:57		CI60813
Aroclor 1262	ND (0.0527)		8082A		1	09/12/16 23:57		CI60813
Aroclor 1268	ND (0.0527)		8082A		1	09/12/16 23:57		CI60813

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	75 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	86 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	66 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	75 %		30-150





*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-43 (2-8)  
Date Sampled: 09/08/16 09:45  
Percent Solids: 98  
Initial Volume: 15.2  
Final Volume: 0.5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609159  
ESS Laboratory Sample ID: 1609159-01  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: TJ  
Prepared: 9/9/16 9:05

**8270D Semi-Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1-Biphenyl	ND (0.336)		8270D		1	09/13/16 16:45	CZI0162	CI60818
1,2,4-Trichlorobenzene	ND (0.336)		8270D		1	09/13/16 16:45	CZI0162	CI60818
1,2-Dichlorobenzene	ND (0.336)		8270D		1	09/13/16 16:45	CZI0162	CI60818
1,3-Dichlorobenzene	ND (0.336)		8270D		1	09/13/16 16:45	CZI0162	CI60818
1,4-Dichlorobenzene	ND (0.336)		8270D		1	09/13/16 16:45	CZI0162	CI60818
2,3,4,6-Tetrachlorophenol	ND (1.69)		8270D		1	09/13/16 16:45	CZI0162	CI60818
2,4,5-Trichlorophenol	ND (0.336)		8270D		1	09/13/16 16:45	CZI0162	CI60818
2,4,6-Trichlorophenol	ND (0.336)		8270D		1	09/13/16 16:45	CZI0162	CI60818
2,4-Dichlorophenol	ND (0.336)		8270D		1	09/13/16 16:45	CZI0162	CI60818
2,4-Dimethylphenol	ND (0.336)		8270D		1	09/13/16 16:45	CZI0162	CI60818
2,4-Dinitrophenol	ND (1.69)		8270D		1	09/13/16 16:45	CZI0162	CI60818
2,4-Dinitrotoluene	ND (0.336)		8270D		1	09/13/16 16:45	CZI0162	CI60818
2,6-Dinitrotoluene	ND (0.336)		8270D		1	09/13/16 16:45	CZI0162	CI60818
2-Chloronaphthalene	ND (0.336)		8270D		1	09/13/16 16:45	CZI0162	CI60818
2-Chlorophenol	ND (0.336)		8270D		1	09/13/16 16:45	CZI0162	CI60818
2-Methylnaphthalene	ND (0.336)		8270D		1	09/13/16 16:45	CZI0162	CI60818
2-Methylphenol	ND (0.336)		8270D		1	09/13/16 16:45	CZI0162	CI60818
2-Nitroaniline	ND (0.336)		8270D		1	09/13/16 16:45	CZI0162	CI60818
2-Nitrophenol	ND (0.336)		8270D		1	09/13/16 16:45	CZI0162	CI60818
3,3'-Dichlorobenzidine	ND (0.673)		8270D		1	09/13/16 16:45	CZI0162	CI60818
3+4-Methylphenol	ND (0.673)		8270D		1	09/13/16 16:45	CZI0162	CI60818
3-Nitroaniline	ND (0.336)		8270D		1	09/13/16 16:45	CZI0162	CI60818
4,6-Dinitro-2-Methylphenol	ND (1.69)		8270D		1	09/13/16 16:45	CZI0162	CI60818
4-Bromophenyl-phenylether	ND (0.336)		8270D		1	09/13/16 16:45	CZI0162	CI60818
4-Chloro-3-Methylphenol	ND (0.336)		8270D		1	09/13/16 16:45	CZI0162	CI60818
4-Chloroaniline	ND (0.673)		8270D		1	09/13/16 16:45	CZI0162	CI60818
4-Chloro-phenyl-phenyl ether	ND (0.336)		8270D		1	09/13/16 16:45	CZI0162	CI60818
4-Nitroaniline	ND (0.336)		8270D		1	09/13/16 16:45	CZI0162	CI60818
4-Nitrophenol	ND (1.69)		8270D		1	09/13/16 16:45	CZI0162	CI60818
Acenaphthene	ND (0.336)		8270D		1	09/13/16 16:45	CZI0162	CI60818
Acenaphthylene	ND (0.336)		8270D		1	09/13/16 16:45	CZI0162	CI60818
Acetophenone	ND (0.673)		8270D		1	09/13/16 16:45	CZI0162	CI60818



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-43 (2-8)  
Date Sampled: 09/08/16 09:45  
Percent Solids: 98  
Initial Volume: 15.2  
Final Volume: 0.5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609159  
ESS Laboratory Sample ID: 1609159-01  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: TJ  
Prepared: 9/9/16 9:05

**8270D Semi-Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aniline	ND (0.673)		8270D		1	09/13/16 16:45	CZI0162	CI60818
Anthracene	ND (0.336)		8270D		1	09/13/16 16:45	CZI0162	CI60818
Azobenzene	ND (0.336)		8270D		1	09/13/16 16:45	CZI0162	CI60818
Benzo(a)anthracene	ND (0.336)		8270D		1	09/13/16 16:45	CZI0162	CI60818
Benzo(a)pyrene	ND (0.169)		8270D		1	09/13/16 16:45	CZI0162	CI60818
Benzo(b)fluoranthene	ND (0.336)		8270D		1	09/13/16 16:45	CZI0162	CI60818
Benzo(g,h,i)perylene	ND (0.336)		8270D		1	09/13/16 16:45	CZI0162	CI60818
Benzo(k)fluoranthene	ND (0.336)		8270D		1	09/13/16 16:45	CZI0162	CI60818
Benzoic Acid	ND (1.69)		8270D		1	09/13/16 16:45	CZI0162	CI60818
Benzyl Alcohol	ND (0.336)		8270D		1	09/13/16 16:45	CZI0162	CI60818
bis(2-Chloroethoxy)methane	ND (0.336)		8270D		1	09/13/16 16:45	CZI0162	CI60818
bis(2-Chloroethyl)ether	ND (0.336)		8270D		1	09/13/16 16:45	CZI0162	CI60818
bis(2-chloroisopropyl)Ether	ND (0.336)		8270D		1	09/13/16 16:45	CZI0162	CI60818
bis(2-Ethylhexyl)phthalate	ND (0.336)		8270D		1	09/13/16 16:45	CZI0162	CI60818
Butylbenzylphthalate	ND (0.336)		8270D		1	09/13/16 16:45	CZI0162	CI60818
Carbazole	ND (0.336)		8270D		1	09/13/16 16:45	CZI0162	CI60818
Chrysene	ND (0.169)		8270D		1	09/13/16 16:45	CZI0162	CI60818
Dibenzo(a,h)Anthracene	ND (0.169)		8270D		1	09/13/16 16:45	CZI0162	CI60818
Dibenzofuran	ND (0.336)		8270D		1	09/13/16 16:45	CZI0162	CI60818
Diethylphthalate	ND (0.336)		8270D		1	09/13/16 16:45	CZI0162	CI60818
Dimethylphthalate	ND (0.336)		8270D		1	09/13/16 16:45	CZI0162	CI60818
Di-n-butylphthalate	ND (0.336)		8270D		1	09/13/16 16:45	CZI0162	CI60818
Di-n-octylphthalate	ND (0.336)		8270D		1	09/13/16 16:45	CZI0162	CI60818
Fluoranthene	ND (0.336)		8270D		1	09/13/16 16:45	CZI0162	CI60818
Fluorene	ND (0.336)		8270D		1	09/13/16 16:45	CZI0162	CI60818
Hexachlorobenzene	ND (0.169)		8270D		1	09/13/16 16:45	CZI0162	CI60818
Hexachlorobutadiene	ND (0.336)		8270D		1	09/13/16 16:45	CZI0162	CI60818
Hexachlorocyclopentadiene	ND (1.69)		8270D		1	09/13/16 16:45	CZI0162	CI60818
Hexachloroethane	ND (0.336)		8270D		1	09/13/16 16:45	CZI0162	CI60818
Indeno(1,2,3-cd)Pyrene	ND (0.336)		8270D		1	09/13/16 16:45	CZI0162	CI60818
Isophorone	ND (0.336)		8270D		1	09/13/16 16:45	CZI0162	CI60818
Naphthalene	ND (0.336)		8270D		1	09/13/16 16:45	CZI0162	CI60818



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-43 (2-8)  
Date Sampled: 09/08/16 09:45  
Percent Solids: 98  
Initial Volume: 15.2  
Final Volume: 0.5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609159  
ESS Laboratory Sample ID: 1609159-01  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: TJ  
Prepared: 9/9/16 9:05

**8270D Semi-Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Nitrobenzene	ND (0.336)		8270D		1	09/13/16 16:45	CZI0162	CI60818
N-Nitrosodimethylamine	ND (0.336)		8270D		1	09/13/16 16:45	CZI0162	CI60818
N-Nitroso-Di-n-Propylamine	ND (0.336)		8270D		1	09/13/16 16:45	CZI0162	CI60818
N-nitrosodiphenylamine	ND (0.336)		8270D		1	09/13/16 16:45	CZI0162	CI60818
Pentachlorophenol	ND (1.69)		8270D		1	09/13/16 16:45	CZI0162	CI60818
Phenanthrene	ND (0.336)		8270D		1	09/13/16 16:45	CZI0162	CI60818
Phenol	ND (0.336)		8270D		1	09/13/16 16:45	CZI0162	CI60818
Pyrene	ND (0.336)		8270D		1	09/13/16 16:45	CZI0162	CI60818
Pyridine	ND (1.69)		8270D		1	09/13/16 16:45	CZI0162	CI60818

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	<i>64 %</i>		<i>30-130</i>
<i>Surrogate: 2,4,6-Tribromophenol</i>	<i>69 %</i>		<i>30-130</i>
<i>Surrogate: 2-Chlorophenol-d4</i>	<i>65 %</i>		<i>30-130</i>
<i>Surrogate: 2-Fluorobiphenyl</i>	<i>66 %</i>		<i>30-130</i>
<i>Surrogate: 2-Fluorophenol</i>	<i>64 %</i>		<i>30-130</i>
<i>Surrogate: Nitrobenzene-d5</i>	<i>66 %</i>		<i>30-130</i>
<i>Surrogate: Phenol-d6</i>	<i>67 %</i>		<i>30-130</i>
<i>Surrogate: p-Terphenyl-d14</i>	<i>92 %</i>		<i>30-130</i>



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-43 (2-8)  
Date Sampled: 09/08/16 09:45  
Percent Solids: 98

ESS Laboratory Work Order: 1609159  
ESS Laboratory Sample ID: 1609159-01  
Sample Matrix: Soil

**Classical Chemistry**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>	<u>Batch</u>
Hexavalent Chromium	ND (0.4)		7196A		1	EEM	09/12/16 15:30	mg/kg dry	CI61224
Total Cyanide	ND (0.93)		9014		1	JLK	09/09/16 17:25	mg/kg dry	CI60931



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-44 (2-8)  
Date Sampled: 09/08/16 10:30  
Percent Solids: 98

ESS Laboratory Work Order: 1609159  
ESS Laboratory Sample ID: 1609159-02  
Sample Matrix: Soil  
Units: mg/kg dry

Extraction Method: 3050B

**Total Metals**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Antimony	ND (0.37)		6020A		20	NAR	09/12/16 11:52	2.78	100	CI60811
Arsenic	<b>2.31</b> (1.83)		6010C		1	KJK	09/09/16 21:38	2.78	100	CI60811
Barium	<b>14.9</b> (1.83)		6010C		1	KJK	09/09/16 21:38	2.78	100	CI60811
Beryllium	<b>0.40</b> (0.08)		6010C		1	KJK	09/09/16 21:38	2.78	100	CI60811
Cadmium	ND (0.37)		6010C		1	KJK	09/09/16 21:38	2.78	100	CI60811
Chromium	ND (0.73)		6010C		1	KJK	09/09/16 21:38	2.78	100	CI60811
Chromium (III)	ND (0.7)		Calc		1	EEM	09/12/16 15:30	1	1	[CALC]
Copper	ND (1.83)		6010C		1	KJK	09/09/16 21:38	2.78	100	CI60811
Lead	ND (3.66)		6010C		1	KJK	09/09/16 21:38	2.78	100	CI60811
Manganese	<b>125</b> (0.73)		6010C		1	KJK	09/09/16 21:38	2.78	100	CI60811
Mercury	ND (0.030)		7471B		1	KJK	09/09/16 12:23	0.68	40	CI60844
Nickel	ND (1.83)		6010C		1	KJK	09/09/16 21:38	2.78	100	CI60811
Selenium	ND (0.37)		6020A		20	NAR	09/12/16 11:52	2.78	100	CI60811
Silver	ND (0.37)		6010C		1	KJK	09/09/16 21:38	2.78	100	CI60811
Thallium	ND (0.37)		6020A		20	NAR	09/12/16 11:52	2.78	100	CI60811
Vanadium	<b>1.72</b> (0.73)		6010C		1	KJK	09/09/16 21:38	2.78	100	CI60811
Zinc	<b>27.6</b> (1.83)		6010C		1	KJK	09/09/16 21:38	2.78	100	CI60811



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-44 (2-8)  
Date Sampled: 09/08/16 10:30  
Percent Solids: 98  
Initial Volume: 7.3  
Final Volume: 10  
Extraction Method: 5035

ESS Laboratory Work Order: 1609159  
ESS Laboratory Sample ID: 1609159-02  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: MD

**5035/8260B Volatile Organic Compounds / Low Level**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
1,1,1-Trichloroethane	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
1,1,2,2-Tetrachloroethane	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
1,1,2-Trichloroethane	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
1,1-Dichloroethane	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
1,1-Dichloroethene	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
1,1-Dichloropropene	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
1,2,3-Trichlorobenzene	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
1,2,3-Trichloropropane	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
1,2,4-Trichlorobenzene	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
1,2,4-Trimethylbenzene	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
1,2-Dibromo-3-Chloropropane	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
1,2-Dibromoethane	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
1,2-Dichlorobenzene	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
1,2-Dichloroethane	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
1,2-Dichloropropane	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
1,3,5-Trimethylbenzene	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
1,3-Dichlorobenzene	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
1,3-Dichloropropane	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
1,4-Dichlorobenzene	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
1,4-Dioxane	ND (0.0697)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
1-Chlorohexane	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
2,2-Dichloropropane	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
2-Butanone	ND (0.0349)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
2-Chlorotoluene	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
2-Hexanone	ND (0.0349)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
4-Chlorotoluene	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
4-Isopropyltoluene	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
4-Methyl-2-Pentanone	ND (0.0349)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
Acetone	ND (0.0349)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
Benzene	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
Bromobenzene	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-44 (2-8)  
Date Sampled: 09/08/16 10:30  
Percent Solids: 98  
Initial Volume: 7.3  
Final Volume: 10  
Extraction Method: 5035

ESS Laboratory Work Order: 1609159  
ESS Laboratory Sample ID: 1609159-02  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: MD

**5035/8260B Volatile Organic Compounds / Low Level**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
Bromodichloromethane	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
Bromoform	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
Bromomethane	ND (0.0070)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
Carbon Disulfide	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
Carbon Tetrachloride	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
Chlorobenzene	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
Chloroethane	ND (0.0070)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
Chloroform	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
Chloromethane	ND (0.0070)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
cis-1,2-Dichloroethene	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
cis-1,3-Dichloropropene	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
Dibromochloromethane	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
Dibromomethane	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
Dichlorodifluoromethane	ND (0.0070)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
Diethyl Ether	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
Di-isopropyl ether	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
Ethyl tertiary-butyl ether	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
Ethylbenzene	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
Hexachlorobutadiene	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
Isopropylbenzene	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
Methyl tert-Butyl Ether	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
Methylene Chloride	ND (0.0174)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
Naphthalene	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
n-Butylbenzene	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
n-Propylbenzene	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
sec-Butylbenzene	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
Styrene	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
tert-Butylbenzene	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
Tertiary-amyl methyl ether	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
Tetrachloroethene	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
Tetrahydrofuran	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229





*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-44 (2-8)  
Date Sampled: 09/08/16 10:30  
Percent Solids: 98  
Initial Volume: 7.3  
Final Volume: 10  
Extraction Method: 5035

ESS Laboratory Work Order: 1609159  
ESS Laboratory Sample ID: 1609159-02  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: MD

**5035/8260B Volatile Organic Compounds / Low Level**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Toluene	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
trans-1,2-Dichloroethene	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
trans-1,3-Dichloropropene	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
Trichloroethene	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
Trichlorofluoromethane	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
Vinyl Acetate	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
Vinyl Chloride	ND (0.0070)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
Xylene O	ND (0.0035)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
Xylene P,M	ND (0.0070)		8260B Low		1	09/12/16 19:32	CZI0150	CI61229
Xylenes (Total)	ND (0.0070)		8260B Low		1	09/12/16 19:32		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	84 %		70-130
<i>Surrogate: 4-Bromofluorobenzene</i>	90 %		70-130
<i>Surrogate: Dibromofluoromethane</i>	89 %		70-130
<i>Surrogate: Toluene-d8</i>	92 %		70-130





*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-44 (2-8)  
Date Sampled: 09/08/16 10:30  
Percent Solids: 98  
Initial Volume: 19.6  
Final Volume: 5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609159  
ESS Laboratory Sample ID: 1609159-02  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: JXS  
Prepared: 9/9/16 9:55

**8081B Organochlorine Pesticides**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Chlordane (Total)	ND (0.0312)		8081B		1	09/10/16 14:57	CZI0136	CI60917
Dieldrin	ND (0.0026)		8081B		1	09/10/16 14:57	CZI0136	CI60917

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	88 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	91 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	75 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	79 %		30-150



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-44 (2-8)  
Date Sampled: 09/08/16 10:30  
Percent Solids: 98  
Initial Volume: 19.8  
Final Volume: 10  
Extraction Method: 3540C

ESS Laboratory Work Order: 1609159  
ESS Laboratory Sample ID: 1609159-02  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: SMR  
Prepared: 9/9/16 18:05

**8082A Polychlorinated Biphenyls (PCB)**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.0514)		8082A		1	09/13/16 1:14		CI60912
Aroclor 1221	ND (0.0514)		8082A		1	09/13/16 1:14		CI60912
Aroclor 1232	ND (0.0514)		8082A		1	09/13/16 1:14		CI60912
Aroclor 1242	ND (0.0514)		8082A		1	09/13/16 1:14		CI60912
Aroclor 1248	ND (0.0514)		8082A		1	09/13/16 1:14		CI60912
Aroclor 1254	ND (0.0514)		8082A		1	09/13/16 1:14		CI60912
Aroclor 1260	ND (0.0514)		8082A		1	09/13/16 1:14		CI60912
Aroclor 1262	ND (0.0514)		8082A		1	09/13/16 1:14		CI60912
Aroclor 1268	ND (0.0514)		8082A		1	09/13/16 1:14		CI60912

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	83 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	96 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	70 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	79 %		30-150



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-44 (2-8)  
Date Sampled: 09/08/16 10:30  
Percent Solids: 98  
Initial Volume: 14.1  
Final Volume: 0.5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609159  
ESS Laboratory Sample ID: 1609159-02  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: TJ  
Prepared: 9/9/16 9:05

**8270D Semi-Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1-Biphenyl	ND (0.361)		8270D		1	09/13/16 17:20	CZI0162	CI60818
1,2,4-Trichlorobenzene	ND (0.361)		8270D		1	09/13/16 17:20	CZI0162	CI60818
1,2-Dichlorobenzene	ND (0.361)		8270D		1	09/13/16 17:20	CZI0162	CI60818
1,3-Dichlorobenzene	ND (0.361)		8270D		1	09/13/16 17:20	CZI0162	CI60818
1,4-Dichlorobenzene	ND (0.361)		8270D		1	09/13/16 17:20	CZI0162	CI60818
2,3,4,6-Tetrachlorophenol	ND (1.81)		8270D		1	09/13/16 17:20	CZI0162	CI60818
2,4,5-Trichlorophenol	ND (0.361)		8270D		1	09/13/16 17:20	CZI0162	CI60818
2,4,6-Trichlorophenol	ND (0.361)		8270D		1	09/13/16 17:20	CZI0162	CI60818
2,4-Dichlorophenol	ND (0.361)		8270D		1	09/13/16 17:20	CZI0162	CI60818
2,4-Dimethylphenol	ND (0.361)		8270D		1	09/13/16 17:20	CZI0162	CI60818
2,4-Dinitrophenol	ND (1.81)		8270D		1	09/13/16 17:20	CZI0162	CI60818
2,4-Dinitrotoluene	ND (0.361)		8270D		1	09/13/16 17:20	CZI0162	CI60818
2,6-Dinitrotoluene	ND (0.361)		8270D		1	09/13/16 17:20	CZI0162	CI60818
2-Chloronaphthalene	ND (0.361)		8270D		1	09/13/16 17:20	CZI0162	CI60818
2-Chlorophenol	ND (0.361)		8270D		1	09/13/16 17:20	CZI0162	CI60818
2-Methylnaphthalene	ND (0.361)		8270D		1	09/13/16 17:20	CZI0162	CI60818
2-Methylphenol	ND (0.361)		8270D		1	09/13/16 17:20	CZI0162	CI60818
2-Nitroaniline	ND (0.361)		8270D		1	09/13/16 17:20	CZI0162	CI60818
2-Nitrophenol	ND (0.361)		8270D		1	09/13/16 17:20	CZI0162	CI60818
3,3'-Dichlorobenzidine	ND (0.723)		8270D		1	09/13/16 17:20	CZI0162	CI60818
3+4-Methylphenol	ND (0.723)		8270D		1	09/13/16 17:20	CZI0162	CI60818
3-Nitroaniline	ND (0.361)		8270D		1	09/13/16 17:20	CZI0162	CI60818
4,6-Dinitro-2-Methylphenol	ND (1.81)		8270D		1	09/13/16 17:20	CZI0162	CI60818
4-Bromophenyl-phenylether	ND (0.361)		8270D		1	09/13/16 17:20	CZI0162	CI60818
4-Chloro-3-Methylphenol	ND (0.361)		8270D		1	09/13/16 17:20	CZI0162	CI60818
4-Chloroaniline	ND (0.723)		8270D		1	09/13/16 17:20	CZI0162	CI60818
4-Chloro-phenyl-phenyl ether	ND (0.361)		8270D		1	09/13/16 17:20	CZI0162	CI60818
4-Nitroaniline	ND (0.361)		8270D		1	09/13/16 17:20	CZI0162	CI60818
4-Nitrophenol	ND (1.81)		8270D		1	09/13/16 17:20	CZI0162	CI60818
Acenaphthene	ND (0.361)		8270D		1	09/13/16 17:20	CZI0162	CI60818
Acenaphthylene	ND (0.361)		8270D		1	09/13/16 17:20	CZI0162	CI60818
Acetophenone	ND (0.723)		8270D		1	09/13/16 17:20	CZI0162	CI60818



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-44 (2-8)  
Date Sampled: 09/08/16 10:30  
Percent Solids: 98  
Initial Volume: 14.1  
Final Volume: 0.5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609159  
ESS Laboratory Sample ID: 1609159-02  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: TJ  
Prepared: 9/9/16 9:05

**8270D Semi-Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aniline	ND (0.723)		8270D		1	09/13/16 17:20	CZI0162	CI60818
Anthracene	ND (0.361)		8270D		1	09/13/16 17:20	CZI0162	CI60818
Azobenzene	ND (0.361)		8270D		1	09/13/16 17:20	CZI0162	CI60818
Benzo(a)anthracene	ND (0.361)		8270D		1	09/13/16 17:20	CZI0162	CI60818
Benzo(a)pyrene	ND (0.181)		8270D		1	09/13/16 17:20	CZI0162	CI60818
Benzo(b)fluoranthene	ND (0.361)		8270D		1	09/13/16 17:20	CZI0162	CI60818
Benzo(g,h,i)perylene	ND (0.361)		8270D		1	09/13/16 17:20	CZI0162	CI60818
Benzo(k)fluoranthene	ND (0.361)		8270D		1	09/13/16 17:20	CZI0162	CI60818
Benzoic Acid	ND (1.81)		8270D		1	09/13/16 17:20	CZI0162	CI60818
Benzyl Alcohol	ND (0.361)		8270D		1	09/13/16 17:20	CZI0162	CI60818
bis(2-Chloroethoxy)methane	ND (0.361)		8270D		1	09/13/16 17:20	CZI0162	CI60818
bis(2-Chloroethyl)ether	ND (0.361)		8270D		1	09/13/16 17:20	CZI0162	CI60818
bis(2-chloroisopropyl)Ether	ND (0.361)		8270D		1	09/13/16 17:20	CZI0162	CI60818
bis(2-Ethylhexyl)phthalate	ND (0.361)		8270D		1	09/13/16 17:20	CZI0162	CI60818
Butylbenzylphthalate	ND (0.361)		8270D		1	09/13/16 17:20	CZI0162	CI60818
Carbazole	ND (0.361)		8270D		1	09/13/16 17:20	CZI0162	CI60818
Chrysene	ND (0.181)		8270D		1	09/13/16 17:20	CZI0162	CI60818
Dibenzo(a,h)Anthracene	ND (0.181)		8270D		1	09/13/16 17:20	CZI0162	CI60818
Dibenzofuran	ND (0.361)		8270D		1	09/13/16 17:20	CZI0162	CI60818
Diethylphthalate	ND (0.361)		8270D		1	09/13/16 17:20	CZI0162	CI60818
Dimethylphthalate	ND (0.361)		8270D		1	09/13/16 17:20	CZI0162	CI60818
Di-n-butylphthalate	ND (0.361)		8270D		1	09/13/16 17:20	CZI0162	CI60818
Di-n-octylphthalate	ND (0.361)		8270D		1	09/13/16 17:20	CZI0162	CI60818
Fluoranthene	ND (0.361)		8270D		1	09/13/16 17:20	CZI0162	CI60818
Fluorene	ND (0.361)		8270D		1	09/13/16 17:20	CZI0162	CI60818
Hexachlorobenzene	ND (0.181)		8270D		1	09/13/16 17:20	CZI0162	CI60818
Hexachlorobutadiene	ND (0.361)		8270D		1	09/13/16 17:20	CZI0162	CI60818
Hexachlorocyclopentadiene	ND (1.81)		8270D		1	09/13/16 17:20	CZI0162	CI60818
Hexachloroethane	ND (0.361)		8270D		1	09/13/16 17:20	CZI0162	CI60818
Indeno(1,2,3-cd)Pyrene	ND (0.361)		8270D		1	09/13/16 17:20	CZI0162	CI60818
Isophorone	ND (0.361)		8270D		1	09/13/16 17:20	CZI0162	CI60818
Naphthalene	ND (0.361)		8270D		1	09/13/16 17:20	CZI0162	CI60818



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-44 (2-8)  
Date Sampled: 09/08/16 10:30  
Percent Solids: 98  
Initial Volume: 14.1  
Final Volume: 0.5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609159  
ESS Laboratory Sample ID: 1609159-02  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: TJ  
Prepared: 9/9/16 9:05

**8270D Semi-Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Nitrobenzene	ND (0.361)		8270D		1	09/13/16 17:20	CZI0162	CI60818
N-Nitrosodimethylamine	ND (0.361)		8270D		1	09/13/16 17:20	CZI0162	CI60818
N-Nitroso-Di-n-Propylamine	ND (0.361)		8270D		1	09/13/16 17:20	CZI0162	CI60818
N-nitrosodiphenylamine	ND (0.361)		8270D		1	09/13/16 17:20	CZI0162	CI60818
Pentachlorophenol	ND (1.81)		8270D		1	09/13/16 17:20	CZI0162	CI60818
Phenanthrene	ND (0.361)		8270D		1	09/13/16 17:20	CZI0162	CI60818
Phenol	ND (0.361)		8270D		1	09/13/16 17:20	CZI0162	CI60818
Pyrene	ND (0.361)		8270D		1	09/13/16 17:20	CZI0162	CI60818
Pyridine	ND (1.81)		8270D		1	09/13/16 17:20	CZI0162	CI60818

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	70 %		30-130
<i>Surrogate: 2,4,6-Tribromophenol</i>	74 %		30-130
<i>Surrogate: 2-Chlorophenol-d4</i>	73 %		30-130
<i>Surrogate: 2-Fluorobiphenyl</i>	75 %		30-130
<i>Surrogate: 2-Fluorophenol</i>	71 %		30-130
<i>Surrogate: Nitrobenzene-d5</i>	73 %		30-130
<i>Surrogate: Phenol-d6</i>	76 %		30-130
<i>Surrogate: p-Terphenyl-d14</i>	99 %		30-130



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-44 (2-8)  
Date Sampled: 09/08/16 10:30  
Percent Solids: 98

ESS Laboratory Work Order: 1609159  
ESS Laboratory Sample ID: 1609159-02  
Sample Matrix: Soil

**Classical Chemistry**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>	<u>Batch</u>
Hexavalent Chromium	ND (0.4)		7196A		1	EEM	09/12/16 15:30	mg/kg dry	CI61224
Total Cyanide	ND (1.01)		9014		1	JLK	09/09/16 17:25	mg/kg dry	CI60931



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-45 (2-8)  
Date Sampled: 09/08/16 11:00  
Percent Solids: 97

ESS Laboratory Work Order: 1609159  
ESS Laboratory Sample ID: 1609159-03  
Sample Matrix: Soil  
Units: mg/kg dry

Extraction Method: 3050B

**Total Metals**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Antimony	ND (0.41)		6020A		20	NAR	09/12/16 11:58	2.49	100	CI60811
Arsenic	ND (4.13)		6010C		2	BJV	09/12/16 17:06	2.49	100	CI60811
<b>Barium</b>	<b>16.2</b> (4.13)		6010C		2	KJK	09/10/16 6:39	2.49	100	CI60811
<b>Beryllium</b>	<b>0.54</b> (0.18)		6010C		2	KJK	09/10/16 6:39	2.49	100	CI60811
Cadmium	ND (0.83)		6010C		2	KJK	09/10/16 6:39	2.49	100	CI60811
Chromium	ND (1.65)		6010C		2	KJK	09/10/16 6:39	2.49	100	CI60811
Chromium (III)	ND (1.6)		Calc		2	EEM	09/12/16 15:30	1	1	[CALC]
Copper	ND (4.13)		6010C		2	KJK	09/10/16 6:39	2.49	100	CI60811
Lead	ND (8.26)		6010C		2	KJK	09/10/16 6:39	2.49	100	CI60811
<b>Manganese</b>	<b>187</b> (1.65)		6010C		2	KJK	09/10/16 6:39	2.49	100	CI60811
Mercury	ND (0.030)		7471B		1	KJK	09/09/16 12:25	0.67	40	CI60844
Nickel	ND (4.13)		6010C		2	KJK	09/10/16 6:39	2.49	100	CI60811
Selenium	ND (0.41)		6020A		20	NAR	09/12/16 11:58	2.49	100	CI60811
Silver	ND (0.83)		6010C		2	KJK	09/10/16 6:39	2.49	100	CI60811
Thallium	ND (0.41)		6020A		20	NAR	09/12/16 11:58	2.49	100	CI60811
Vanadium	ND (1.65)		6010C		2	KJK	09/10/16 6:39	2.49	100	CI60811
<b>Zinc</b>	<b>51.5</b> (4.13)		6010C		2	KJK	09/10/16 6:39	2.49	100	CI60811



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-45 (2-8)  
Date Sampled: 09/08/16 11:00  
Percent Solids: 97  
Initial Volume: 6.1  
Final Volume: 10  
Extraction Method: 5035

ESS Laboratory Work Order: 1609159  
ESS Laboratory Sample ID: 1609159-03  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: MD

**5035/8260B Volatile Organic Compounds / Low Level**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
1,1,1-Trichloroethane	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
1,1,2,2-Tetrachloroethane	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
1,1,2-Trichloroethane	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
1,1-Dichloroethane	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
1,1-Dichloroethene	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
1,1-Dichloropropene	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
1,2,3-Trichlorobenzene	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
1,2,3-Trichloropropane	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
1,2,4-Trichlorobenzene	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
1,2,4-Trimethylbenzene	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
1,2-Dibromo-3-Chloropropane	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
1,2-Dibromoethane	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
1,2-Dichlorobenzene	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
1,2-Dichloroethane	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
1,2-Dichloropropane	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
1,3,5-Trimethylbenzene	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
1,3-Dichlorobenzene	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
1,3-Dichloropropane	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
1,4-Dichlorobenzene	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
1,4-Dioxane	ND (0.0843)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
1-Chlorohexane	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
2,2-Dichloropropane	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
2-Butanone	ND (0.0421)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
2-Chlorotoluene	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
2-Hexanone	ND (0.0421)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
4-Chlorotoluene	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
4-Isopropyltoluene	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
4-Methyl-2-Pentanone	ND (0.0421)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
Acetone	ND (0.0421)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
Benzene	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
Bromobenzene	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229





*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-45 (2-8)  
Date Sampled: 09/08/16 11:00  
Percent Solids: 97  
Initial Volume: 6.1  
Final Volume: 10  
Extraction Method: 5035

ESS Laboratory Work Order: 1609159  
ESS Laboratory Sample ID: 1609159-03  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: MD

**5035/8260B Volatile Organic Compounds / Low Level**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
Bromodichloromethane	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
Bromoform	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
Bromomethane	ND (0.0084)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
Carbon Disulfide	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
Carbon Tetrachloride	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
Chlorobenzene	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
Chloroethane	ND (0.0084)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
Chloroform	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
Chloromethane	ND (0.0084)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
cis-1,2-Dichloroethene	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
cis-1,3-Dichloropropene	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
Dibromochloromethane	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
Dibromomethane	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
Dichlorodifluoromethane	ND (0.0084)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
Diethyl Ether	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
Di-isopropyl ether	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
Ethyl tertiary-butyl ether	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
Ethylbenzene	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
Hexachlorobutadiene	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
Isopropylbenzene	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
Methyl tert-Butyl Ether	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
Methylene Chloride	ND (0.0211)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
Naphthalene	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
n-Butylbenzene	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
n-Propylbenzene	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
sec-Butylbenzene	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
Styrene	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
tert-Butylbenzene	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
Tertiary-amyl methyl ether	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
Tetrachloroethene	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
Tetrahydrofuran	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-45 (2-8)  
Date Sampled: 09/08/16 11:00  
Percent Solids: 97  
Initial Volume: 6.1  
Final Volume: 10  
Extraction Method: 5035

ESS Laboratory Work Order: 1609159  
ESS Laboratory Sample ID: 1609159-03  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: MD

**5035/8260B Volatile Organic Compounds / Low Level**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Toluene	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
trans-1,2-Dichloroethene	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
trans-1,3-Dichloropropene	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
Trichloroethene	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
Trichlorofluoromethane	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
Vinyl Acetate	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
Vinyl Chloride	ND (0.0084)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
Xylene O	ND (0.0042)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
Xylene P,M	ND (0.0084)		8260B Low		1	09/12/16 19:58	CZI0150	CI61229
Xylenes (Total)	ND (0.0084)		8260B Low		1	09/12/16 19:58		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>83 %</i>		<i>70-130</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>90 %</i>		<i>70-130</i>
<i>Surrogate: Dibromofluoromethane</i>	<i>87 %</i>		<i>70-130</i>
<i>Surrogate: Toluene-d8</i>	<i>92 %</i>		<i>70-130</i>



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-45 (2-8)  
Date Sampled: 09/08/16 11:00  
Percent Solids: 97  
Initial Volume: 20.3  
Final Volume: 5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609159  
ESS Laboratory Sample ID: 1609159-03  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: JXS  
Prepared: 9/9/16 9:55

**8081B Organochlorine Pesticides**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Chlordane (Total)	ND (0.0304)		8081B		1	09/10/16 15:27	CZI0136	CI60917
Dieldrin	ND (0.0025)		8081B		1	09/10/16 15:27	CZI0136	CI60917

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	73 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	78 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	61 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	61 %		30-150



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-45 (2-8)  
Date Sampled: 09/08/16 11:00  
Percent Solids: 97  
Initial Volume: 19.4  
Final Volume: 10  
Extraction Method: 3540C

ESS Laboratory Work Order: 1609159  
ESS Laboratory Sample ID: 1609159-03  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: SMR  
Prepared: 9/9/16 18:05

**8082A Polychlorinated Biphenyls (PCB)**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.0530)		8082A		1	09/13/16 1:33		CI60912
Aroclor 1221	ND (0.0530)		8082A		1	09/13/16 1:33		CI60912
Aroclor 1232	ND (0.0530)		8082A		1	09/13/16 1:33		CI60912
Aroclor 1242	ND (0.0530)		8082A		1	09/13/16 1:33		CI60912
Aroclor 1248	ND (0.0530)		8082A		1	09/13/16 1:33		CI60912
Aroclor 1254	ND (0.0530)		8082A		1	09/13/16 1:33		CI60912
Aroclor 1260	ND (0.0530)		8082A		1	09/13/16 1:33		CI60912
Aroclor 1262	ND (0.0530)		8082A		1	09/13/16 1:33		CI60912
Aroclor 1268	ND (0.0530)		8082A		1	09/13/16 1:33		CI60912

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	<i>82 %</i>		<i>30-150</i>
<i>Surrogate: Decachlorobiphenyl [2C]</i>	<i>91 %</i>		<i>30-150</i>
<i>Surrogate: Tetrachloro-m-xylene</i>	<i>68 %</i>		<i>30-150</i>
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	<i>78 %</i>		<i>30-150</i>



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-45 (2-8)  
Date Sampled: 09/08/16 11:00  
Percent Solids: 97  
Initial Volume: 14.4  
Final Volume: 0.5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609159  
ESS Laboratory Sample ID: 1609159-03  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: TJ  
Prepared: 9/9/16 9:05

**8270D Semi-Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1-Biphenyl	ND (0.357)		8270D		1	09/13/16 17:55	CZI0162	CI60818
1,2,4-Trichlorobenzene	ND (0.357)		8270D		1	09/13/16 17:55	CZI0162	CI60818
1,2-Dichlorobenzene	ND (0.357)		8270D		1	09/13/16 17:55	CZI0162	CI60818
1,3-Dichlorobenzene	ND (0.357)		8270D		1	09/13/16 17:55	CZI0162	CI60818
1,4-Dichlorobenzene	ND (0.357)		8270D		1	09/13/16 17:55	CZI0162	CI60818
2,3,4,6-Tetrachlorophenol	ND (1.79)		8270D		1	09/13/16 17:55	CZI0162	CI60818
2,4,5-Trichlorophenol	ND (0.357)		8270D		1	09/13/16 17:55	CZI0162	CI60818
2,4,6-Trichlorophenol	ND (0.357)		8270D		1	09/13/16 17:55	CZI0162	CI60818
2,4-Dichlorophenol	ND (0.357)		8270D		1	09/13/16 17:55	CZI0162	CI60818
2,4-Dimethylphenol	ND (0.357)		8270D		1	09/13/16 17:55	CZI0162	CI60818
2,4-Dinitrophenol	ND (1.79)		8270D		1	09/13/16 17:55	CZI0162	CI60818
2,4-Dinitrotoluene	ND (0.357)		8270D		1	09/13/16 17:55	CZI0162	CI60818
2,6-Dinitrotoluene	ND (0.357)		8270D		1	09/13/16 17:55	CZI0162	CI60818
2-Chloronaphthalene	ND (0.357)		8270D		1	09/13/16 17:55	CZI0162	CI60818
2-Chlorophenol	ND (0.357)		8270D		1	09/13/16 17:55	CZI0162	CI60818
2-Methylnaphthalene	ND (0.357)		8270D		1	09/13/16 17:55	CZI0162	CI60818
2-Methylphenol	ND (0.357)		8270D		1	09/13/16 17:55	CZI0162	CI60818
2-Nitroaniline	ND (0.357)		8270D		1	09/13/16 17:55	CZI0162	CI60818
2-Nitrophenol	ND (0.357)		8270D		1	09/13/16 17:55	CZI0162	CI60818
3,3'-Dichlorobenzidine	ND (0.714)		8270D		1	09/13/16 17:55	CZI0162	CI60818
3+4-Methylphenol	ND (0.714)		8270D		1	09/13/16 17:55	CZI0162	CI60818
3-Nitroaniline	ND (0.357)		8270D		1	09/13/16 17:55	CZI0162	CI60818
4,6-Dinitro-2-Methylphenol	ND (1.79)		8270D		1	09/13/16 17:55	CZI0162	CI60818
4-Bromophenyl-phenylether	ND (0.357)		8270D		1	09/13/16 17:55	CZI0162	CI60818
4-Chloro-3-Methylphenol	ND (0.357)		8270D		1	09/13/16 17:55	CZI0162	CI60818
4-Chloroaniline	ND (0.714)		8270D		1	09/13/16 17:55	CZI0162	CI60818
4-Chloro-phenyl-phenyl ether	ND (0.357)		8270D		1	09/13/16 17:55	CZI0162	CI60818
4-Nitroaniline	ND (0.357)		8270D		1	09/13/16 17:55	CZI0162	CI60818
4-Nitrophenol	ND (1.79)		8270D		1	09/13/16 17:55	CZI0162	CI60818
Acenaphthene	ND (0.357)		8270D		1	09/13/16 17:55	CZI0162	CI60818
Acenaphthylene	ND (0.357)		8270D		1	09/13/16 17:55	CZI0162	CI60818
Acetophenone	ND (0.714)		8270D		1	09/13/16 17:55	CZI0162	CI60818



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-45 (2-8)  
Date Sampled: 09/08/16 11:00  
Percent Solids: 97  
Initial Volume: 14.4  
Final Volume: 0.5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609159  
ESS Laboratory Sample ID: 1609159-03  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: TJ  
Prepared: 9/9/16 9:05

**8270D Semi-Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aniline	ND (0.714)		8270D		1	09/13/16 17:55	CZI0162	CI60818
Anthracene	ND (0.357)		8270D		1	09/13/16 17:55	CZI0162	CI60818
Azobenzene	ND (0.357)		8270D		1	09/13/16 17:55	CZI0162	CI60818
Benzo(a)anthracene	ND (0.357)		8270D		1	09/13/16 17:55	CZI0162	CI60818
Benzo(a)pyrene	ND (0.179)		8270D		1	09/13/16 17:55	CZI0162	CI60818
Benzo(b)fluoranthene	ND (0.357)		8270D		1	09/13/16 17:55	CZI0162	CI60818
Benzo(g,h,i)perylene	ND (0.357)		8270D		1	09/13/16 17:55	CZI0162	CI60818
Benzo(k)fluoranthene	ND (0.357)		8270D		1	09/13/16 17:55	CZI0162	CI60818
Benzoic Acid	ND (1.79)		8270D		1	09/13/16 17:55	CZI0162	CI60818
Benzyl Alcohol	ND (0.357)		8270D		1	09/13/16 17:55	CZI0162	CI60818
bis(2-Chloroethoxy)methane	ND (0.357)		8270D		1	09/13/16 17:55	CZI0162	CI60818
bis(2-Chloroethyl)ether	ND (0.357)		8270D		1	09/13/16 17:55	CZI0162	CI60818
bis(2-chloroisopropyl)Ether	ND (0.357)		8270D		1	09/13/16 17:55	CZI0162	CI60818
bis(2-Ethylhexyl)phthalate	ND (0.357)		8270D		1	09/13/16 17:55	CZI0162	CI60818
Butylbenzylphthalate	ND (0.357)		8270D		1	09/13/16 17:55	CZI0162	CI60818
Carbazole	ND (0.357)		8270D		1	09/13/16 17:55	CZI0162	CI60818
Chrysene	ND (0.179)		8270D		1	09/13/16 17:55	CZI0162	CI60818
Dibenzo(a,h)Anthracene	ND (0.179)		8270D		1	09/13/16 17:55	CZI0162	CI60818
Dibenzofuran	ND (0.357)		8270D		1	09/13/16 17:55	CZI0162	CI60818
Diethylphthalate	ND (0.357)		8270D		1	09/13/16 17:55	CZI0162	CI60818
Dimethylphthalate	ND (0.357)		8270D		1	09/13/16 17:55	CZI0162	CI60818
Di-n-butylphthalate	ND (0.357)		8270D		1	09/13/16 17:55	CZI0162	CI60818
Di-n-octylphthalate	ND (0.357)		8270D		1	09/13/16 17:55	CZI0162	CI60818
Fluoranthene	ND (0.357)		8270D		1	09/13/16 17:55	CZI0162	CI60818
Fluorene	ND (0.357)		8270D		1	09/13/16 17:55	CZI0162	CI60818
Hexachlorobenzene	ND (0.179)		8270D		1	09/13/16 17:55	CZI0162	CI60818
Hexachlorobutadiene	ND (0.357)		8270D		1	09/13/16 17:55	CZI0162	CI60818
Hexachlorocyclopentadiene	ND (1.79)		8270D		1	09/13/16 17:55	CZI0162	CI60818
Hexachloroethane	ND (0.357)		8270D		1	09/13/16 17:55	CZI0162	CI60818
Indeno(1,2,3-cd)Pyrene	ND (0.357)		8270D		1	09/13/16 17:55	CZI0162	CI60818
Isophorone	ND (0.357)		8270D		1	09/13/16 17:55	CZI0162	CI60818
Naphthalene	ND (0.357)		8270D		1	09/13/16 17:55	CZI0162	CI60818



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-45 (2-8)  
Date Sampled: 09/08/16 11:00  
Percent Solids: 97  
Initial Volume: 14.4  
Final Volume: 0.5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609159  
ESS Laboratory Sample ID: 1609159-03  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: TJ  
Prepared: 9/9/16 9:05

**8270D Semi-Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Nitrobenzene	ND (0.357)		8270D		1	09/13/16 17:55	CZI0162	CI60818
N-Nitrosodimethylamine	ND (0.357)		8270D		1	09/13/16 17:55	CZI0162	CI60818
N-Nitroso-Di-n-Propylamine	ND (0.357)		8270D		1	09/13/16 17:55	CZI0162	CI60818
N-nitrosodiphenylamine	ND (0.357)		8270D		1	09/13/16 17:55	CZI0162	CI60818
Pentachlorophenol	ND (1.79)		8270D		1	09/13/16 17:55	CZI0162	CI60818
Phenanthrene	ND (0.357)		8270D		1	09/13/16 17:55	CZI0162	CI60818
Phenol	ND (0.357)		8270D		1	09/13/16 17:55	CZI0162	CI60818
Pyrene	ND (0.357)		8270D		1	09/13/16 17:55	CZI0162	CI60818
Pyridine	ND (1.79)		8270D		1	09/13/16 17:55	CZI0162	CI60818

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	70 %		30-130
<i>Surrogate: 2,4,6-Tribromophenol</i>	70 %		30-130
<i>Surrogate: 2-Chlorophenol-d4</i>	71 %		30-130
<i>Surrogate: 2-Fluorobiphenyl</i>	71 %		30-130
<i>Surrogate: 2-Fluorophenol</i>	70 %		30-130
<i>Surrogate: Nitrobenzene-d5</i>	71 %		30-130
<i>Surrogate: Phenol-d6</i>	74 %		30-130
<i>Surrogate: p-Terphenyl-d14</i>	100 %		30-130



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-45 (2-8)  
Date Sampled: 09/08/16 11:00  
Percent Solids: 97

ESS Laboratory Work Order: 1609159  
ESS Laboratory Sample ID: 1609159-03  
Sample Matrix: Soil

**Classical Chemistry**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>	<u>Batch</u>
Hexavalent Chromium	ND (0.4)		7196A		1	EEM	09/12/16 15:30	mg/kg dry	CI61224
Total Cyanide	ND (0.99)		9014		1	JLK	09/09/16 17:25	mg/kg dry	CI60931





*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: Comp-7  
Date Sampled: 09/08/16 11:30  
Percent Solids: 92

ESS Laboratory Work Order: 1609159  
ESS Laboratory Sample ID: 1609159-04  
Sample Matrix: Soil  
Units: mg/kg dry

Extraction Method: 3050B

**Total Metals**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Antimony	ND (0.41)		6020A		20	NAR	09/12/16 12:04	2.61	100	CI60811
Arsenic	ND (2.07)		6010C		1	KJK	09/09/16 21:46	2.61	100	CI60811
<b>Barium</b>	<b>15.8</b> (2.07)		6010C		1	KJK	09/09/16 21:46	2.61	100	CI60811
<b>Beryllium</b>	<b>0.48</b> (0.09)		6010C		1	KJK	09/09/16 21:46	2.61	100	CI60811
Cadmium	ND (0.41)		6010C		1	KJK	09/09/16 21:46	2.61	100	CI60811
Chromium	ND (0.83)		6010C		1	KJK	09/09/16 21:46	2.61	100	CI60811
Chromium (III)	ND (0.8)		Calc		1	EEM	09/12/16 15:30	1	1	[CALC]
<b>Copper</b>	<b>3.09</b> (2.07)		6010C		1	KJK	09/09/16 21:46	2.61	100	CI60811
<b>Lead</b>	<b>17.1</b> (4.15)		6010C		1	KJK	09/09/16 21:46	2.61	100	CI60811
<b>Manganese</b>	<b>113</b> (0.83)		6010C		1	KJK	09/09/16 21:46	2.61	100	CI60811
<b>Mercury</b>	<b>0.051</b> (0.032)		7471B		1	KJK	09/09/16 12:27	0.66	40	CI60844
<b>Nickel</b>	<b>2.12</b> (2.07)		6010C		1	KJK	09/09/16 21:46	2.61	100	CI60811
<b>Selenium</b>	<b>0.53</b> (0.41)		6020A		20	NAR	09/12/16 12:04	2.61	100	CI60811
Silver	ND (0.41)		6010C		1	KJK	09/09/16 21:46	2.61	100	CI60811
Thallium	ND (0.41)		6020A		20	NAR	09/12/16 12:04	2.61	100	CI60811
<b>Vanadium</b>	<b>4.04</b> (0.83)		6010C		1	KJK	09/09/16 21:46	2.61	100	CI60811
<b>Zinc</b>	<b>29.7</b> (2.07)		6010C		1	KJK	09/09/16 21:46	2.61	100	CI60811



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: Comp-7  
Date Sampled: 09/08/16 11:30  
Percent Solids: 92  
Initial Volume: 5.9  
Final Volume: 10  
Extraction Method: 5035

ESS Laboratory Work Order: 1609159  
ESS Laboratory Sample ID: 1609159-04  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: MD

**5035/8260B Volatile Organic Compounds / Low Level**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
1,1,1-Trichloroethane	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
1,1,2,2-Tetrachloroethane	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
1,1,2-Trichloroethane	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
1,1-Dichloroethane	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
1,1-Dichloroethene	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
1,1-Dichloropropene	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
1,2,3-Trichlorobenzene	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
1,2,3-Trichloropropane	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
1,2,4-Trichlorobenzene	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
1,2,4-Trimethylbenzene	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
1,2-Dibromo-3-Chloropropane	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
1,2-Dibromoethane	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
1,2-Dichlorobenzene	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
1,2-Dichloroethane	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
1,2-Dichloropropane	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
1,3,5-Trimethylbenzene	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
1,3-Dichlorobenzene	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
1,3-Dichloropropane	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
1,4-Dichlorobenzene	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
1,4-Dioxane	ND (0.0918)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
1-Chlorohexane	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
2,2-Dichloropropane	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
2-Butanone	ND (0.0459)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
2-Chlorotoluene	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
2-Hexanone	ND (0.0459)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
4-Chlorotoluene	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
4-Isopropyltoluene	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
4-Methyl-2-Pentanone	ND (0.0459)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
Acetone	ND (0.0459)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
Benzene	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
Bromobenzene	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: Comp-7  
Date Sampled: 09/08/16 11:30  
Percent Solids: 92  
Initial Volume: 5.9  
Final Volume: 10  
Extraction Method: 5035

ESS Laboratory Work Order: 1609159  
ESS Laboratory Sample ID: 1609159-04  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: MD

**5035/8260B Volatile Organic Compounds / Low Level**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
Bromodichloromethane	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
Bromoform	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
Bromomethane	ND (0.0092)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
Carbon Disulfide	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
Carbon Tetrachloride	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
Chlorobenzene	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
Chloroethane	ND (0.0092)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
Chloroform	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
Chloromethane	ND (0.0092)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
cis-1,2-Dichloroethene	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
cis-1,3-Dichloropropene	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
Dibromochloromethane	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
Dibromomethane	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
Dichlorodifluoromethane	ND (0.0092)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
Diethyl Ether	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
Di-isopropyl ether	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
Ethyl tertiary-butyl ether	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
Ethylbenzene	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
Hexachlorobutadiene	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
Isopropylbenzene	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
Methyl tert-Butyl Ether	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
Methylene Chloride	ND (0.0229)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
Naphthalene	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
n-Butylbenzene	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
n-Propylbenzene	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
sec-Butylbenzene	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
Styrene	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
tert-Butylbenzene	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
Tertiary-amyl methyl ether	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
Tetrachloroethene	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
Tetrahydrofuran	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: Comp-7  
Date Sampled: 09/08/16 11:30  
Percent Solids: 92  
Initial Volume: 5.9  
Final Volume: 10  
Extraction Method: 5035

ESS Laboratory Work Order: 1609159  
ESS Laboratory Sample ID: 1609159-04  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: MD

**5035/8260B Volatile Organic Compounds / Low Level**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Toluene	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
trans-1,2-Dichloroethene	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
trans-1,3-Dichloropropene	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
Trichloroethene	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
Trichlorofluoromethane	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
Vinyl Acetate	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
Vinyl Chloride	ND (0.0092)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
Xylene O	ND (0.0046)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
Xylene P,M	ND (0.0092)		8260B Low		1	09/12/16 20:24	CZI0150	CI61229
Xylenes (Total)	ND (0.0092)		8260B Low		1	09/12/16 20:24		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>87 %</i>		<i>70-130</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>89 %</i>		<i>70-130</i>
<i>Surrogate: Dibromofluoromethane</i>	<i>89 %</i>		<i>70-130</i>
<i>Surrogate: Toluene-d8</i>	<i>93 %</i>		<i>70-130</i>



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: Comp-7  
Date Sampled: 09/08/16 11:30  
Percent Solids: 92  
Initial Volume: 19.4  
Final Volume: 5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609159  
ESS Laboratory Sample ID: 1609159-04  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: JXS  
Prepared: 9/9/16 9:55

**8081B Organochlorine Pesticides**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
4,4'-DDD	ND (0.0028)		8081B		1	09/10/16 15:58	CZI0136	CI60917
4,4'-DDE	ND (0.0028)		8081B		1	09/10/16 15:58	CZI0136	CI60917
4,4'-DDT	ND (0.0028)		8081B		1	09/10/16 15:58	CZI0136	CI60917
Aldrin	ND (0.0028)		8081B		1	09/10/16 15:58	CZI0136	CI60917
alpha-BHC	ND (0.0028)		8081B		1	09/10/16 15:58	CZI0136	CI60917
alpha-Chlordane	ND (0.0028)		8081B		1	09/10/16 15:58	CZI0136	CI60917
beta-BHC	ND (0.0028)		8081B		1	09/10/16 15:58	CZI0136	CI60917
Chlordane (Total)	ND (0.0335)		8081B		1	09/10/16 15:58	CZI0136	CI60917
delta-BHC	ND (0.0028)		8081B		1	09/10/16 15:58	CZI0136	CI60917
Dieldrin	ND (0.0028)		8081B		1	09/10/16 15:58	CZI0136	CI60917
Endosulfan I	ND (0.0028)		8081B		1	09/10/16 15:58	CZI0136	CI60917
Endosulfan II	ND (0.0028)		8081B		1	09/10/16 15:58	CZI0136	CI60917
Endosulfan Sulfate	ND (0.0028)		8081B		1	09/10/16 15:58	CZI0136	CI60917
Endrin	ND (0.0028)		8081B		1	09/10/16 15:58	CZI0136	CI60917
Endrin Aldehyde	ND (0.0028)		8081B		1	09/10/16 15:58	CZI0136	CI60917
Endrin Ketone	ND (0.0028)		8081B		1	09/10/16 15:58	CZI0136	CI60917
gamma-BHC (Lindane)	ND (0.0017)		8081B		1	09/10/16 15:58	CZI0136	CI60917
gamma-Chlordane	ND (0.0028)		8081B		1	09/10/16 15:58	CZI0136	CI60917
Heptachlor	ND (0.0028)		8081B		1	09/10/16 15:58	CZI0136	CI60917
Heptachlor Epoxide	ND (0.0028)		8081B		1	09/10/16 15:58	CZI0136	CI60917
Hexachlorobenzene	ND (0.0028)		8081B		1	09/10/16 15:58	CZI0136	CI60917
Methoxychlor	ND (0.0028)		8081B		1	09/10/16 15:58	CZI0136	CI60917
Toxaphene	ND (0.140)		8081B		1	09/10/16 15:58	CZI0136	CI60917

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	<i>73 %</i>		<i>30-150</i>
<i>Surrogate: Decachlorobiphenyl [2C]</i>	<i>88 %</i>		<i>30-150</i>
<i>Surrogate: Tetrachloro-m-xylene</i>	<i>63 %</i>		<i>30-150</i>
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	<i>71 %</i>		<i>30-150</i>



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: Comp-7  
Date Sampled: 09/08/16 11:30  
Percent Solids: 92  
Initial Volume: 19.3  
Final Volume: 10  
Extraction Method: 3540C

ESS Laboratory Work Order: 1609159  
ESS Laboratory Sample ID: 1609159-04  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: SMR  
Prepared: 9/9/16 18:05

**8082A Polychlorinated Biphenyls (PCB)**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.0561)		8082A		1	09/13/16 1:51		CI60912
Aroclor 1221	ND (0.0561)		8082A		1	09/13/16 1:51		CI60912
Aroclor 1232	ND (0.0561)		8082A		1	09/13/16 1:51		CI60912
Aroclor 1242	ND (0.0561)		8082A		1	09/13/16 1:51		CI60912
Aroclor 1248	ND (0.0561)		8082A		1	09/13/16 1:51		CI60912
Aroclor 1254	ND (0.0561)		8082A		1	09/13/16 1:51		CI60912
Aroclor 1260	ND (0.0561)		8082A		1	09/13/16 1:51		CI60912
Aroclor 1262	ND (0.0561)		8082A		1	09/13/16 1:51		CI60912
Aroclor 1268	ND (0.0561)		8082A		1	09/13/16 1:51		CI60912

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	78 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	87 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	66 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	75 %		30-150



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: Comp-7  
Date Sampled: 09/08/16 11:30  
Percent Solids: 92  
Initial Volume: 14.3  
Final Volume: 0.5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609159  
ESS Laboratory Sample ID: 1609159-04  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: TJ  
Prepared: 9/9/16 9:05

**8270D Semi-Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1-Biphenyl	ND (0.378)		8270D		1	09/13/16 18:30	CZI0162	CI60818
1,2,4-Trichlorobenzene	ND (0.378)		8270D		1	09/13/16 18:30	CZI0162	CI60818
1,2-Dichlorobenzene	ND (0.378)		8270D		1	09/13/16 18:30	CZI0162	CI60818
1,3-Dichlorobenzene	ND (0.378)		8270D		1	09/13/16 18:30	CZI0162	CI60818
1,4-Dichlorobenzene	ND (0.378)		8270D		1	09/13/16 18:30	CZI0162	CI60818
2,3,4,6-Tetrachlorophenol	ND (1.90)		8270D		1	09/13/16 18:30	CZI0162	CI60818
2,4,5-Trichlorophenol	ND (0.378)		8270D		1	09/13/16 18:30	CZI0162	CI60818
2,4,6-Trichlorophenol	ND (0.378)		8270D		1	09/13/16 18:30	CZI0162	CI60818
2,4-Dichlorophenol	ND (0.378)		8270D		1	09/13/16 18:30	CZI0162	CI60818
2,4-Dimethylphenol	ND (0.378)		8270D		1	09/13/16 18:30	CZI0162	CI60818
2,4-Dinitrophenol	ND (1.90)		8270D		1	09/13/16 18:30	CZI0162	CI60818
2,4-Dinitrotoluene	ND (0.378)		8270D		1	09/13/16 18:30	CZI0162	CI60818
2,6-Dinitrotoluene	ND (0.378)		8270D		1	09/13/16 18:30	CZI0162	CI60818
2-Chloronaphthalene	ND (0.378)		8270D		1	09/13/16 18:30	CZI0162	CI60818
2-Chlorophenol	ND (0.378)		8270D		1	09/13/16 18:30	CZI0162	CI60818
2-Methylnaphthalene	ND (0.378)		8270D		1	09/13/16 18:30	CZI0162	CI60818
2-Methylphenol	ND (0.378)		8270D		1	09/13/16 18:30	CZI0162	CI60818
2-Nitroaniline	ND (0.378)		8270D		1	09/13/16 18:30	CZI0162	CI60818
2-Nitrophenol	ND (0.378)		8270D		1	09/13/16 18:30	CZI0162	CI60818
3,3'-Dichlorobenzidine	ND (0.758)		8270D		1	09/13/16 18:30	CZI0162	CI60818
3+4-Methylphenol	ND (0.758)		8270D		1	09/13/16 18:30	CZI0162	CI60818
3-Nitroaniline	ND (0.378)		8270D		1	09/13/16 18:30	CZI0162	CI60818
4,6-Dinitro-2-Methylphenol	ND (1.90)		8270D		1	09/13/16 18:30	CZI0162	CI60818
4-Bromophenyl-phenylether	ND (0.378)		8270D		1	09/13/16 18:30	CZI0162	CI60818
4-Chloro-3-Methylphenol	ND (0.378)		8270D		1	09/13/16 18:30	CZI0162	CI60818
4-Chloroaniline	ND (0.758)		8270D		1	09/13/16 18:30	CZI0162	CI60818
4-Chloro-phenyl-phenyl ether	ND (0.378)		8270D		1	09/13/16 18:30	CZI0162	CI60818
4-Nitroaniline	ND (0.378)		8270D		1	09/13/16 18:30	CZI0162	CI60818
4-Nitrophenol	ND (1.90)		8270D		1	09/13/16 18:30	CZI0162	CI60818
Acenaphthene	ND (0.378)		8270D		1	09/13/16 18:30	CZI0162	CI60818
Acenaphthylene	ND (0.378)		8270D		1	09/13/16 18:30	CZI0162	CI60818
Acetophenone	ND (0.758)		8270D		1	09/13/16 18:30	CZI0162	CI60818





*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: Comp-7  
Date Sampled: 09/08/16 11:30  
Percent Solids: 92  
Initial Volume: 14.3  
Final Volume: 0.5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609159  
ESS Laboratory Sample ID: 1609159-04  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: TJ  
Prepared: 9/9/16 9:05

**8270D Semi-Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aniline	ND (0.758)		8270D		1	09/13/16 18:30	CZI0162	CI60818
Anthracene	ND (0.378)		8270D		1	09/13/16 18:30	CZI0162	CI60818
Azobenzene	ND (0.378)		8270D		1	09/13/16 18:30	CZI0162	CI60818
Benzo(a)anthracene	ND (0.378)		8270D		1	09/13/16 18:30	CZI0162	CI60818
Benzo(a)pyrene	ND (0.190)		8270D		1	09/13/16 18:30	CZI0162	CI60818
Benzo(b)fluoranthene	ND (0.378)		8270D		1	09/13/16 18:30	CZI0162	CI60818
Benzo(g,h,i)perylene	ND (0.378)		8270D		1	09/13/16 18:30	CZI0162	CI60818
Benzo(k)fluoranthene	ND (0.378)		8270D		1	09/13/16 18:30	CZI0162	CI60818
Benzoic Acid	ND (1.90)		8270D		1	09/13/16 18:30	CZI0162	CI60818
Benzyl Alcohol	ND (0.378)		8270D		1	09/13/16 18:30	CZI0162	CI60818
bis(2-Chloroethoxy)methane	ND (0.378)		8270D		1	09/13/16 18:30	CZI0162	CI60818
bis(2-Chloroethyl)ether	ND (0.378)		8270D		1	09/13/16 18:30	CZI0162	CI60818
bis(2-chloroisopropyl)Ether	ND (0.378)		8270D		1	09/13/16 18:30	CZI0162	CI60818
bis(2-Ethylhexyl)phthalate	ND (0.378)		8270D		1	09/13/16 18:30	CZI0162	CI60818
Butylbenzylphthalate	ND (0.378)		8270D		1	09/13/16 18:30	CZI0162	CI60818
Carbazole	ND (0.378)		8270D		1	09/13/16 18:30	CZI0162	CI60818
Chrysene	ND (0.190)		8270D		1	09/13/16 18:30	CZI0162	CI60818
Dibenzo(a,h)Anthracene	ND (0.190)		8270D		1	09/13/16 18:30	CZI0162	CI60818
Dibenzofuran	ND (0.378)		8270D		1	09/13/16 18:30	CZI0162	CI60818
Diethylphthalate	ND (0.378)		8270D		1	09/13/16 18:30	CZI0162	CI60818
Dimethylphthalate	ND (0.378)		8270D		1	09/13/16 18:30	CZI0162	CI60818
Di-n-butylphthalate	ND (0.378)		8270D		1	09/13/16 18:30	CZI0162	CI60818
Di-n-octylphthalate	ND (0.378)		8270D		1	09/13/16 18:30	CZI0162	CI60818
Fluoranthene	ND (0.378)		8270D		1	09/13/16 18:30	CZI0162	CI60818
Fluorene	ND (0.378)		8270D		1	09/13/16 18:30	CZI0162	CI60818
Hexachlorobenzene	ND (0.190)		8270D		1	09/13/16 18:30	CZI0162	CI60818
Hexachlorobutadiene	ND (0.378)		8270D		1	09/13/16 18:30	CZI0162	CI60818
Hexachlorocyclopentadiene	ND (1.90)		8270D		1	09/13/16 18:30	CZI0162	CI60818
Hexachloroethane	ND (0.378)		8270D		1	09/13/16 18:30	CZI0162	CI60818
Indeno(1,2,3-cd)Pyrene	ND (0.378)		8270D		1	09/13/16 18:30	CZI0162	CI60818
Isophorone	ND (0.378)		8270D		1	09/13/16 18:30	CZI0162	CI60818
Naphthalene	ND (0.378)		8270D		1	09/13/16 18:30	CZI0162	CI60818





*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: Comp-7  
Date Sampled: 09/08/16 11:30  
Percent Solids: 92  
Initial Volume: 14.3  
Final Volume: 0.5  
Extraction Method: 3546

ESS Laboratory Work Order: 1609159  
ESS Laboratory Sample ID: 1609159-04  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: TJ  
Prepared: 9/9/16 9:05

**8270D Semi-Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Nitrobenzene	ND (0.378)		8270D		1	09/13/16 18:30	CZI0162	CI60818
N-Nitrosodimethylamine	ND (0.378)		8270D		1	09/13/16 18:30	CZI0162	CI60818
N-Nitroso-Di-n-Propylamine	ND (0.378)		8270D		1	09/13/16 18:30	CZI0162	CI60818
N-nitrosodiphenylamine	ND (0.378)		8270D		1	09/13/16 18:30	CZI0162	CI60818
Pentachlorophenol	ND (1.90)		8270D		1	09/13/16 18:30	CZI0162	CI60818
Phenanthrene	ND (0.378)		8270D		1	09/13/16 18:30	CZI0162	CI60818
Phenol	ND (0.378)		8270D		1	09/13/16 18:30	CZI0162	CI60818
Pyrene	ND (0.378)		8270D		1	09/13/16 18:30	CZI0162	CI60818
Pyridine	ND (1.90)		8270D		1	09/13/16 18:30	CZI0162	CI60818

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	<i>60 %</i>		<i>30-130</i>
<i>Surrogate: 2,4,6-Tribromophenol</i>	<i>70 %</i>		<i>30-130</i>
<i>Surrogate: 2-Chlorophenol-d4</i>	<i>63 %</i>		<i>30-130</i>
<i>Surrogate: 2-Fluorobiphenyl</i>	<i>67 %</i>		<i>30-130</i>
<i>Surrogate: 2-Fluorophenol</i>	<i>60 %</i>		<i>30-130</i>
<i>Surrogate: Nitrobenzene-d5</i>	<i>63 %</i>		<i>30-130</i>
<i>Surrogate: Phenol-d6</i>	<i>66 %</i>		<i>30-130</i>
<i>Surrogate: p-Terphenyl-d14</i>	<i>91 %</i>		<i>30-130</i>



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: Comp-7  
Date Sampled: 09/08/16 11:30  
Percent Solids: 92

ESS Laboratory Work Order: 1609159  
ESS Laboratory Sample ID: 1609159-04  
Sample Matrix: Soil

**Classical Chemistry**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>	<u>Batch</u>
Hexavalent Chromium	ND (0.4)		7196A		1	EEM	09/12/16 15:30	mg/kg dry	CI61224
Total Cyanide	ND (1.03)		9014		1	JLK	09/09/16 17:25	mg/kg dry	CI60931



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609159

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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**Total Metals**

**Batch CI60811 - 3050B**

**Blank**

Antimony	ND	0.50	mg/kg wet
Arsenic	ND	2.50	mg/kg wet
Barium	ND	2.50	mg/kg wet
Beryllium	ND	0.11	mg/kg wet
Cadmium	ND	0.50	mg/kg wet
Chromium	ND	1.00	mg/kg wet
Chromium (III)	ND	1.0	mg/kg wet
Copper	ND	2.50	mg/kg wet
Lead	ND	5.00	mg/kg wet
Manganese	ND	1.00	mg/kg wet
Nickel	ND	2.50	mg/kg wet
Selenium	ND	0.50	mg/kg wet
Silver	ND	0.50	mg/kg wet
Thallium	ND	0.50	mg/kg wet
Vanadium	ND	1.00	mg/kg wet
Zinc	ND	2.50	mg/kg wet

**LCS**

Antimony	134	21.6	mg/kg wet	100.0	134	19-257
Arsenic	134	8.62	mg/kg wet	161.0	83	80-120
Barium	330	8.62	mg/kg wet	351.0	94	80-120
Beryllium	81.8	0.38	mg/kg wet	89.40	91	80-120
Cadmium	165	1.72	mg/kg wet	190.0	87	80-120
Chromium	78.1	3.45	mg/kg wet	87.90	89	80-120
Chromium (III)	78.1	3.4	mg/kg wet			
Copper	234	8.62	mg/kg wet	258.0	91	80-120
Lead	123	17.2	mg/kg wet	138.0	89	80-120
Nickel	116	8.62	mg/kg wet	127.0	91	80-120
Selenium	317	21.6	mg/kg wet	305.0	104	70-130
Silver	53.1	1.72	mg/kg wet	58.00	92	80-120
Thallium	91.9	21.6	mg/kg wet	89.80	102	80-120
Vanadium	73.4	3.45	mg/kg wet	81.60	90	80-120
Zinc	143	8.62	mg/kg wet	173.0	83	80-120

**LCS**

Barium	421	8.93	mg/kg wet	428.0	98	80-120
Manganese	437	3.57	mg/kg wet	452.0	97	80-120
Vanadium	144	3.57	mg/kg wet	150.0	96	80-120

**LCS Dup**

Antimony	132	24.0	mg/kg wet	100.0	132	19-257	2	30
Arsenic	136	9.62	mg/kg wet	161.0	85	80-120	2	20
Barium	353	9.62	mg/kg wet	351.0	101	80-120	7	20
Beryllium	81.8	0.42	mg/kg wet	89.40	92	80-120	0.09	20
Cadmium	168	1.92	mg/kg wet	190.0	89	80-120	2	20
Chromium	79.6	3.85	mg/kg wet	87.90	91	80-120	2	20
Chromium (III)	79.6	3.8	mg/kg wet					



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609159

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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**Total Metals**

**Batch CI60811 - 3050B**

Copper	238	9.62	mg/kg wet	258.0		92	80-120	2	20	
Lead	125	19.2	mg/kg wet	138.0		90	80-120	1	20	
Nickel	119	9.62	mg/kg wet	127.0		94	80-120	2	20	
Selenium	312	24.0	mg/kg wet	305.0		102	70-130	2	30	
Silver	54.0	1.92	mg/kg wet	58.00		93	80-120	2	20	
Thallium	88.6	24.0	mg/kg wet	89.80		99	80-120	4	30	
Vanadium	75.2	3.85	mg/kg wet	81.60		92	80-120	2	20	
Zinc	145	9.62	mg/kg wet	173.0		84	80-120	1	20	

**LCS Dup**

Barium	414	9.43	mg/kg wet	428.0		97	80-120	2	20	
Manganese	476	3.77	mg/kg wet	452.0		105	80-120	9	20	
Vanadium	140	3.77	mg/kg wet	150.0		93	80-120	3	20	

**Batch CI60844 - 7471B**

**Blank**

Mercury	ND	0.033	mg/kg wet							
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**LCS**

Mercury	20.2	1.71	mg/kg wet	15.90		127	51-148			
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**LCS Dup**

Mercury	20.0	1.87	mg/kg wet	15.90		126	51-148	1	20	
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**Batch CI61224 - [CALC]**

**Blank**

Chromium (III)	ND	0.7	mg/kg wet							
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**LCS**

Chromium (III)	ND	0.7	mg/kg wet							
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**LCS Dup**

Chromium (III)	ND	0.7	mg/kg wet							
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**Reference**

Chromium (III)	ND	2.0	mg/kg wet							
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**5035/8260B Volatile Organic Compounds / Low Level**

**Batch CI61229 - 5035**

**Blank**

1,1,1,2-Tetrachloroethane	ND	0.0050	mg/kg wet							
1,1,1-Trichloroethane	ND	0.0050	mg/kg wet							
1,1,2,2-Tetrachloroethane	ND	0.0050	mg/kg wet							
1,1,2-Trichloroethane	ND	0.0050	mg/kg wet							
1,1-Dichloroethane	ND	0.0050	mg/kg wet							
1,1-Dichloroethene	ND	0.0050	mg/kg wet							
1,1-Dichloropropene	ND	0.0050	mg/kg wet							
1,2,3-Trichlorobenzene	ND	0.0050	mg/kg wet							
1,2,3-Trichloropropane	ND	0.0050	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.0050	mg/kg wet							



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609159

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

**Batch C161229 - 5035**

1,2,4-Trimethylbenzene	ND	0.0050	mg/kg wet							
1,2-Dibromo-3-Chloropropane	ND	0.0050	mg/kg wet							
1,2-Dibromoethane	ND	0.0050	mg/kg wet							
1,2-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,2-Dichloroethane	ND	0.0050	mg/kg wet							
1,2-Dichloropropane	ND	0.0050	mg/kg wet							
1,3,5-Trimethylbenzene	ND	0.0050	mg/kg wet							
1,3-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,3-Dichloropropane	ND	0.0050	mg/kg wet							
1,4-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,4-Dioxane	ND	0.100	mg/kg wet							
1-Chlorohexane	ND	0.0050	mg/kg wet							
2,2-Dichloropropane	ND	0.0050	mg/kg wet							
2-Butanone	ND	0.0500	mg/kg wet							
2-Chlorotoluene	ND	0.0050	mg/kg wet							
2-Hexanone	ND	0.0500	mg/kg wet							
4-Chlorotoluene	ND	0.0050	mg/kg wet							
4-Isopropyltoluene	ND	0.0050	mg/kg wet							
4-Methyl-2-Pentanone	ND	0.0500	mg/kg wet							
Acetone	ND	0.0500	mg/kg wet							
Benzene	ND	0.0050	mg/kg wet							
Bromobenzene	ND	0.0050	mg/kg wet							
Bromochloromethane	ND	0.0050	mg/kg wet							
Bromodichloromethane	ND	0.0050	mg/kg wet							
Bromoform	ND	0.0050	mg/kg wet							
Bromomethane	ND	0.0100	mg/kg wet							
Carbon Disulfide	ND	0.0050	mg/kg wet							
Carbon Tetrachloride	ND	0.0050	mg/kg wet							
Chlorobenzene	ND	0.0050	mg/kg wet							
Chloroethane	ND	0.0100	mg/kg wet							
Chloroform	ND	0.0050	mg/kg wet							
Chloromethane	ND	0.0100	mg/kg wet							
cis-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
cis-1,3-Dichloropropene	ND	0.0050	mg/kg wet							
Dibromochloromethane	ND	0.0050	mg/kg wet							
Dibromomethane	ND	0.0050	mg/kg wet							
Dichlorodifluoromethane	ND	0.0100	mg/kg wet							
Diethyl Ether	ND	0.0050	mg/kg wet							
Di-isopropyl ether	ND	0.0050	mg/kg wet							
Ethyl tertiary-butyl ether	ND	0.0050	mg/kg wet							
Ethylbenzene	ND	0.0050	mg/kg wet							
Hexachlorobutadiene	ND	0.0050	mg/kg wet							
Isopropylbenzene	ND	0.0050	mg/kg wet							
Methyl tert-Butyl Ether	ND	0.0050	mg/kg wet							
Methylene Chloride	ND	0.0250	mg/kg wet							



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609159

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

**Batch C161229 - 5035**

Naphthalene	ND	0.0050	mg/kg wet							
n-Butylbenzene	ND	0.0050	mg/kg wet							
n-Propylbenzene	ND	0.0050	mg/kg wet							
sec-Butylbenzene	ND	0.0050	mg/kg wet							
Styrene	ND	0.0050	mg/kg wet							
tert-Butylbenzene	ND	0.0050	mg/kg wet							
Tertiary-amyl methyl ether	ND	0.0050	mg/kg wet							
Tetrachloroethene	ND	0.0050	mg/kg wet							
Tetrahydrofuran	ND	0.0050	mg/kg wet							
Toluene	ND	0.0050	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
trans-1,3-Dichloropropene	ND	0.0050	mg/kg wet							
Trichloroethene	ND	0.0050	mg/kg wet							
Trichlorofluoromethane	ND	0.0050	mg/kg wet							
Vinyl Acetate	ND	0.0050	mg/kg wet							
Vinyl Chloride	ND	0.0100	mg/kg wet							
Xylene O	ND	0.0050	mg/kg wet							
Xylene P,M	ND	0.0100	mg/kg wet							
Xylenes (Total)	ND	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	0.0420		mg/kg wet	0.05000		84	70-130			
Surrogate: 4-Bromofluorobenzene	0.0449		mg/kg wet	0.05000		90	70-130			
Surrogate: Dibromofluoromethane	0.0444		mg/kg wet	0.05000		89	70-130			
Surrogate: Toluene-d8	0.0464		mg/kg wet	0.05000		93	70-130			

**LCS**

1,1,1,2-Tetrachloroethane	0.0486	0.0050	mg/kg wet	0.05000		97	70-130			
1,1,1-Trichloroethane	0.0496	0.0050	mg/kg wet	0.05000		99	70-130			
1,1,2,2-Tetrachloroethane	0.0465	0.0050	mg/kg wet	0.05000		93	70-130			
1,1,2-Trichloroethane	0.0448	0.0050	mg/kg wet	0.05000		90	70-130			
1,1-Dichloroethane	0.0483	0.0050	mg/kg wet	0.05000		97	70-130			
1,1-Dichloroethene	0.0523	0.0050	mg/kg wet	0.05000		105	70-130			
1,1-Dichloropropene	0.0508	0.0050	mg/kg wet	0.05000		102	70-130			
1,2,3-Trichlorobenzene	0.0494	0.0050	mg/kg wet	0.05000		99	70-130			
1,2,3-Trichloropropane	0.0454	0.0050	mg/kg wet	0.05000		91	70-130			
1,2,4-Trichlorobenzene	0.0495	0.0050	mg/kg wet	0.05000		99	70-130			
1,2,4-Trimethylbenzene	0.0490	0.0050	mg/kg wet	0.05000		98	70-130			
1,2-Dibromo-3-Chloropropane	0.0370	0.0050	mg/kg wet	0.05000		74	70-130			
1,2-Dibromoethane	0.0466	0.0050	mg/kg wet	0.05000		93	70-130			
1,2-Dichlorobenzene	0.0493	0.0050	mg/kg wet	0.05000		99	70-130			
1,2-Dichloroethane	0.0483	0.0050	mg/kg wet	0.05000		97	70-130			
1,2-Dichloropropane	0.0474	0.0050	mg/kg wet	0.05000		95	70-130			
1,3,5-Trimethylbenzene	0.0500	0.0050	mg/kg wet	0.05000		100	70-130			
1,3-Dichlorobenzene	0.0500	0.0050	mg/kg wet	0.05000		100	70-130			
1,3-Dichloropropane	0.0495	0.0050	mg/kg wet	0.05000		99	70-130			
1,4-Dichlorobenzene	0.0511	0.0050	mg/kg wet	0.05000		102	70-130			
1,4-Dioxane	1.23	0.100	mg/kg wet	1.000		123	70-130			



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609159

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

**Batch C161229 - 5035**

1-Chlorohexane	0.0494	0.0050	mg/kg wet	0.05000		99	70-130			
2,2-Dichloropropane	0.0489	0.0050	mg/kg wet	0.05000		98	70-130			
2-Butanone	0.243	0.0500	mg/kg wet	0.2500		97	70-130			
2-Chlorotoluene	0.0509	0.0050	mg/kg wet	0.05000		102	70-130			
2-Hexanone	0.231	0.0500	mg/kg wet	0.2500		92	70-130			
4-Chlorotoluene	0.0516	0.0050	mg/kg wet	0.05000		103	70-130			
4-Isopropyltoluene	0.0506	0.0050	mg/kg wet	0.05000		101	70-130			
4-Methyl-2-Pentanone	0.229	0.0500	mg/kg wet	0.2500		92	70-130			
Acetone	0.219	0.0500	mg/kg wet	0.2500		87	70-130			
Benzene	0.0482	0.0050	mg/kg wet	0.05000		96	70-130			
Bromobenzene	0.0489	0.0050	mg/kg wet	0.05000		98	70-130			
Bromochloromethane	0.0472	0.0050	mg/kg wet	0.05000		94	70-130			
Bromodichloromethane	0.0499	0.0050	mg/kg wet	0.05000		100	70-130			
Bromoform	0.0461	0.0050	mg/kg wet	0.05000		92	70-130			
Bromomethane	0.0518	0.0100	mg/kg wet	0.05000		104	70-130			
Carbon Disulfide	0.0491	0.0050	mg/kg wet	0.05000		98	70-130			
Carbon Tetrachloride	0.0492	0.0050	mg/kg wet	0.05000		98	70-130			
Chlorobenzene	0.0501	0.0050	mg/kg wet	0.05000		100	70-130			
Chloroethane	0.0416	0.0100	mg/kg wet	0.05000		83	70-130			
Chloroform	0.0474	0.0050	mg/kg wet	0.05000		95	70-130			
Chloromethane	0.0502	0.0100	mg/kg wet	0.05000		100	70-130			
cis-1,2-Dichloroethene	0.0503	0.0050	mg/kg wet	0.05000		101	70-130			
cis-1,3-Dichloropropene	0.0484	0.0050	mg/kg wet	0.05000		97	70-130			
Dibromochloromethane	0.0495	0.0050	mg/kg wet	0.05000		99	70-130			
Dibromomethane	0.0460	0.0050	mg/kg wet	0.05000		92	70-130			
Dichlorodifluoromethane	0.0472	0.0100	mg/kg wet	0.05000		94	70-130			
Diethyl Ether	0.0467	0.0050	mg/kg wet	0.05000		93	70-130			
Di-isopropyl ether	0.0478	0.0050	mg/kg wet	0.05000		96	70-130			
Ethyl tertiary-butyl ether	0.0456	0.0050	mg/kg wet	0.05000		91	70-130			
Ethylbenzene	0.0493	0.0050	mg/kg wet	0.05000		99	70-130			
Hexachlorobutadiene	0.0501	0.0050	mg/kg wet	0.05000		100	70-130			
Isopropylbenzene	0.0523	0.0050	mg/kg wet	0.05000		105	70-130			
Methyl tert-Butyl Ether	0.0463	0.0050	mg/kg wet	0.05000		93	70-130			
Methylene Chloride	0.0481	0.0250	mg/kg wet	0.05000		96	70-130			
Naphthalene	0.0487	0.0050	mg/kg wet	0.05000		97	70-130			
n-Butylbenzene	0.0527	0.0050	mg/kg wet	0.05000		105	70-130			
n-Propylbenzene	0.0512	0.0050	mg/kg wet	0.05000		102	70-130			
sec-Butylbenzene	0.0523	0.0050	mg/kg wet	0.05000		105	70-130			
Styrene	0.0485	0.0050	mg/kg wet	0.05000		97	70-130			
tert-Butylbenzene	0.0524	0.0050	mg/kg wet	0.05000		105	70-130			
Tertiary-amyl methyl ether	0.0446	0.0050	mg/kg wet	0.05000		89	70-130			
Tetrachloroethene	0.0449	0.0050	mg/kg wet	0.05000		90	70-130			
Tetrahydrofuran	0.0392	0.0050	mg/kg wet	0.05000		78	70-130			
Toluene	0.0479	0.0050	mg/kg wet	0.05000		96	70-130			
trans-1,2-Dichloroethene	0.0509	0.0050	mg/kg wet	0.05000		102	70-130			



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609159

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

**Batch CI61229 - 5035**

trans-1,3-Dichloropropene	0.0454	0.0050	mg/kg wet	0.05000		91	70-130			
Trichloroethene	0.0478	0.0050	mg/kg wet	0.05000		96	70-130			
Trichlorofluoromethane	0.0464	0.0050	mg/kg wet	0.05000		93	70-130			
Vinyl Acetate	0.0419	0.0050	mg/kg wet	0.05000		84	70-130			
Vinyl Chloride	0.0505	0.0100	mg/kg wet	0.05000		101	70-130			
Xylene O	0.0495	0.0050	mg/kg wet	0.05000		99	70-130			
Xylene P,M	0.101	0.0100	mg/kg wet	0.1000		101	70-130			
Xylenes (Total)	0.151	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	0.0448		mg/kg wet	0.05000		90	70-130			
Surrogate: 4-Bromofluorobenzene	0.0448		mg/kg wet	0.05000		90	70-130			
Surrogate: Dibromofluoromethane	0.0469		mg/kg wet	0.05000		94	70-130			
Surrogate: Toluene-d8	0.0463		mg/kg wet	0.05000		93	70-130			

**LCS Dup**

1,1,1,2-Tetrachloroethane	0.0489	0.0050	mg/kg wet	0.05000		98	70-130	0.6	25	
1,1,1-Trichloroethane	0.0489	0.0050	mg/kg wet	0.05000		98	70-130	1	25	
1,1,2,2-Tetrachloroethane	0.0480	0.0050	mg/kg wet	0.05000		96	70-130	3	25	
1,1,2-Trichloroethane	0.0455	0.0050	mg/kg wet	0.05000		91	70-130	2	25	
1,1-Dichloroethane	0.0478	0.0050	mg/kg wet	0.05000		96	70-130	1	25	
1,1-Dichloroethene	0.0513	0.0050	mg/kg wet	0.05000		103	70-130	2	25	
1,1-Dichloropropene	0.0499	0.0050	mg/kg wet	0.05000		100	70-130	2	25	
1,2,3-Trichlorobenzene	0.0504	0.0050	mg/kg wet	0.05000		101	70-130	2	25	
1,2,3-Trichloropropane	0.0467	0.0050	mg/kg wet	0.05000		93	70-130	3	25	
1,2,4-Trichlorobenzene	0.0501	0.0050	mg/kg wet	0.05000		100	70-130	1	25	
1,2,4-Trimethylbenzene	0.0490	0.0050	mg/kg wet	0.05000		98	70-130	0.04	25	
1,2-Dibromo-3-Chloropropane	0.0378	0.0050	mg/kg wet	0.05000		76	70-130	2	25	
1,2-Dibromoethane	0.0476	0.0050	mg/kg wet	0.05000		95	70-130	2	25	
1,2-Dichlorobenzene	0.0497	0.0050	mg/kg wet	0.05000		99	70-130	0.7	25	
1,2-Dichloroethane	0.0484	0.0050	mg/kg wet	0.05000		97	70-130	0.08	25	
1,2-Dichloropropane	0.0471	0.0050	mg/kg wet	0.05000		94	70-130	0.6	25	
1,3,5-Trimethylbenzene	0.0499	0.0050	mg/kg wet	0.05000		100	70-130	0.3	25	
1,3-Dichlorobenzene	0.0507	0.0050	mg/kg wet	0.05000		101	70-130	1	25	
1,3-Dichloropropane	0.0506	0.0050	mg/kg wet	0.05000		101	70-130	2	25	
1,4-Dichlorobenzene	0.0508	0.0050	mg/kg wet	0.05000		102	70-130	0.5	25	
1,4-Dioxane	1.26	0.100	mg/kg wet	1.000		126	70-130	3	20	
1-Chlorohexane	0.0497	0.0050	mg/kg wet	0.05000		99	70-130	0.6	25	
2,2-Dichloropropane	0.0473	0.0050	mg/kg wet	0.05000		95	70-130	3	25	
2-Butanone	0.246	0.0500	mg/kg wet	0.2500		99	70-130	1	25	
2-Chlorotoluene	0.0511	0.0050	mg/kg wet	0.05000		102	70-130	0.4	25	
2-Hexanone	0.242	0.0500	mg/kg wet	0.2500		97	70-130	5	25	
4-Chlorotoluene	0.0512	0.0050	mg/kg wet	0.05000		102	70-130	0.7	25	
4-Isopropyltoluene	0.0509	0.0050	mg/kg wet	0.05000		102	70-130	0.6	25	
4-Methyl-2-Pentanone	0.235	0.0500	mg/kg wet	0.2500		94	70-130	2	25	
Acetone	0.219	0.0500	mg/kg wet	0.2500		88	70-130	0.3	25	
Benzene	0.0478	0.0050	mg/kg wet	0.05000		96	70-130	0.8	25	
Bromobenzene	0.0490	0.0050	mg/kg wet	0.05000		98	70-130	0.3	25	





*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609159

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

**Batch C161229 - 5035**

Bromochloromethane	0.0477	0.0050	mg/kg wet	0.05000		95	70-130	1	25	
Bromodichloromethane	0.0498	0.0050	mg/kg wet	0.05000		100	70-130	0.4	25	
Bromoform	0.0468	0.0050	mg/kg wet	0.05000		94	70-130	2	25	
Bromomethane	0.0501	0.0100	mg/kg wet	0.05000		100	70-130	3	25	
Carbon Disulfide	0.0481	0.0050	mg/kg wet	0.05000		96	70-130	2	25	
Carbon Tetrachloride	0.0486	0.0050	mg/kg wet	0.05000		97	70-130	1	25	
Chlorobenzene	0.0502	0.0050	mg/kg wet	0.05000		100	70-130	0.2	25	
Chloroethane	0.0409	0.0100	mg/kg wet	0.05000		82	70-130	2	25	
Chloroform	0.0469	0.0050	mg/kg wet	0.05000		94	70-130	1	25	
Chloromethane	0.0498	0.0100	mg/kg wet	0.05000		100	70-130	0.8	25	
cis-1,2-Dichloroethene	0.0500	0.0050	mg/kg wet	0.05000		100	70-130	0.5	25	
cis-1,3-Dichloropropene	0.0487	0.0050	mg/kg wet	0.05000		97	70-130	0.7	25	
Dibromochloromethane	0.0504	0.0050	mg/kg wet	0.05000		101	70-130	2	25	
Dibromomethane	0.0466	0.0050	mg/kg wet	0.05000		93	70-130	1	25	
Dichlorodifluoromethane	0.0459	0.0100	mg/kg wet	0.05000		92	70-130	3	25	
Diethyl Ether	0.0471	0.0050	mg/kg wet	0.05000		94	70-130	0.9	25	
Di-isopropyl ether	0.0474	0.0050	mg/kg wet	0.05000		95	70-130	0.9	25	
Ethyl tertiary-butyl ether	0.0459	0.0050	mg/kg wet	0.05000		92	70-130	0.8	25	
Ethylbenzene	0.0495	0.0050	mg/kg wet	0.05000		99	70-130	0.4	25	
Hexachlorobutadiene	0.0495	0.0050	mg/kg wet	0.05000		99	70-130	1	25	
Isopropylbenzene	0.0523	0.0050	mg/kg wet	0.05000		105	70-130	0.04	25	
Methyl tert-Butyl Ether	0.0465	0.0050	mg/kg wet	0.05000		93	70-130	0.4	25	
Methylene Chloride	0.0472	0.0250	mg/kg wet	0.05000		94	70-130	2	25	
Naphthalene	0.0512	0.0050	mg/kg wet	0.05000		102	70-130	5	25	
n-Butylbenzene	0.0527	0.0050	mg/kg wet	0.05000		105	70-130	0.04	25	
n-Propylbenzene	0.0512	0.0050	mg/kg wet	0.05000		102	70-130	0	25	
sec-Butylbenzene	0.0520	0.0050	mg/kg wet	0.05000		104	70-130	0.6	25	
Styrene	0.0483	0.0050	mg/kg wet	0.05000		97	70-130	0.5	25	
tert-Butylbenzene	0.0522	0.0050	mg/kg wet	0.05000		104	70-130	0.4	25	
Tertiary-amyl methyl ether	0.0452	0.0050	mg/kg wet	0.05000		90	70-130	1	25	
Tetrachloroethene	0.0443	0.0050	mg/kg wet	0.05000		89	70-130	1	25	
Tetrahydrofuran	0.0420	0.0050	mg/kg wet	0.05000		84	70-130	7	25	
Toluene	0.0473	0.0050	mg/kg wet	0.05000		95	70-130	1	25	
trans-1,2-Dichloroethene	0.0503	0.0050	mg/kg wet	0.05000		101	70-130	1	25	
trans-1,3-Dichloropropene	0.0454	0.0050	mg/kg wet	0.05000		91	70-130	0.04	25	
Trichloroethene	0.0471	0.0050	mg/kg wet	0.05000		94	70-130	1	25	
Trichlorofluoromethane	0.0458	0.0050	mg/kg wet	0.05000		92	70-130	1	25	
Vinyl Acetate	0.0426	0.0050	mg/kg wet	0.05000		85	70-130	1	25	
Vinyl Chloride	0.0495	0.0100	mg/kg wet	0.05000		99	70-130	2	25	
Xylene O	0.0497	0.0050	mg/kg wet	0.05000		99	70-130	0.5	25	
Xylene P,M	0.101	0.0100	mg/kg wet	0.1000		101	70-130	0.4	25	
Xylenes (Total)	0.150	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	0.0447		mg/kg wet	0.05000		89	70-130			
Surrogate: 4-Bromofluorobenzene	0.0449		mg/kg wet	0.05000		90	70-130			
Surrogate: Dibromofluoromethane	0.0465		mg/kg wet	0.05000		93	70-130			



CERTIFICATE OF ANALYSIS

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609159

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

**Batch CI61229 - 5035**

Surrogate: Toluene-d8      0.0469      mg/kg wet      0.05000      94      70-130

8081B Organochlorine Pesticides

**Batch CI60917 - 3546**

**Blank**

4,4'-DDD	ND	0.0025	mg/kg wet
4,4'-DDD [2C]	ND	0.0025	mg/kg wet
4,4'-DDE	ND	0.0025	mg/kg wet
4,4'-DDE [2C]	ND	0.0025	mg/kg wet
4,4'-DDT	ND	0.0025	mg/kg wet
4,4'-DDT [2C]	ND	0.0025	mg/kg wet
Aldrin	ND	0.0025	mg/kg wet
Aldrin [2C]	ND	0.0025	mg/kg wet
alpha-BHC	ND	0.0025	mg/kg wet
alpha-BHC [2C]	ND	0.0025	mg/kg wet
alpha-Chlordane	ND	0.0025	mg/kg wet
alpha-Chlordane [2C]	ND	0.0025	mg/kg wet
beta-BHC	ND	0.0025	mg/kg wet
beta-BHC [2C]	ND	0.0025	mg/kg wet
Chlordane (Total)	ND	0.0300	mg/kg wet
Chlordane (Total) [2C]	ND	0.0300	mg/kg wet
delta-BHC	ND	0.0025	mg/kg wet
delta-BHC [2C]	ND	0.0025	mg/kg wet
Dieldrin	ND	0.0025	mg/kg wet
Dieldrin [2C]	ND	0.0025	mg/kg wet
Endosulfan I	ND	0.0025	mg/kg wet
Endosulfan I [2C]	ND	0.0025	mg/kg wet
Endosulfan II	ND	0.0025	mg/kg wet
Endosulfan II [2C]	ND	0.0025	mg/kg wet
Endosulfan Sulfate	ND	0.0025	mg/kg wet
Endosulfan Sulfate [2C]	ND	0.0025	mg/kg wet
Endrin	ND	0.0025	mg/kg wet
Endrin [2C]	ND	0.0025	mg/kg wet
Endrin Aldehyde	ND	0.0025	mg/kg wet
Endrin Aldehyde [2C]	ND	0.0025	mg/kg wet
Endrin Ketone	ND	0.0025	mg/kg wet
Endrin Ketone [2C]	ND	0.0025	mg/kg wet
gamma-BHC (Lindane)	ND	0.0015	mg/kg wet
gamma-BHC (Lindane) [2C]	ND	0.0015	mg/kg wet
gamma-Chlordane	ND	0.0025	mg/kg wet



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609159

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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**8081B Organochlorine Pesticides**

**Batch CI60917 - 3546**

gamma-Chlordane [2C]	ND	0.0025	mg/kg wet							
Heptachlor	ND	0.0025	mg/kg wet							
Heptachlor [2C]	ND	0.0025	mg/kg wet							
Heptachlor Epoxide	ND	0.0025	mg/kg wet							
Heptachlor Epoxide [2C]	ND	0.0025	mg/kg wet							
Hexachlorobenzene	ND	0.0025	mg/kg wet							
Hexachlorobenzene [2C]	ND	0.0025	mg/kg wet							
Methoxychlor	ND	0.0025	mg/kg wet							
Methoxychlor [2C]	ND	0.0025	mg/kg wet							
Toxaphene	ND	0.125	mg/kg wet							
Toxaphene [2C]	ND	0.125	mg/kg wet							

Surrogate: Decachlorobiphenyl	0.0123		mg/kg wet	0.01250		99	30-150			
Surrogate: Decachlorobiphenyl	0.0123		mg/kg wet	0.01250		99	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0135		mg/kg wet	0.01250		108	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0135		mg/kg wet	0.01250		108	30-150			
Surrogate: Tetrachloro-m-xylene	0.0126		mg/kg wet	0.01250		101	30-150			
Surrogate: Tetrachloro-m-xylene	0.0126		mg/kg wet	0.01250		101	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0126		mg/kg wet	0.01250		101	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0126		mg/kg wet	0.01250		101	30-150			

**LCS**

4,4'-DDD	0.0113	0.0025	mg/kg wet	0.01250		91	40-140			
4,4'-DDD [2C]	0.0110	0.0025	mg/kg wet	0.01250		88	40-140			
4,4'-DDE	0.0113	0.0025	mg/kg wet	0.01250		90	40-140			
4,4'-DDE [2C]	0.0113	0.0025	mg/kg wet	0.01250		90	40-140			
4,4'-DDT	0.0125	0.0025	mg/kg wet	0.01250		100	40-140			
4,4'-DDT [2C]	0.0125	0.0025	mg/kg wet	0.01250		100	40-140			
Aldrin	0.0114	0.0025	mg/kg wet	0.01250		91	40-140			
Aldrin [2C]	0.0120	0.0025	mg/kg wet	0.01250		96	40-140			
alpha-BHC	0.0112	0.0025	mg/kg wet	0.01250		89	40-140			
alpha-BHC [2C]	0.0116	0.0025	mg/kg wet	0.01250		93	40-140			
alpha-Chlordane	0.0108	0.0025	mg/kg wet	0.01250		87	40-140			
alpha-Chlordane [2C]	0.0109	0.0025	mg/kg wet	0.01250		87	40-140			
beta-BHC	0.0108	0.0025	mg/kg wet	0.01250		87	40-140			
beta-BHC [2C]	0.0107	0.0025	mg/kg wet	0.01250		86	40-140			
delta-BHC	0.0099	0.0025	mg/kg wet	0.01250		80	40-140			
delta-BHC [2C]	0.0109	0.0025	mg/kg wet	0.01250		87	40-140			
Dieldrin	0.0117	0.0025	mg/kg wet	0.01250		93	40-140			
Dieldrin	0.0117	0.0025	mg/kg wet	0.01250		93	40-140			
Dieldrin [2C]	0.0117	0.0025	mg/kg wet	0.01250		94	40-140			
Dieldrin [2C]	0.0117	0.0025	mg/kg wet	0.01250		94	40-140			
Endosulfan I	0.0116	0.0025	mg/kg wet	0.01250		93	40-140			
Endosulfan I [2C]	0.0111	0.0025	mg/kg wet	0.01250		89	40-140			
Endosulfan II	0.0110	0.0025	mg/kg wet	0.01250		88	40-140			
Endosulfan II [2C]	0.0108	0.0025	mg/kg wet	0.01250		86	40-140			
Endosulfan Sulfate	0.0116	0.0025	mg/kg wet	0.01250		93	40-140			



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609159

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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**8081B Organochlorine Pesticides**

**Batch CI60917 - 3546**

Endosulfan Sulfate [2C]	0.0113	0.0025	mg/kg wet	0.01250		91	40-140			
Endrin	0.0113	0.0025	mg/kg wet	0.01250		91	40-140			
Endrin [2C]	0.0112	0.0025	mg/kg wet	0.01250		90	40-140			
Endrin Aldehyde	0.0106	0.0025	mg/kg wet	0.01250		85	40-140			
Endrin Aldehyde [2C]	0.0103	0.0025	mg/kg wet	0.01250		82	40-140			
Endrin Ketone	0.0123	0.0025	mg/kg wet	0.01250		98	40-140			
Endrin Ketone [2C]	0.0118	0.0025	mg/kg wet	0.01250		94	40-140			
gamma-BHC (Lindane)	0.0109	0.0015	mg/kg wet	0.01250		87	40-140			
gamma-BHC (Lindane) [2C]	0.0111	0.0015	mg/kg wet	0.01250		89	40-140			
gamma-Chlordane	0.0109	0.0025	mg/kg wet	0.01250		87	40-140			
gamma-Chlordane [2C]	0.0113	0.0025	mg/kg wet	0.01250		90	40-140			
Heptachlor	0.0108	0.0025	mg/kg wet	0.01250		86	40-140			
Heptachlor [2C]	0.0110	0.0025	mg/kg wet	0.01250		88	40-140			
Heptachlor Epoxide	0.0122	0.0025	mg/kg wet	0.01250		98	40-140			
Heptachlor Epoxide [2C]	0.0118	0.0025	mg/kg wet	0.01250		94	40-140			
Hexachlorobenzene	0.0126	0.0025	mg/kg wet	0.01250		101	40-140			
Hexachlorobenzene [2C]	0.0128	0.0025	mg/kg wet	0.01250		102	40-140			
Methoxychlor	0.0120	0.0025	mg/kg wet	0.01250		96	40-140			
Methoxychlor [2C]	0.0118	0.0025	mg/kg wet	0.01250		94	40-140			

Surrogate: Decachlorobiphenyl	0.0125		mg/kg wet	0.01250		100	30-150			
Surrogate: Decachlorobiphenyl	0.0125		mg/kg wet	0.01250		100	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0129		mg/kg wet	0.01250		103	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0129		mg/kg wet	0.01250		103	30-150			
Surrogate: Tetrachloro-m-xylene	0.0126		mg/kg wet	0.01250		101	30-150			
Surrogate: Tetrachloro-m-xylene	0.0126		mg/kg wet	0.01250		101	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0120		mg/kg wet	0.01250		96	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0120		mg/kg wet	0.01250		96	30-150			

<b>LCS Dup</b>										
4,4'-DDD	0.0107	0.0025	mg/kg wet	0.01250		86	40-140	6	30	
4,4'-DDD [2C]	0.0104	0.0025	mg/kg wet	0.01250		83	40-140	6	30	
4,4'-DDE	0.0107	0.0025	mg/kg wet	0.01250		86	40-140	5	30	
4,4'-DDE [2C]	0.0108	0.0025	mg/kg wet	0.01250		86	40-140	5	30	
4,4'-DDT	0.0117	0.0025	mg/kg wet	0.01250		94	40-140	7	30	
4,4'-DDT [2C]	0.0117	0.0025	mg/kg wet	0.01250		94	40-140	7	30	
Aldrin	0.0110	0.0025	mg/kg wet	0.01250		88	40-140	3	30	
Aldrin [2C]	0.0116	0.0025	mg/kg wet	0.01250		93	40-140	4	30	
alpha-BHC	0.0108	0.0025	mg/kg wet	0.01250		86	40-140	4	30	
alpha-BHC [2C]	0.0112	0.0025	mg/kg wet	0.01250		89	40-140	4	30	
alpha-Chlordane	0.0104	0.0025	mg/kg wet	0.01250		84	40-140	4	30	
alpha-Chlordane [2C]	0.0105	0.0025	mg/kg wet	0.01250		84	40-140	4	30	
beta-BHC	0.0104	0.0025	mg/kg wet	0.01250		83	40-140	4	30	
beta-BHC [2C]	0.0103	0.0025	mg/kg wet	0.01250		82	40-140	4	30	
delta-BHC	0.0095	0.0025	mg/kg wet	0.01250		76	40-140	4	30	
delta-BHC [2C]	0.0103	0.0025	mg/kg wet	0.01250		83	40-140	5	30	
Dieldrin	0.0112	0.0025	mg/kg wet	0.01250		89	40-140	4	30	



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
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ESS Laboratory Work Order: 1609159

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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**8081B Organochlorine Pesticides**

**Batch CI60917 - 3546**

Dieldrin	0.0112	0.0025	mg/kg wet	0.01250		89	40-140	4	30	
Dieldrin [2C]	0.0112	0.0025	mg/kg wet	0.01250		89	40-140	4	30	
Dieldrin [2C]	0.0112	0.0025	mg/kg wet	0.01250		89	40-140	4	30	
Endosulfan I	0.0112	0.0025	mg/kg wet	0.01250		90	40-140	3	30	
Endosulfan I [2C]	0.0107	0.0025	mg/kg wet	0.01250		86	40-140	4	30	
Endosulfan II	0.0104	0.0025	mg/kg wet	0.01250		83	40-140	5	30	
Endosulfan II [2C]	0.0102	0.0025	mg/kg wet	0.01250		82	40-140	5	30	
Endosulfan Sulfate	0.0109	0.0025	mg/kg wet	0.01250		87	40-140	6	30	
Endosulfan Sulfate [2C]	0.0106	0.0025	mg/kg wet	0.01250		85	40-140	7	30	
Endrin	0.0108	0.0025	mg/kg wet	0.01250		86	40-140	5	30	
Endrin [2C]	0.0107	0.0025	mg/kg wet	0.01250		85	40-140	5	30	
Endrin Aldehyde	0.0098	0.0025	mg/kg wet	0.01250		79	40-140	8	30	
Endrin Aldehyde [2C]	0.0095	0.0025	mg/kg wet	0.01250		76	40-140	8	30	
Endrin Ketone	0.0116	0.0025	mg/kg wet	0.01250		93	40-140	6	30	
Endrin Ketone [2C]	0.0110	0.0025	mg/kg wet	0.01250		88	40-140	7	30	
gamma-BHC (Lindane)	0.0105	0.0015	mg/kg wet	0.01250		84	40-140	4	30	
gamma-BHC (Lindane) [2C]	0.0107	0.0015	mg/kg wet	0.01250		85	40-140	4	30	
gamma-Chlordane	0.0105	0.0025	mg/kg wet	0.01250		84	40-140	4	30	
gamma-Chlordane [2C]	0.0108	0.0025	mg/kg wet	0.01250		87	40-140	4	30	
Heptachlor	0.0104	0.0025	mg/kg wet	0.01250		83	40-140	3	30	
Heptachlor [2C]	0.0106	0.0025	mg/kg wet	0.01250		85	40-140	4	30	
Heptachlor Epoxide	0.0119	0.0025	mg/kg wet	0.01250		95	40-140	3	30	
Heptachlor Epoxide [2C]	0.0113	0.0025	mg/kg wet	0.01250		91	40-140	3	30	
Hexachlorobenzene	0.0121	0.0025	mg/kg wet	0.01250		97	40-140	4	30	
Hexachlorobenzene [2C]	0.0122	0.0025	mg/kg wet	0.01250		98	40-140	5	30	
Methoxychlor	0.0114	0.0025	mg/kg wet	0.01250		91	40-140	5	30	
Methoxychlor [2C]	0.0109	0.0025	mg/kg wet	0.01250		88	40-140	8	30	

Surrogate: Decachlorobiphenyl	0.0118		mg/kg wet	0.01250		94	30-150			
Surrogate: Decachlorobiphenyl	0.0118		mg/kg wet	0.01250		94	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0121		mg/kg wet	0.01250		97	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0121		mg/kg wet	0.01250		97	30-150			
Surrogate: Tetrachloro-m-xylene	0.0121		mg/kg wet	0.01250		97	30-150			
Surrogate: Tetrachloro-m-xylene	0.0121		mg/kg wet	0.01250		97	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0115		mg/kg wet	0.01250		92	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0115		mg/kg wet	0.01250		92	30-150			

**8082A Polychlorinated Biphenyls (PCB)**

**Batch CI60813 - 3540C**

<b>Blank</b>										
Aroclor 1016	ND	0.0500	mg/kg wet							
Aroclor 1221	ND	0.0500	mg/kg wet							
Aroclor 1232	ND	0.0500	mg/kg wet							
Aroclor 1242	ND	0.0500	mg/kg wet							
Aroclor 1248	ND	0.0500	mg/kg wet							



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609159

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8082A Polychlorinated Biphenyls (PCB)

**Batch CI60813 - 3540C**

Aroclor 1254	ND	0.0500	mg/kg wet							
Aroclor 1260	ND	0.0500	mg/kg wet							
Aroclor 1262	ND	0.0500	mg/kg wet							
Aroclor 1268	ND	0.0500	mg/kg wet							
Surrogate: Decachlorobiphenyl	0.0188		mg/kg wet	0.02500		75	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0208		mg/kg wet	0.02500		83	30-150			
Surrogate: Tetrachloro-m-xylene	0.0163		mg/kg wet	0.02500		65	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0187		mg/kg wet	0.02500		75	30-150			

**LCS**

Aroclor 1016	0.470	0.0500	mg/kg wet	0.5000		94	40-140			
Aroclor 1260	0.458	0.0500	mg/kg wet	0.5000		92	40-140			
Surrogate: Decachlorobiphenyl	0.0197		mg/kg wet	0.02500		79	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0217		mg/kg wet	0.02500		87	30-150			
Surrogate: Tetrachloro-m-xylene	0.0184		mg/kg wet	0.02500		74	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0196		mg/kg wet	0.02500		78	30-150			

**LCS Dup**

Aroclor 1016	0.482	0.0500	mg/kg wet	0.5000		96	40-140	2	30	
Aroclor 1260	0.468	0.0500	mg/kg wet	0.5000		94	40-140	2	30	
Surrogate: Decachlorobiphenyl	0.0199		mg/kg wet	0.02500		80	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0218		mg/kg wet	0.02500		87	30-150			
Surrogate: Tetrachloro-m-xylene	0.0185		mg/kg wet	0.02500		74	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0197		mg/kg wet	0.02500		79	30-150			

**Batch CI60912 - 3540C**

**Blank**

Aroclor 1016	ND	0.0500	mg/kg wet							
Aroclor 1221	ND	0.0500	mg/kg wet							
Aroclor 1232	ND	0.0500	mg/kg wet							
Aroclor 1242	ND	0.0500	mg/kg wet							
Aroclor 1248	ND	0.0500	mg/kg wet							
Aroclor 1254	ND	0.0500	mg/kg wet							
Aroclor 1260	ND	0.0500	mg/kg wet							
Aroclor 1262	ND	0.0500	mg/kg wet							
Aroclor 1268	ND	0.0500	mg/kg wet							
Surrogate: Decachlorobiphenyl	0.0205		mg/kg wet	0.02500		82	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0232		mg/kg wet	0.02500		93	30-150			
Surrogate: Tetrachloro-m-xylene	0.0170		mg/kg wet	0.02500		68	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0194		mg/kg wet	0.02500		77	30-150			

**LCS**

Aroclor 1016	0.495	0.0500	mg/kg wet	0.5000		99	40-140			
Aroclor 1260	0.488	0.0500	mg/kg wet	0.5000		98	40-140			
Surrogate: Decachlorobiphenyl	0.0224		mg/kg wet	0.02500		90	30-150			



CERTIFICATE OF ANALYSIS

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609159

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8082A Polychlorinated Biphenyls (PCB)

**Batch CI60912 - 3540C**

Surrogate: Decachlorobiphenyl [2C]	0.0257		mg/kg wet	0.02500		103	30-150			
Surrogate: Tetrachloro-m-xylene	0.0198		mg/kg wet	0.02500		79	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0211		mg/kg wet	0.02500		84	30-150			

**LCS Dup**

Aroclor 1016	0.487	0.0500	mg/kg wet	0.5000		97	40-140	2	30	
Aroclor 1260	0.484	0.0500	mg/kg wet	0.5000		97	40-140	0.7	30	

Surrogate: Decachlorobiphenyl	0.0218		mg/kg wet	0.02500		87	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0248		mg/kg wet	0.02500		99	30-150			
Surrogate: Tetrachloro-m-xylene	0.0191		mg/kg wet	0.02500		76	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0202		mg/kg wet	0.02500		81	30-150			

8270D Semi-Volatile Organic Compounds

**Batch CI60818 - 3546**

**Blank**

1,1-Biphenyl	ND	0.333	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.333	mg/kg wet							
1,2-Dichlorobenzene	ND	0.333	mg/kg wet							
1,3-Dichlorobenzene	ND	0.333	mg/kg wet							
1,4-Dichlorobenzene	ND	0.333	mg/kg wet							
2,3,4,6-Tetrachlorophenol	ND	1.67	mg/kg wet							
2,4,5-Trichlorophenol	ND	0.333	mg/kg wet							
2,4,6-Trichlorophenol	ND	0.333	mg/kg wet							
2,4-Dichlorophenol	ND	0.333	mg/kg wet							
2,4-Dimethylphenol	ND	0.333	mg/kg wet							
2,4-Dinitrophenol	ND	1.67	mg/kg wet							
2,4-Dinitrotoluene	ND	0.333	mg/kg wet							
2,6-Dinitrotoluene	ND	0.333	mg/kg wet							
2-Chloronaphthalene	ND	0.333	mg/kg wet							
2-Chlorophenol	ND	0.333	mg/kg wet							
2-Methylnaphthalene	ND	0.333	mg/kg wet							
2-Methylphenol	ND	0.333	mg/kg wet							
2-Nitroaniline	ND	0.333	mg/kg wet							
2-Nitrophenol	ND	0.333	mg/kg wet							
3,3'-Dichlorobenzidine	ND	0.667	mg/kg wet							
3+4-Methylphenol	ND	0.667	mg/kg wet							
3-Nitroaniline	ND	0.333	mg/kg wet							
4,6-Dinitro-2-Methylphenol	ND	1.67	mg/kg wet							
4-Bromophenyl-phenylether	ND	0.333	mg/kg wet							
4-Chloro-3-Methylphenol	ND	0.333	mg/kg wet							
4-Chloroaniline	ND	0.667	mg/kg wet							
4-Chloro-phenyl-phenyl ether	ND	0.333	mg/kg wet							
4-Nitroaniline	ND	0.333	mg/kg wet							
4-Nitrophenol	ND	1.67	mg/kg wet							





*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
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ESS Laboratory Work Order: 1609159

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8270D Semi-Volatile Organic Compounds

**Batch CI60818 - 3546**

Acenaphthene	ND	0.333	mg/kg wet							
Acenaphthylene	ND	0.333	mg/kg wet							
Acetophenone	ND	0.667	mg/kg wet							
Aniline	ND	0.667	mg/kg wet							
Anthracene	ND	0.333	mg/kg wet							
Azobenzene	ND	0.333	mg/kg wet							
Benzo(a)anthracene	ND	0.333	mg/kg wet							
Benzo(a)pyrene	ND	0.167	mg/kg wet							
Benzo(b)fluoranthene	ND	0.333	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.333	mg/kg wet							
Benzo(k)fluoranthene	ND	0.333	mg/kg wet							
Benzoic Acid	ND	1.67	mg/kg wet							
Benzyl Alcohol	ND	0.333	mg/kg wet							
bis(2-Chloroethoxy)methane	ND	0.333	mg/kg wet							
bis(2-Chloroethyl)ether	ND	0.333	mg/kg wet							
bis(2-chloroisopropyl)Ether	ND	0.333	mg/kg wet							
bis(2-Ethylhexyl)phthalate	ND	0.333	mg/kg wet							
Butylbenzylphthalate	ND	0.333	mg/kg wet							
Carbazole	ND	0.333	mg/kg wet							
Chrysene	ND	0.167	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.167	mg/kg wet							
Dibenzofuran	ND	0.333	mg/kg wet							
Diethylphthalate	ND	0.333	mg/kg wet							
Dimethylphthalate	ND	0.333	mg/kg wet							
Di-n-butylphthalate	ND	0.333	mg/kg wet							
Di-n-octylphthalate	ND	0.333	mg/kg wet							
Fluoranthene	ND	0.333	mg/kg wet							
Fluorene	ND	0.333	mg/kg wet							
Hexachlorobenzene	ND	0.167	mg/kg wet							
Hexachlorobutadiene	ND	0.333	mg/kg wet							
Hexachlorocyclopentadiene	ND	1.67	mg/kg wet							
Hexachloroethane	ND	0.333	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.333	mg/kg wet							
Isophorone	ND	0.333	mg/kg wet							
Naphthalene	ND	0.333	mg/kg wet							
Nitrobenzene	ND	0.333	mg/kg wet							
N-Nitrosodimethylamine	ND	0.333	mg/kg wet							
N-Nitroso-Di-n-Propylamine	ND	0.333	mg/kg wet							
N-nitrosodiphenylamine	ND	0.333	mg/kg wet							
Pentachlorophenol	ND	1.67	mg/kg wet							
Phenanthrene	ND	0.333	mg/kg wet							
Phenol	ND	0.333	mg/kg wet							
Pyrene	ND	0.333	mg/kg wet							
Pyridine	ND	1.67	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	2.60		mg/kg wet	3.333		78	30-130			





CERTIFICATE OF ANALYSIS

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609159

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8270D Semi-Volatile Organic Compounds

**Batch C160818 - 3546**

Surrogate: 2,4,6-Tribromophenol	3.52		mg/kg wet	5.000		70	30-130			
Surrogate: 2-Chlorophenol-d4	4.05		mg/kg wet	5.000		81	30-130			
Surrogate: 2-Fluorobiphenyl	2.68		mg/kg wet	3.333		80	30-130			
Surrogate: 2-Fluorophenol	4.01		mg/kg wet	5.000		80	30-130			
Surrogate: Nitrobenzene-d5	2.80		mg/kg wet	3.333		84	30-130			
Surrogate: Phenol-d6	4.22		mg/kg wet	5.000		84	30-130			
Surrogate: p-Terphenyl-d14	3.33		mg/kg wet	3.333		100	30-130			

**LCS**

1,1-Biphenyl	2.30	0.333	mg/kg wet	3.333		69	40-140			
1,2,4-Trichlorobenzene	2.28	0.333	mg/kg wet	3.333		68	40-140			
1,2-Dichlorobenzene	2.18	0.333	mg/kg wet	3.333		65	40-140			
1,3-Dichlorobenzene	2.19	0.333	mg/kg wet	3.333		66	40-140			
1,4-Dichlorobenzene	2.16	0.333	mg/kg wet	3.333		65	40-140			
2,3,4,6-Tetrachlorophenol	2.34	1.67	mg/kg wet	3.333		70	30-130			
2,4,5-Trichlorophenol	2.59	0.333	mg/kg wet	3.333		78	30-130			
2,4,6-Trichlorophenol	2.45	0.333	mg/kg wet	3.333		73	30-130			
2,4-Dichlorophenol	2.40	0.333	mg/kg wet	3.333		72	30-130			
2,4-Dimethylphenol	2.41	0.333	mg/kg wet	3.333		72	30-130			
2,4-Dinitrophenol	2.26	1.67	mg/kg wet	3.333		68	30-130			
2,4-Dinitrotoluene	2.77	0.333	mg/kg wet	3.333		83	40-140			
2,6-Dinitrotoluene	2.48	0.333	mg/kg wet	3.333		74	40-140			
2-Chloronaphthalene	2.25	0.333	mg/kg wet	3.333		68	40-140			
2-Chlorophenol	2.32	0.333	mg/kg wet	3.333		70	30-130			
2-Methylnaphthalene	2.34	0.333	mg/kg wet	3.333		70	40-140			
2-Methylphenol	2.36	0.333	mg/kg wet	3.333		71	30-130			
2-Nitroaniline	2.52	0.333	mg/kg wet	3.333		75	40-140			
2-Nitrophenol	2.33	0.333	mg/kg wet	3.333		70	30-130			
3,3'-Dichlorobenzidine	1.28	0.667	mg/kg wet	3.333		38	40-140			B-
3+4-Methylphenol	4.70	0.667	mg/kg wet	6.667		71	30-130			
3-Nitroaniline	2.54	0.333	mg/kg wet	3.333		76	40-140			
4,6-Dinitro-2-Methylphenol	2.71	1.67	mg/kg wet	3.333		81	30-130			
4-Bromophenyl-phenylether	2.57	0.333	mg/kg wet	3.333		77	40-140			
4-Chloro-3-Methylphenol	2.46	0.333	mg/kg wet	3.333		74	30-130			
4-Chloroaniline	2.17	0.667	mg/kg wet	3.333		65	40-140			
4-Chloro-phenyl-phenyl ether	2.48	0.333	mg/kg wet	3.333		74	40-140			
4-Nitroaniline	2.73	0.333	mg/kg wet	3.333		82	40-140			
4-Nitrophenol	2.60	1.67	mg/kg wet	3.333		78	30-130			
Acenaphthene	2.52	0.333	mg/kg wet	3.333		76	40-140			
Acenaphthylene	2.52	0.333	mg/kg wet	3.333		76	40-140			
Acetophenone	2.36	0.667	mg/kg wet	3.333		71	40-140			
Aniline	1.39	0.667	mg/kg wet	3.333		42	40-140			
Anthracene	2.79	0.333	mg/kg wet	3.333		84	40-140			
Azobenzene	2.65	0.333	mg/kg wet	3.333		79	40-140			
Benzo(a)anthracene	2.85	0.333	mg/kg wet	3.333		86	40-140			
Benzo(a)pyrene	2.92	0.167	mg/kg wet	3.333		88	40-140			



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
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ESS Laboratory Work Order: 1609159

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8270D Semi-Volatile Organic Compounds

**Batch CI60818 - 3546**

Benzo(b)fluoranthene	2.88	0.333	mg/kg wet	3.333		86	40-140			
Benzo(g,h,i)perylene	3.46	0.333	mg/kg wet	3.333		104	40-140			
Benzo(k)fluoranthene	2.89	0.333	mg/kg wet	3.333		87	40-140			
Benzoic Acid	2.73	1.67	mg/kg wet	3.333		82	40-140			
Benzyl Alcohol	2.53	0.333	mg/kg wet	3.333		76	40-140			
bis(2-Chloroethoxy)methane	2.42	0.333	mg/kg wet	3.333		72	40-140			
bis(2-Chloroethyl)ether	2.17	0.333	mg/kg wet	3.333		65	40-140			
bis(2-chloroisopropyl)Ether	2.29	0.333	mg/kg wet	3.333		69	40-140			
bis(2-Ethylhexyl)phthalate	2.80	0.333	mg/kg wet	3.333		84	40-140			
Butylbenzylphthalate	2.72	0.333	mg/kg wet	3.333		82	40-140			
Carbazole	2.87	0.333	mg/kg wet	3.333		86	40-140			
Chrysene	2.71	0.167	mg/kg wet	3.333		81	40-140			
Dibenzo(a,h)Anthracene	3.40	0.167	mg/kg wet	3.333		102	40-140			
Dibenzofuran	2.43	0.333	mg/kg wet	3.333		73	40-140			
Diethylphthalate	2.85	0.333	mg/kg wet	3.333		85	40-140			
Dimethylphthalate	2.62	0.333	mg/kg wet	3.333		79	40-140			
Di-n-butylphthalate	2.89	0.333	mg/kg wet	3.333		87	40-140			
Di-n-octylphthalate	2.71	0.333	mg/kg wet	3.333		81	40-140			
Fluoranthene	3.00	0.333	mg/kg wet	3.333		90	40-140			
Fluorene	2.59	0.333	mg/kg wet	3.333		78	40-140			
Hexachlorobenzene	2.60	0.167	mg/kg wet	3.333		78	40-140			
Hexachlorobutadiene	2.34	0.333	mg/kg wet	3.333		70	40-140			
Hexachlorocyclopentadiene	ND	1.67	mg/kg wet	3.333			40-140			B-
Hexachloroethane	2.29	0.333	mg/kg wet	3.333		69	40-140			
Indeno(1,2,3-cd)Pyrene	3.38	0.333	mg/kg wet	3.333		101	40-140			
Isophorone	2.67	0.333	mg/kg wet	3.333		80	40-140			
Naphthalene	2.28	0.333	mg/kg wet	3.333		68	40-140			
Nitrobenzene	2.46	0.333	mg/kg wet	3.333		74	40-140			
N-Nitrosodimethylamine	2.22	0.333	mg/kg wet	3.333		67	40-140			
N-Nitroso-Di-n-Propylamine	2.47	0.333	mg/kg wet	3.333		74	40-140			
N-nitrosodiphenylamine	2.78	0.333	mg/kg wet	3.333		83	40-140			
Pentachlorophenol	2.82	1.67	mg/kg wet	3.333		85	30-130			
Phenanthrene	2.61	0.333	mg/kg wet	3.333		78	40-140			
Phenol	2.31	0.333	mg/kg wet	3.333		69	30-130			
Pyrene	2.82	0.333	mg/kg wet	3.333		85	40-140			
Pyridine	1.70	1.67	mg/kg wet	3.333		51	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	2.42		mg/kg wet	3.333		73	30-130			
Surrogate: 2,4,6-Tribromophenol	4.33		mg/kg wet	5.000		87	30-130			
Surrogate: 2-Chlorophenol-d4	3.82		mg/kg wet	5.000		76	30-130			
Surrogate: 2-Fluorobiphenyl	2.68		mg/kg wet	3.333		80	30-130			
Surrogate: 2-Fluorophenol	3.83		mg/kg wet	5.000		77	30-130			
Surrogate: Nitrobenzene-d5	2.75		mg/kg wet	3.333		83	30-130			
Surrogate: Phenol-d6	3.94		mg/kg wet	5.000		79	30-130			
Surrogate: p-Terphenyl-d14	3.27		mg/kg wet	3.333		98	30-130			

**LCS Dup**



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609159

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
<b>8270D Semi-Volatile Organic Compounds</b>										
<b>Batch CI60818 - 3546</b>										
1,1-Biphenyl	2.24	0.333	mg/kg wet	3.333		67	40-140	3	30	
1,2,4-Trichlorobenzene	2.24	0.333	mg/kg wet	3.333		67	40-140	2	30	
1,2-Dichlorobenzene	2.23	0.333	mg/kg wet	3.333		67	40-140	3	30	
1,3-Dichlorobenzene	2.22	0.333	mg/kg wet	3.333		67	40-140	1	30	
1,4-Dichlorobenzene	2.18	0.333	mg/kg wet	3.333		65	40-140	0.9	30	
2,3,4,6-Tetrachlorophenol	2.13	1.67	mg/kg wet	3.333		64	30-130	10	30	
2,4,5-Trichlorophenol	2.47	0.333	mg/kg wet	3.333		74	30-130	5	30	
2,4,6-Trichlorophenol	2.28	0.333	mg/kg wet	3.333		68	30-130	7	30	
2,4-Dichlorophenol	2.35	0.333	mg/kg wet	3.333		70	30-130	2	30	
2,4-Dimethylphenol	2.37	0.333	mg/kg wet	3.333		71	30-130	2	30	
2,4-Dinitrophenol	1.65	1.67	mg/kg wet	3.333		50	30-130	31	30	D+
2,4-Dinitrotoluene	2.67	0.333	mg/kg wet	3.333		80	40-140	4	30	
2,6-Dinitrotoluene	2.44	0.333	mg/kg wet	3.333		73	40-140	2	30	
2-Chloronaphthalene	2.20	0.333	mg/kg wet	3.333		66	40-140	2	30	
2-Chlorophenol	2.41	0.333	mg/kg wet	3.333		72	30-130	4	30	
2-Methylnaphthalene	2.30	0.333	mg/kg wet	3.333		69	40-140	2	30	
2-Methylphenol	2.42	0.333	mg/kg wet	3.333		73	30-130	3	30	
2-Nitroaniline	2.46	0.333	mg/kg wet	3.333		74	40-140	2	30	
2-Nitrophenol	2.30	0.333	mg/kg wet	3.333		69	30-130	1	30	
3,3'-Dichlorobenzidine	0.219	0.667	mg/kg wet	3.333		7	40-140	141	30	B-, D+
3+4-Methylphenol	5.99	0.667	mg/kg wet	6.667		90	30-130	24	30	
3-Nitroaniline	2.43	0.333	mg/kg wet	3.333		73	40-140	4	30	
4,6-Dinitro-2-Methylphenol	2.16	1.67	mg/kg wet	3.333		65	30-130	22	30	
4-Bromophenyl-phenylether	2.51	0.333	mg/kg wet	3.333		75	40-140	2	30	
4-Chloro-3-Methylphenol	2.39	0.333	mg/kg wet	3.333		72	30-130	3	30	
4-Chloroaniline	2.04	0.667	mg/kg wet	3.333		61	40-140	6	30	
4-Chloro-phenyl-phenyl ether	2.40	0.333	mg/kg wet	3.333		72	40-140	3	30	
4-Nitroaniline	2.58	0.333	mg/kg wet	3.333		77	40-140	6	30	
4-Nitrophenol	2.28	1.67	mg/kg wet	3.333		68	30-130	13	30	
Acenaphthene	2.42	0.333	mg/kg wet	3.333		73	40-140	4	30	
Acenaphthylene	2.43	0.333	mg/kg wet	3.333		73	40-140	4	30	
Acetophenone	2.43	0.667	mg/kg wet	3.333		73	40-140	3	30	
Aniline	1.33	0.667	mg/kg wet	3.333		40	40-140	4	30	
Anthracene	2.69	0.333	mg/kg wet	3.333		81	40-140	4	30	
Azobenzene	2.59	0.333	mg/kg wet	3.333		78	40-140	2	30	
Benzo(a)anthracene	2.72	0.333	mg/kg wet	3.333		82	40-140	5	30	
Benzo(a)pyrene	2.78	0.167	mg/kg wet	3.333		84	40-140	5	30	
Benzo(b)fluoranthene	2.77	0.333	mg/kg wet	3.333		83	40-140	4	30	
Benzo(g,h,i)perylene	3.08	0.333	mg/kg wet	3.333		92	40-140	12	30	
Benzo(k)fluoranthene	2.77	0.333	mg/kg wet	3.333		83	40-140	4	30	
Benzoic Acid	1.48	1.67	mg/kg wet	3.333		44	40-140	59	30	D+
Benzyl Alcohol	2.59	0.333	mg/kg wet	3.333		78	40-140	2	30	
bis(2-Chloroethoxy)methane	2.38	0.333	mg/kg wet	3.333		71	40-140	2	30	
bis(2-Chloroethyl)ether	2.25	0.333	mg/kg wet	3.333		68	40-140	4	30	
bis(2-chloroisopropyl)Ether	2.38	0.333	mg/kg wet	3.333		71	40-140	4	30	



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609159

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8270D Semi-Volatile Organic Compounds

**Batch CI60818 - 3546**

bis(2-Ethylhexyl)phthalate	2.72	0.333	mg/kg wet	3.333		82	40-140	3	30	
Butylbenzylphthalate	2.65	0.333	mg/kg wet	3.333		79	40-140	3	30	
Carbazole	2.64	0.333	mg/kg wet	3.333		79	40-140	8	30	
Chrysene	2.62	0.167	mg/kg wet	3.333		78	40-140	3	30	
Dibenzo(a,h)Anthracene	3.20	0.167	mg/kg wet	3.333		96	40-140	6	30	
Dibenzofuran	2.35	0.333	mg/kg wet	3.333		71	40-140	3	30	
Diethylphthalate	2.76	0.333	mg/kg wet	3.333		83	40-140	3	30	
Dimethylphthalate	2.53	0.333	mg/kg wet	3.333		76	40-140	4	30	
Di-n-butylphthalate	2.77	0.333	mg/kg wet	3.333		83	40-140	4	30	
Di-n-octylphthalate	2.59	0.333	mg/kg wet	3.333		78	40-140	5	30	
Fluoranthene	2.88	0.333	mg/kg wet	3.333		86	40-140	4	30	
Fluorene	2.51	0.333	mg/kg wet	3.333		75	40-140	3	30	
Hexachlorobenzene	2.55	0.167	mg/kg wet	3.333		77	40-140	2	30	
Hexachlorobutadiene	2.32	0.333	mg/kg wet	3.333		70	40-140	1	30	
Hexachlorocyclopentadiene	ND	1.67	mg/kg wet	3.333			40-140	200	30	B-, D+
Hexachloroethane	2.32	0.333	mg/kg wet	3.333		70	40-140	1	30	
Indeno(1,2,3-cd)Pyrene	3.17	0.333	mg/kg wet	3.333		95	40-140	6	30	
Isophorone	2.65	0.333	mg/kg wet	3.333		79	40-140	0.8	30	
Naphthalene	2.26	0.333	mg/kg wet	3.333		68	40-140	1	30	
Nitrobenzene	2.45	0.333	mg/kg wet	3.333		73	40-140	0.5	30	
N-Nitrosodimethylamine	2.22	0.333	mg/kg wet	3.333		67	40-140	0.05	30	
N-Nitroso-Di-n-Propylamine	2.59	0.333	mg/kg wet	3.333		78	40-140	5	30	
N-nitrosodiphenylamine	2.63	0.333	mg/kg wet	3.333		79	40-140	6	30	
Pentachlorophenol	1.74	1.67	mg/kg wet	3.333		52	30-130	47	30	D+
Phenanthrene	2.54	0.333	mg/kg wet	3.333		76	40-140	3	30	
Phenol	2.43	0.333	mg/kg wet	3.333		73	30-130	5	30	
Pyrene	2.79	0.333	mg/kg wet	3.333		84	40-140	1	30	
Pyridine	1.56	1.67	mg/kg wet	3.333		47	40-140	8	30	
Surrogate: 1,2-Dichlorobenzene-d4	2.38		mg/kg wet	3.333		71	30-130			
Surrogate: 2,4,6-Tribromophenol	3.58		mg/kg wet	5.000		72	30-130			
Surrogate: 2-Chlorophenol-d4	3.82		mg/kg wet	5.000		76	30-130			
Surrogate: 2-Fluorobiphenyl	2.49		mg/kg wet	3.333		75	30-130			
Surrogate: 2-Fluorophenol	3.80		mg/kg wet	5.000		76	30-130			
Surrogate: Nitrobenzene-d5	2.62		mg/kg wet	3.333		79	30-130			
Surrogate: Phenol-d6	3.95		mg/kg wet	5.000		79	30-130			
Surrogate: p-Terphenyl-d14	3.09		mg/kg wet	3.333		93	30-130			

Classical Chemistry

**Batch CI60931 - TCN Prep**

<b>Blank</b>										
Total Cyanide	ND	1.00	mg/kg wet							
<b>LCS</b>										
Total Cyanide	5.06	1.00	mg/kg wet	5.015		101	90-110			
<b>Reference</b>										



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609159

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
<b>Classical Chemistry</b>										
<b>Batch CI60931 - TCN Prep</b>										
Total Cyanide	49.1	4.87	mg/kg wet	48.40		101	36.1577-206.6 12			
<b>Reference</b>										
Total Cyanide	49.7	4.84	mg/kg wet	48.40		103	36.1577-206.6 12			
<b>Batch CI61224 - General Preparation</b>										
<b>Blank</b>										
Hexavalent Chromium	ND	0.7	mg/kg wet							
<b>LCS</b>										
Hexavalent Chromium	32.9	0.7	mg/kg wet	33.32		99	80-120			
<b>LCS Dup</b>										
Hexavalent Chromium	32.7	0.7	mg/kg wet	33.32		98	80-120	0.4	20	
<b>Reference</b>										
Hexavalent Chromium	70.3	2.0	mg/kg wet	71.00		99	20.3-222.5			



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)

Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609159

**Notes and Definitions**

- U Analyte included in the analysis, but not detected
- Q Calibration required quadratic regression (Q).
- D+ Relative percent difference for duplicate is outside of criteria (D+).
- D Diluted.
- CD+ Continuing Calibration %Diff/Drift is above control limit (CD+).
- B- Blank Spike recovery is below lower control limit (B-).
- ND Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- MDL Method Detection Limit
- MRL Method Reporting Limit
- LOD Limit of Detection
- LOQ Limit of Quantitation
- DL Detection Limit
- I/V Initial Volume
- F/V Final Volume
- § Subcontracted analysis; see attached report
- 1 Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
- 2 Range result excludes concentrations of target analytes eluting in that range.
- 3 Range result excludes the concentration of the C9-C10 aromatic range.
- Avg Results reported as a mathematical average.
- NR No Recovery
- [CALC] Calculated Analyte
- SUB Subcontracted analysis; see attached report



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609159

**ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS**

**ENVIRONMENTAL**

Rhode Island Potable and Non Potable Water: LAI00179

<http://www.health.ri.gov/find/labs/analytical/ESS.pdf>

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750

[http://www.ct.gov/dph/lib/dph/environmental\\_health/environmental\\_laboratories/pdf/OutOfStateCommercialLaboratories.pdf](http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutOfStateCommercialLaboratories.pdf)

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002

<http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/documents/AllLabs.xls>

Massachusetts Potable and Non Potable Water: M-RI002

<http://public.dep.state.ma.us/Labcert/Labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424

<http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm>

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313

<http://www.wadsworth.org/labcert/elap/comm.html>

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006

[http://datamine2.state.nj.us/DEP\\_OPRA/OpraMain/pi\\_main?mode=pi\\_by\\_site&sort\\_order=PI\\_NAMEA&Select+a+Site:=58715](http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715)

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752

[http://www.depweb.state.pa.us/portal/server.pt/community/labs/13780/laboratory\\_accreditation\\_program/590095](http://www.depweb.state.pa.us/portal/server.pt/community/labs/13780/laboratory_accreditation_program/590095)

# ESS Laboratory

Division of Thielsch Engineering, Inc.

185 Frances Avenue, Cranston, RI 02910-2211

Tel. (401) 461-7181 Fax (401) 461-4486

www.esslaboratory.com

# CHAIN OF CUSTODY

Turn Time Standard Other \_\_\_\_\_  
 Regulatory State: MA RI CT NH NJ NY ME Other \_\_\_\_\_  
 Is this project for any of the following: (please circle)  
 MA-MCP Navy USACE CT DEP Other \_\_\_\_\_

Project # P312 Project Name Hope Hill  
 Address 100 Fifth Avenue PO # \_\_\_\_\_  
 State MA Zip \_\_\_\_\_  
 email: cparadis@essgroup.com

Co. Name ESS Group, Inc.  
 Contact Person Craig Paradis  
 City Walton  
 Tel. 781-419-7714

ESS Lab ID	Date	Collection Time	Grab-G Composite-C	Matrix	Sample ID	Pres Code	# of Containers	Type of Container
1	9-8-16	0945	G	S	ESS-43 (2-8)	1/2		
2	9-8-16	1030	G	S	ESS-44 (2-8)	1/2		
3	9-8-16	1100	G	S	ESS-45 (2-8)	1/2		
4	9-8-16	1130	C	S	COMP-7	1/2		

Analysis	Vol of Container	
	WGs (8260/5035)	SVOCs (8270D)
Pesticides (8081B)	X	X
Pest-Chlorine & Dieldr	X	X
Total PCB/822/3540	X	X
Metals/600c/7970A	X	X
Cyanide (9810)	X	X
SPLP Metals	X	X
SPLP Mercury	X	X

Reporting Limits - RI 6A Leach  
 Electronic Deliverables: Excel Access PDF  
 Matrix: S-Soil SP-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter  
 Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-\_\_\_\_\_  
 Sampled by: \_\_\_\_\_  
 Comments: Note limited Pesticide list for Comp-7

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA  
 Cooler Present  Yes  No  
 Seals Intact Yes  No NA:  I I Pickup  
 Cooler Temperature: 7.4 10E / 10E PAKS Technician \_\_\_\_\_  
 Relinquished by: (Signature, Date & Time) [Signature] 9/8/16 1600  
 Relinquished by: (Signature, Date & Time) \_\_\_\_\_ 9/8/16 1600

Received by: (Signature, Date & Time) \_\_\_\_\_  
 Relinquished by: (Signature, Date & Time) \_\_\_\_\_  
 Received by: (Signature, Date & Time) \_\_\_\_\_  
 Relinquished by: (Signature, Date & Time) \_\_\_\_\_

1609159  
 ESS Lab # 1609158 9/8/16 MS

Reporting Limits - RI 6A Leach  
 Electronic Deliverables: Excel Access PDF

Project # P312 Project Name Hope Hill  
 Address 100 Fifth Avenue PO # \_\_\_\_\_  
 State MA Zip \_\_\_\_\_  
 email: cparadis@essgroup.com

ESS Lab ID	Date	Collection Time	Grab-G Composite-C	Matrix	Sample ID	Pres Code	# of Containers	Type of Container
1	9-8-16	0945	G	S	ESS-43 (2-8)	1/2		
2	9-8-16	1030	G	S	ESS-44 (2-8)	1/2		
3	9-8-16	1100	G	S	ESS-45 (2-8)	1/2		
4	9-8-16	1130	C	S	COMP-7	1/2		

Reporting Limits - RI 6A Leach  
 Electronic Deliverables: Excel Access PDF

Analysis	Vol of Container	
	WGs (8260/5035)	SVOCs (8270D)
Pesticides (8081B)	X	X
Pest-Chlorine & Dieldr	X	X
Total PCB/822/3540	X	X
Metals/600c/7970A	X	X
Cyanide (9810)	X	X
SPLP Metals	X	X
SPLP Mercury	X	X

Reporting Limits - RI 6A Leach  
 Electronic Deliverables: Excel Access PDF  
 Matrix: S-Soil SP-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter  
 Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-\_\_\_\_\_  
 Sampled by: \_\_\_\_\_  
 Comments: Note limited Pesticide list for Comp-7

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA  
 Cooler Present  Yes  No  
 Seals Intact Yes  No NA:  I I Pickup  
 Cooler Temperature: 7.4 10E / 10E PAKS Technician \_\_\_\_\_  
 Relinquished by: (Signature, Date & Time) [Signature] 9/8/16 1600  
 Relinquished by: (Signature, Date & Time) \_\_\_\_\_ 9/8/16 1600

Received by: (Signature, Date & Time) \_\_\_\_\_  
 Relinquished by: (Signature, Date & Time) \_\_\_\_\_  
 Received by: (Signature, Date & Time) \_\_\_\_\_  
 Relinquished by: (Signature, Date & Time) \_\_\_\_\_

\* By circling MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VIIA  
 \*metals - Ba, Mn, V per Craig Paradis (hdm 9/27/16)  
 Please fax to the laboratory all changes to Chain of Custody  
 1 (White) Lab Copy  
 2 (Yellow) Client Receipt



**ESS Laboratory**

Division of Thielsch Engineering, Inc.

185 Frances Avenue, Cranston, RI 02910-2211

Tel. (401) 461-7181 Fax (401) 461-4486

www.esslaboratory.com

**CHAIN OF CUSTODY**

Turn Time \_\_\_\_\_ Standard \_\_\_\_\_ Other \_\_\_\_\_

Regulatory State: MA RI CT NH NJ NY ME Other \_\_\_\_\_

Is this project for any of the following: (please circle)

MA-MCP Navy USACE CT DEP Other \_\_\_\_\_

Co. Name ESS Group, Inc. Project Name Hope Hill

Contact Person Craig Paradis Address 100 Fifth Avenue

City Waltham State MA Zip \_\_\_\_\_

Tel. 781-419-7714 Fax 508 341 8103 (cell) email: cparadis@essgroup.com

ESS Lab ID \_\_\_\_\_ Date \_\_\_\_\_ Collection Time \_\_\_\_\_ Matrix \_\_\_\_\_ Sample ID \_\_\_\_\_ Pres Code \_\_\_\_\_ # of Containers \_\_\_\_\_ Type of Container \_\_\_\_\_

1 9-8-16 0945 G S ESS-43 (2-8) 1/2 \_\_\_\_\_ \_\_\_\_\_

2 9-8-16 1030 G S ESS-44 (2-8) 1/2 \_\_\_\_\_ \_\_\_\_\_

3 9-8-16 1100 G S ESS-45 (2-8) 1/2 \_\_\_\_\_ \_\_\_\_\_

4 9-8-16 1130 C S COMP-7 1/2 \_\_\_\_\_ \_\_\_\_\_

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA

Matrix: S-Soil SP-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present  Yes  No No NA:  Yes  No

Seals Intact Yes  No NA:  Yes  No

Cooler Temperature: 7.4 10E / 10E PAKS Technician \_\_\_\_\_

Relinquished by: (Signature, Date & Time) \_\_\_\_\_ 9/8/16 1600

Relinquished by: (Signature, Date & Time) \_\_\_\_\_ 9/8/16 1600

Relinquished by: (Signature, Date & Time) \_\_\_\_\_

ESS Lab # 1609158 9/8/16

Reporting Limits - RI GA Leach

Electronic Deliverables: Excel Access (PDF)

Analysis		Vol of Container	WGs/8260/5035	SVOCs (8270D)	Pesticides (801B)	Pest-Chlordane & Dieldrin	Total PCB/842/3540	Metals/600c/7470A	Cyanide (9810)	SPLP Metals	SPLP Mercury
1	ESS-43 (2-8)	1/2	X	X	X	X	X	X	X	X	X
2	ESS-44 (2-8)	1/2	X	X	X	X	X	X	X	X	X
3	ESS-45 (2-8)	1/2	X	X	X	X	X	X	X	X	X
4	COMP-7	1/2	X	X	X	X	X	X	X	X	X

1609159

at 9/8/16

at 9/8/16

at 9/8/16

at 9/8/16

at 9/8/16

at 9/8/16

at 9/8/16

at 9/8/16

at 9/8/16

at 9/8/16

at 9/8/16

Sampled by: \_\_\_\_\_  
 Comments: Note limited Pesticide list for Comp-7  
 Received by: (Signature, Date & Time)  
 Relinquished by: (Signature, Date & Time)

Received by: (Signature, Date & Time)

Received by: (Signature, Date & Time)

1 (White) Lab Copy  
 2 (Yellow) Client Receipt

Please fax to the laboratory all changes to Chain of Custody

\* By circling MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VIIA



*CERTIFICATE OF ANALYSIS*

Craig Paradis  
ESS Group, Inc. (MA)  
100 Fifth Avenue, 5th Floor  
Waltham, MA 02451

**RE: Hope Mill (P312)**  
**ESS Laboratory Work Order Number: 1609344**

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard  
Laboratory Director

**REVIEWED**

**By ESS Laboratory at 2:18 pm, Sep 22, 2016**

**Analytical Summary**

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with NELAC Standards, A2LA and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609344

**SAMPLE RECEIPT**

The following samples were received on September 15, 2016 for the analyses specified on the enclosed Chain of Custody Record.

**The cooler temperature was not within the acceptance limit of <6°C, however, samples were delivered on ice.**

**These samples were originally received on September 8, 2016 as ESS Laboratory Work Order Number 1609159.**

<u>Lab Number</u>	<u>Sample Name</u>	<u>Matrix</u>	<u>Analysis</u>
1609344-01	ESS-43 (2-8)	Soil	8100M
1609344-02	ESS-44 (2-8)	Soil	8100M
1609344-03	ESS-45 (2-8)	Soil	8100M
1609344-04	Comp-7	Soil	8100M



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609344

**PROJECT NARRATIVE**

**8100M Total Petroleum Hydrocarbons**

CZI0210-CCV3 Continuing Calibration %Diff/Drift is below control limit (CD-).  
Triacontane (C30) (24% @ 20%)

**No other observations noted.**

**End of Project Narrative.**

**DATA USABILITY LINKS**

- [Definitions of Quality Control Parameters](#)
- [Semivolatile Organics Internal Standard Information](#)
- [Semivolatile Organics Surrogate Information](#)
- [Volatile Organics Internal Standard Information](#)
- [Volatile Organics Surrogate Information](#)
- [EPH and VPH Alkane Lists](#)



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609344

**CURRENT SW-846 METHODOLOGY VERSIONS**

**Analytical Methods**

- 1010A - Flashpoint
- 6010C - ICP
- 6020A - ICP MS
- 7010 - Graphite Furnace
- 7196A - Hexavalent Chromium
- 7470A - Aqueous Mercury
- 7471B - Solid Mercury
- 8011 - EDB/DBCP/TCP
- 8015D - GRO/DRO
- 8081B - Pesticides
- 8082A - PCB
- 8100M - TPH
- 8151A - Herbicides
- 8260B - VOA
- 8270D - SVOA
- 8270D SIM - SVOA Low Level
- 9014 - Cyanide
- 9038 - Sulfate
- 9040C - Aqueous pH
- 9045D - Solid pH (Corrosivity)
- 9050A - Specific Conductance
- 9056A - Anions (IC)
- 9060A - TOC
- 9095B - Paint Filter
- MADEP 04-1.1 - EPH / VPH

**Prep Methods**

- 3005A - Aqueous ICP Digestion
- 3020A - Aqueous Graphite Furnace / ICP MS Digestion
- 3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
- 3060A - Solid Hexavalent Chromium Digestion
- 3510C - Separatory Funnel Extraction
- 3520C - Liquid / Liquid Extraction
- 3540C - Manual Soxhlet Extraction
- 3541 - Automated Soxhlet Extraction
- 3546 - Microwave Extraction
- 3580A - Waste Dilution
- 5030B - Aqueous Purge and Trap
- 5030C - Aqueous Purge and Trap
- 5035 - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-43 (2-8)  
Date Sampled: 09/08/16 09:45  
Percent Solids: 98  
Initial Volume: 19.3  
Final Volume: 1  
Extraction Method: 3546

ESS Laboratory Work Order: 1609344  
ESS Laboratory Sample ID: 1609344-01  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: DPS  
Prepared: 9/16/16 12:21

**8100M Total Petroleum Hydrocarbons**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Total Petroleum Hydrocarbons	ND (39.7)		8100M		1	09/17/16 0:19	CZI0210	CI61616
		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				
<i>Surrogate: O-Terphenyl</i>		81 %		40-140				



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-44 (2-8)  
Date Sampled: 09/08/16 10:30  
Percent Solids: 98  
Initial Volume: 19.4  
Final Volume: 1  
Extraction Method: 3546

ESS Laboratory Work Order: 1609344  
ESS Laboratory Sample ID: 1609344-02  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: DPS  
Prepared: 9/16/16 12:21

**8100M Total Petroleum Hydrocarbons**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Total Petroleum Hydrocarbons	ND (39.4)		8100M		1	09/17/16 0:59	CZI0210	CI61616
		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				
<i>Surrogate: O-Terphenyl</i>		<i>94 %</i>		<i>40-140</i>				



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-45 (2-8)  
Date Sampled: 09/08/16 11:00  
Percent Solids: 97  
Initial Volume: 20.8  
Final Volume: 1  
Extraction Method: 3546

ESS Laboratory Work Order: 1609344  
ESS Laboratory Sample ID: 1609344-03  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: DPS  
Prepared: 9/16/16 12:21

**8100M Total Petroleum Hydrocarbons**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Total Petroleum Hydrocarbons	ND (37.2)		8100M		1	09/17/16 1:39	CZI0210	CI61616
		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				
<i>Surrogate: O-Terphenyl</i>		86 %		40-140				





*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: Comp-7  
Date Sampled: 09/08/16 11:30  
Percent Solids: 92  
Initial Volume: 19.6  
Final Volume: 1  
Extraction Method: 3546

ESS Laboratory Work Order: 1609344  
ESS Laboratory Sample ID: 1609344-04  
Sample Matrix: Soil  
Units: mg/kg dry  
Analyst: DPS  
Prepared: 9/16/16 12:21

**8100M Total Petroleum Hydrocarbons**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Total Petroleum Hydrocarbons	ND (41.6)		8100M		1	09/17/16 2:19	CZI0210	CI61616
		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				
<i>Surrogate: O-Terphenyl</i>		88 %		40-140				



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609344

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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**8100M Total Petroleum Hydrocarbons**

**Batch CI61616 - 3546**

**Blank**

Decane (C10)	ND	0.2	mg/kg wet							
Docosane (C22)	ND	0.2	mg/kg wet							
Dodecane (C12)	ND	0.2	mg/kg wet							
Eicosane (C20)	ND	0.2	mg/kg wet							
Hexacosane (C26)	ND	0.2	mg/kg wet							
Hexadecane (C16)	ND	0.2	mg/kg wet							
Nonadecane (C19)	ND	0.2	mg/kg wet							
Nonane (C9)	ND	0.2	mg/kg wet							
Octacosane (C28)	ND	0.2	mg/kg wet							
Octadecane (C18)	ND	0.2	mg/kg wet							
Tetracosane (C24)	ND	0.2	mg/kg wet							
Tetradecane (C14)	ND	0.2	mg/kg wet							
Total Petroleum Hydrocarbons	ND	37.5	mg/kg wet							
Triacotane (C30)	ND	0.2	mg/kg wet							

<i>Surrogate: O-Terphenyl</i>	4.20		mg/kg wet	5.000		84	40-140			
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**LCS**

Decane (C10)	1.6	0.2	mg/kg wet	2.500		63	40-140			
Docosane (C22)	1.9	0.2	mg/kg wet	2.500		78	40-140			
Dodecane (C12)	1.7	0.2	mg/kg wet	2.500		68	40-140			
Eicosane (C20)	2.0	0.2	mg/kg wet	2.500		78	40-140			
Hexacosane (C26)	1.9	0.2	mg/kg wet	2.500		77	40-140			
Hexadecane (C16)	1.8	0.2	mg/kg wet	2.500		74	40-140			
Nonadecane (C19)	1.7	0.2	mg/kg wet	2.500		68	40-140			
Nonane (C9)	1.4	0.2	mg/kg wet	2.500		55	30-140			
Octacosane (C28)	2.0	0.2	mg/kg wet	2.500		79	40-140			
Octadecane (C18)	1.8	0.2	mg/kg wet	2.500		73	40-140			
Tetracosane (C24)	1.9	0.2	mg/kg wet	2.500		77	40-140			
Tetradecane (C14)	1.7	0.2	mg/kg wet	2.500		69	40-140			
Total Petroleum Hydrocarbons	25.7	37.5	mg/kg wet	35.00		74	40-140			
Triacotane (C30)	2.0	0.2	mg/kg wet	2.500		80	40-140			

<i>Surrogate: O-Terphenyl</i>	4.23		mg/kg wet	5.000		85	40-140			
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**LCS Dup**

Decane (C10)	1.8	0.2	mg/kg wet	2.500		71	40-140	11	25	
Docosane (C22)	2.0	0.2	mg/kg wet	2.500		79	40-140	0.8	25	
Dodecane (C12)	1.9	0.2	mg/kg wet	2.500		75	40-140	10	25	
Eicosane (C20)	2.0	0.2	mg/kg wet	2.500		80	40-140	2	25	
Hexacosane (C26)	2.0	0.2	mg/kg wet	2.500		78	40-140	1	25	
Hexadecane (C16)	2.0	0.2	mg/kg wet	2.500		79	40-140	7	25	
Nonadecane (C19)	1.8	0.2	mg/kg wet	2.500		71	40-140	5	25	
Nonane (C9)	1.5	0.2	mg/kg wet	2.500		62	30-140	12	25	
Octacosane (C28)	2.0	0.2	mg/kg wet	2.500		80	40-140	1	25	
Octadecane (C18)	1.9	0.2	mg/kg wet	2.500		77	40-140	6	25	



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609344

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
<b>8100M Total Petroleum Hydrocarbons</b>										
<b>Batch C161616 - 3546</b>										
Tetracosane (C24)	1.9	0.2	mg/kg wet	2.500		78	40-140	0.9	25	
Tetradecane (C14)	1.8	0.2	mg/kg wet	2.500		73	40-140	5	25	
Total Petroleum Hydrocarbons	26.9	37.5	mg/kg wet	35.00		77	40-140	4	25	
Triacotane (C30)	2.0	0.2	mg/kg wet	2.500		81	40-140	1	25	
<i>Surrogate: O-Terphenyl</i>	<i>4.31</i>		mg/kg wet	<i>5.000</i>		<i>86</i>	<i>40-140</i>			



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)

Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609344

**Notes and Definitions**

- U Analyte included in the analysis, but not detected
- CD- Continuing Calibration %Diff/Drift is below control limit (CD-).
- ND Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- MDL Method Detection Limit
- MRL Method Reporting Limit
- LOD Limit of Detection
- LOQ Limit of Quantitation
- DL Detection Limit
- I/V Initial Volume
- F/V Final Volume
- § Subcontracted analysis; see attached report
- 1 Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
- 2 Range result excludes concentrations of target analytes eluting in that range.
- 3 Range result excludes the concentration of the C9-C10 aromatic range.
- Avg Results reported as a mathematical average.
- NR No Recovery
- [CALC] Calculated Analyte
- SUB Subcontracted analysis; see attached report



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609344

**ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS**

**ENVIRONMENTAL**

Rhode Island Potable and Non Potable Water: LAI00179

<http://www.health.ri.gov/find/labs/analytical/ESS.pdf>

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750

[http://www.ct.gov/dph/lib/dph/environmental\\_health/environmental\\_laboratories/pdf/OutOfStateCommercialLaboratories.pdf](http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutOfStateCommercialLaboratories.pdf)

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002

<http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/documents/AllLabs.xls>

Massachusetts Potable and Non Potable Water: M-RI002

<http://public.dep.state.ma.us/Labcert/Labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424

<http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm>

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313

<http://www.wadsworth.org/labcert/elap/comm.html>

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006

[http://datamine2.state.nj.us/DEP\\_OPRA/OpraMain/pi\\_main?mode=pi\\_by\\_site&sort\\_order=PI\\_NAMEA&Select+a+Site:=58715](http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715)

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752

[http://www.depweb.state.pa.us/portal/server.pt/community/labs/13780/laboratory\\_accreditation\\_program/590095](http://www.depweb.state.pa.us/portal/server.pt/community/labs/13780/laboratory_accreditation_program/590095)

**Relog**  
**ESS Laboratory**

HDM 9-15-16

**CHAIN OF CUSTODY**

Division of Thielsch Engineering, Inc.  
 185 Frances Avenue, Cranston, RI 02910-2211  
 Tel. (401) 461-7181 Fax (401) 461-4486  
 www.esslaboratory.com

Turn Time: Standard Other  
 Regulatory State: MA RI CT NH NJ NY ME Other  
 Is this project for any of the following: (please circle)  
 MA-MCP Navy USACE CT DEP Other

Project # P312 Project Name Hope Hill  
 Address 100 Fifth Avenue PO #  
 City Waltham State MA email: cparedis@essgroup.com

ESS Lab ID	Date	Collection Time	Grab-G Composite-C	Matrix	Sample ID	Pres Code	# of Containers	Type of Container
1	9-8-16	0945	G	S	ESS-43 (2-8)	1/2		
2	9-8-16	1030	G	S	ESS-44 (2-8)	1/2		
3	9-8-16	1100	G	S	ESS-45 (2-8)	1/2		
4	9-8-16	1130	C	S	COMP-7	1/2		

Analysis	Vol of Container
WCS/260/5035	X
SVOCs (2019)	X
Pesticides (2019)	X
Rest. (Aerobic & Anaerobic)	X
Total PCBs/260/5035	X
Metals (6092/7170)	X
Cyanide (9010)	X
SPEC Metals	X
SPEC Mercury	X
TCEP	X

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile VAVO  
 Matrix: S-Soil SS-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter  
 Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Ascorbic Acid, 8-ZnAct, 9-

Cooler Present  Yes  No  
 Seals Intact Yes  No  NA: X  
 Cooler Temperature: 7.4 ICE / ICE PACKS Technician 11  
 Received by: (Signature, Date & Time) 9/8/16 1600  
 Relinquished by: (Signature, Date & Time) 9/8/16 1600  
 Comments: Note limited Pesticide list for Lab 27

1609344  
 1609159 9/15/16 AB  
 1609158 9/16/16 AB

Reporting Limits: RI 6A Leach  
 Electronic Deliverables: Excel Access (PDF)

Received by: (Signature, Date & Time)  
 Received by: (Signature, Date & Time)

1 (White) Lab Copy  
 2 (Yellow) Client Receipt

Please fax to the laboratory all changes to Chain of Custody

\* By circling MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VIII



*CERTIFICATE OF ANALYSIS*

Craig Paradis  
ESS Group, Inc. (MA)  
100 Fifth Avenue, 5th Floor  
Waltham, MA 02451

**RE: Hope Mill (P312)**  
**ESS Laboratory Work Order Number: 1609532**

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard  
Laboratory Director

**REVIEWED**

*By ESS Laboratory at 2:55 pm, Sep 30, 2016*

**Analytical Summary**

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with NELAC Standards, A2LA and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609532

**SAMPLE RECEIPT**

The following samples were received on September 23, 2016 for the analyses specified on the enclosed Chain of Custody Record.

**The cooler temperature was not within the acceptance limit of <6°C, however, samples were delivered on ice.**

**Sample 1609532-01 was originally received on September 8, 2016 as ESS Laboratory Sample ID 1609159-04. Samples 1609532-02 through 1609532-11 were originally received on September 7, 2016 at ESS Laboratory Sample IDs 1609117-02 through 1609117-08, 1609117-10, 1609117-11 and 1609117-13.**

<b>Lab Number</b>	<b>Sample Name</b>	<b>Matrix</b>	<b>Analysis</b>
1609532-01	COMP-7	Soil	1312, 1312/6010C
1609532-02	ESS-31 (3-8)	Soil	1312, 1312/6010C
1609532-03	ESS-32 (3-8)	Soil	1312, 1312/6010C
1609532-04	ESS-33 (3-8)	Soil	1312, 1312/6010C
1609532-05	ESS-34 (3-8)	Soil	1312, 1312/6010C
1609532-06	ESS-35 (3-8)	Soil	1312, 1312/6010C
1609532-07	COMP-1	Soil	1312, 1312/6010C
1609532-08	COMP-2	Soil	1312, 1312/6010C
1609532-09	ESS-36 (3-8)	Soil	1312, 1312/6010C
1609532-10	ESS-38 (3-8)	Soil	1312, 1312/6010C
1609532-11	COMP-3	Soil	1312, 1312/6010C





*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609532

**PROJECT NARRATIVE**

**No unusual observations noted.**

**End of Project Narrative.**

**DATA USABILITY LINKS**

[Definitions of Quality Control Parameters](#)

[Semivolatile Organics Internal Standard Information](#)

[Semivolatile Organics Surrogate Information](#)

[Volatile Organics Internal Standard Information](#)

[Volatile Organics Surrogate Information](#)

[EPH and VPH Alkane Lists](#)



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609532

**CURRENT SW-846 METHODOLOGY VERSIONS**

**Analytical Methods**

- 1010A - Flashpoint
- 6010C - ICP
- 6020A - ICP MS
- 7010 - Graphite Furnace
- 7196A - Hexavalent Chromium
- 7470A - Aqueous Mercury
- 7471B - Solid Mercury
- 8011 - EDB/DBCP/TCP
- 8015D - GRO/DRO
- 8081B - Pesticides
- 8082A - PCB
- 8100M - TPH
- 8151A - Herbicides
- 8260B - VOA
- 8270D - SVOA
- 8270D SIM - SVOA Low Level
- 9014 - Cyanide
- 9038 - Sulfate
- 9040C - Aqueous pH
- 9045D - Solid pH (Corrosivity)
- 9050A - Specific Conductance
- 9056A - Anions (IC)
- 9060A - TOC
- 9095B - Paint Filter
- MADEP 04-1.1 - EPH / VPH

**Prep Methods**

- 3005A - Aqueous ICP Digestion
- 3020A - Aqueous Graphite Furnace / ICP MS Digestion
- 3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
- 3060A - Solid Hexavalent Chromium Digestion
- 3510C - Separatory Funnel Extraction
- 3520C - Liquid / Liquid Extraction
- 3540C - Manual Soxhlet Extraction
- 3541 - Automated Soxhlet Extraction
- 3546 - Microwave Extraction
- 3580A - Waste Dilution
- 5030B - Aqueous Purge and Trap
- 5030C - Aqueous Purge and Trap
- 5035 - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: COMP-7  
Date Sampled: 09/08/16 11:30  
Percent Solids: N/A

ESS Laboratory Work Order: 1609532  
ESS Laboratory Sample ID: 1609532-01  
Sample Matrix: Soil  
Units: mg/L

Extraction Method: 3005A SPLP

**1312 SPLP Metals**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Lead	ND (0.010)		1312/6010C		1	NAR	09/30/16 9:57	50	25	CI62818



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: COMP-7  
Date Sampled: 09/08/16 11:30  
Percent Solids: N/A  
Initial Volume: 100  
Final Volume: 2000  
Extraction Method: 1312

ESS Laboratory Work Order: 1609532  
ESS Laboratory Sample ID: 1609532-01  
Sample Matrix: Soil  
Units: °C  
Analyst: LAB  
Prepared: 9/27/16 16:30

**SPLP Extraction by 1312**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Batch</u>
Temperature (Min C)	20.8 (N/A)		1312		1	LAB	09/28/16 8:38	CI62731
Temperature (Max C)	22.2 (N/A)		1312		1	LAB	09/28/16 8:38	CI62731
Temperature (Range)	Temperature is not within 23 +/-2 °C. (N/A)							



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-31 (3-8)  
Date Sampled: 09/07/16 10:20  
Percent Solids: N/A

ESS Laboratory Work Order: 1609532  
ESS Laboratory Sample ID: 1609532-02  
Sample Matrix: Soil  
Units: mg/L

Extraction Method: 3005A SPLP

**1312 SPLP Metals**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Lead	0.055 (0.010)		1312/6010C		1	KJK	09/20/16 19:02	50	25	CI61904



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-31 (3-8)  
Date Sampled: 09/07/16 10:20  
Percent Solids: N/A  
Initial Volume: 100  
Final Volume: 2000  
Extraction Method: 1312

ESS Laboratory Work Order: 1609532  
ESS Laboratory Sample ID: 1609532-02  
Sample Matrix: Soil  
Units: °C  
Analyst: BJV  
Prepared: 9/15/16 21:00

**SPLP Extraction by 1312**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Batch</u>
Temperature (Min C)	21.1 (N/A)		1312		1	BJV	09/16/16 14:03	CI61544
Temperature (Max C)	21.4 (N/A)		1312		1	BJV	09/16/16 14:03	CI61544
Temperature (Range)	Temperature is within 23 +/-2 °C. (N/A)							



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-32 (3-8)  
Date Sampled: 09/07/16 10:00  
Percent Solids: N/A

ESS Laboratory Work Order: 1609532  
ESS Laboratory Sample ID: 1609532-03  
Sample Matrix: Soil  
Units: mg/L

Extraction Method: 3005A SPLP

**1312 SPLP Metals**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Lead	ND (0.010)		1312/6010C		1	KJK	09/20/16 19:20	50	25	CI61904



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-32 (3-8)  
Date Sampled: 09/07/16 10:00  
Percent Solids: N/A  
Initial Volume: 100  
Final Volume: 2000  
Extraction Method: 1312

ESS Laboratory Work Order: 1609532  
ESS Laboratory Sample ID: 1609532-03  
Sample Matrix: Soil  
Units: °C  
Analyst: BJV  
Prepared: 9/15/16 21:00

**SPLP Extraction by 1312**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Batch</u>
Temperature (Min C)	21.1 (N/A)		1312		1	BJV	09/16/16 14:03	CI61544
Temperature (Max C)	21.4 (N/A)		1312		1	BJV	09/16/16 14:03	CI61544
Temperature (Range)	Temperature is within 23 +/-2 °C. (N/A)							





*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-33 (3-8)  
Date Sampled: 09/07/16 11:00  
Percent Solids: N/A

ESS Laboratory Work Order: 1609532  
ESS Laboratory Sample ID: 1609532-04  
Sample Matrix: Soil  
Units: mg/L

Extraction Method: 3005A SPLP

**1312 SPLP Metals**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Beryllium	ND (0.0005)		1312/6010C		1	KJK	09/20/16 19:24	50	25	CI61904



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-33 (3-8)  
Date Sampled: 09/07/16 11:00  
Percent Solids: N/A  
Initial Volume: 100  
Final Volume: 2000  
Extraction Method: 1312

ESS Laboratory Work Order: 1609532  
ESS Laboratory Sample ID: 1609532-04  
Sample Matrix: Soil  
Units: °C  
Analyst: BJV  
Prepared: 9/15/16 21:00

**SPLP Extraction by 1312**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Batch</u>
Temperature (Min C)	21.1 (N/A)		1312		1	BJV	09/16/16 14:03	CI61544
Temperature (Max C)	21.4 (N/A)		1312		1	BJV	09/16/16 14:03	CI61544
Temperature (Range)	Temperature is within 23 +/-2 °C. (N/A)							



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-34 (3-8)  
Date Sampled: 09/07/16 12:00  
Percent Solids: N/A

ESS Laboratory Work Order: 1609532  
ESS Laboratory Sample ID: 1609532-05  
Sample Matrix: Soil  
Units: mg/L

Extraction Method: 3005A SPLP

**1312 SPLP Metals**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Lead	ND (0.010)		1312/6010C		1	KJK	09/20/16 19:28	50	25	CI61904
Nickel	ND (0.025)		1312/6010C		1	KJK	09/20/16 19:28	50	25	CI61904



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-34 (3-8)  
Date Sampled: 09/07/16 12:00  
Percent Solids: N/A  
Initial Volume: 100  
Final Volume: 2000  
Extraction Method: 1312

ESS Laboratory Work Order: 1609532  
ESS Laboratory Sample ID: 1609532-05  
Sample Matrix: Soil  
Units: °C  
Analyst: BJV  
Prepared: 9/15/16 21:00

**SPLP Extraction by 1312**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Batch</u>
Temperature (Min C)	21.1 (N/A)		1312		1	BJV	09/16/16 14:03	CI61544
Temperature (Max C)	21.4 (N/A)		1312		1	BJV	09/16/16 14:03	CI61544
Temperature (Range)	Temperature is within 23 +/-2 °C. (N/A)							



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-35 (3-8)  
Date Sampled: 09/07/16 12:20  
Percent Solids: N/A

ESS Laboratory Work Order: 1609532  
ESS Laboratory Sample ID: 1609532-06  
Sample Matrix: Soil  
Units: mg/L

Extraction Method: 3005A SPLP

**1312 SPLP Metals**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Lead	ND (0.010)		1312/6010C		1	KJK	09/20/16 19:33	50	25	CI61904



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-35 (3-8)  
Date Sampled: 09/07/16 12:20  
Percent Solids: N/A  
Initial Volume: 100  
Final Volume: 2000  
Extraction Method: 1312

ESS Laboratory Work Order: 1609532  
ESS Laboratory Sample ID: 1609532-06  
Sample Matrix: Soil  
Units: °C  
Analyst: BJV  
Prepared: 9/15/16 21:00

**SPLP Extraction by 1312**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Batch</u>
Temperature (Min C)	21.1 (N/A)		1312		1	BJV	09/16/16 14:03	CI61544
Temperature (Max C)	21.4 (N/A)		1312		1	BJV	09/16/16 14:03	CI61544
Temperature (Range)	Temperature is within 23 +/-2 °C. (N/A)							



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: COMP-1  
Date Sampled: 09/07/16 10:30  
Percent Solids: N/A

ESS Laboratory Work Order: 1609532  
ESS Laboratory Sample ID: 1609532-07  
Sample Matrix: Soil  
Units: mg/L

Extraction Method: 3005A SPLP

**1312 SPLP Metals**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Lead	0.076 (0.010)		1312/6010C		1	KJK	09/20/16 19:37	50	25	CI61904



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: COMP-1  
Date Sampled: 09/07/16 10:30  
Percent Solids: N/A  
Initial Volume: 100  
Final Volume: 2000  
Extraction Method: 1312

ESS Laboratory Work Order: 1609532  
ESS Laboratory Sample ID: 1609532-07  
Sample Matrix: Soil  
Units: °C  
Analyst: BJV  
Prepared: 9/15/16 21:00

**SPLP Extraction by 1312**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Batch</u>
Temperature (Min C)	21.1 (N/A)		1312		1	BJV	09/16/16 14:03	CI61544
Temperature (Max C)	21.4 (N/A)		1312		1	BJV	09/16/16 14:03	CI61544
Temperature (Range)	Temperature is within 23 +/-2 °C. (N/A)							





*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: COMP-2  
Date Sampled: 09/07/16 12:30  
Percent Solids: N/A

ESS Laboratory Work Order: 1609532  
ESS Laboratory Sample ID: 1609532-08  
Sample Matrix: Soil  
Units: mg/L

Extraction Method: 3005A SPLP

**1312 SPLP Metals**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Lead	0.019 (0.010)		1312/6010C		1	KJK	09/20/16 19:41	50	25	CI61904



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: COMP-2  
Date Sampled: 09/07/16 12:30  
Percent Solids: N/A  
Initial Volume: 100  
Final Volume: 2000  
Extraction Method: 1312

ESS Laboratory Work Order: 1609532  
ESS Laboratory Sample ID: 1609532-08  
Sample Matrix: Soil  
Units: °C  
Analyst: BJV  
Prepared: 9/15/16 21:00

**SPLP Extraction by 1312**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Batch</u>
Temperature (Min C)	21.1 (N/A)		1312		1	BJV	09/16/16 14:03	CI61544
Temperature (Max C)	21.4 (N/A)		1312		1	BJV	09/16/16 14:03	CI61544
Temperature (Range)	Temperature is within 23 +/-2 °C. (N/A)							



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-36 (3-8)  
Date Sampled: 09/07/16 14:00  
Percent Solids: N/A

ESS Laboratory Work Order: 1609532  
ESS Laboratory Sample ID: 1609532-09  
Sample Matrix: Soil  
Units: mg/L

Extraction Method: 3005A SPLP

**1312 SPLP Metals**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Beryllium	ND (0.0005)		1312/6010C		1	KJK	09/20/16 20:24	50	25	CI61904



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-36 (3-8)  
Date Sampled: 09/07/16 14:00  
Percent Solids: N/A  
Initial Volume: 100  
Final Volume: 2000  
Extraction Method: 1312

ESS Laboratory Work Order: 1609532  
ESS Laboratory Sample ID: 1609532-09  
Sample Matrix: Soil  
Units: °C  
Analyst: BJV  
Prepared: 9/15/16 21:00

**SPLP Extraction by 1312**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Batch</u>
Temperature (Min C)	21.1 (N/A)		1312		1	BJV	09/16/16 14:03	CI61544
Temperature (Max C)	21.4 (N/A)		1312		1	BJV	09/16/16 14:03	CI61544
Temperature (Range)	Temperature is within 23 +/-2 °C. (N/A)							



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-38 (3-8)  
Date Sampled: 09/07/16 13:30  
Percent Solids: N/A

ESS Laboratory Work Order: 1609532  
ESS Laboratory Sample ID: 1609532-10  
Sample Matrix: Soil  
Units: mg/L

Extraction Method: 3005A SPLP

**1312 SPLP Metals**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Beryllium	ND (0.0005)		1312/6010C		1	KJK	09/20/16 20:28	50	25	CI61904
Lead	ND (0.010)		1312/6010C		1	KJK	09/20/16 20:28	50	25	CI61904



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: ESS-38 (3-8)  
Date Sampled: 09/07/16 13:30  
Percent Solids: N/A  
Initial Volume: 100  
Final Volume: 2000  
Extraction Method: 1312

ESS Laboratory Work Order: 1609532  
ESS Laboratory Sample ID: 1609532-10  
Sample Matrix: Soil  
Units: °C  
Analyst: BJV  
Prepared: 9/15/16 21:00

**SPLP Extraction by 1312**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Batch</u>
Temperature (Min C)	21.1 (N/A)		1312		1	BJV	09/16/16 14:03	CI61544
Temperature (Max C)	21.4 (N/A)		1312		1	BJV	09/16/16 14:03	CI61544
Temperature (Range)	Temperature is within 23 +/-2 °C. (N/A)							



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: COMP-3  
Date Sampled: 09/07/16 14:45  
Percent Solids: N/A

ESS Laboratory Work Order: 1609532  
ESS Laboratory Sample ID: 1609532-11  
Sample Matrix: Soil  
Units: mg/L

Extraction Method: 3005A SPLP

**1312 SPLP Metals**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Lead	ND (0.010)		1312/6010C		1	KJK	09/20/16 20:53	50	25	CI61904



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill  
Client Sample ID: COMP-3  
Date Sampled: 09/07/16 14:45  
Percent Solids: N/A  
Initial Volume: 100  
Final Volume: 2000  
Extraction Method: 1312

ESS Laboratory Work Order: 1609532  
ESS Laboratory Sample ID: 1609532-11  
Sample Matrix: Soil  
Units: °C  
Analyst: BJV  
Prepared: 9/15/16 21:00

**SPLP Extraction by 1312**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Batch</u>
Temperature (Min C)	21.1 (N/A)		1312		1	BJV	09/16/16 14:03	CI61544
Temperature (Max C)	21.4 (N/A)		1312		1	BJV	09/16/16 14:03	CI61544
Temperature (Range)	Temperature is within 23 +/-2 °C. (N/A)							





*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)

Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609532

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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1312 SPLP Metals

**Batch CI61904 - 3005A\_SPLP**

**Blank**

Beryllium	ND	0.0005	mg/L							
Lead	ND	0.010	mg/L							
Nickel	ND	0.025	mg/L							

**LCS**

Beryllium	0.0248	0.0005	mg/L	0.02500		99	80-120			
Lead	0.255	0.010	mg/L	0.2500		102	80-120			
Nickel	0.263	0.025	mg/L	0.2500		105	80-120			

**LCS Dup**

Beryllium	0.0248	0.0005	mg/L	0.02500		99	80-120	0.3	20	
Lead	0.257	0.010	mg/L	0.2500		103	80-120	0.7	20	
Nickel	0.260	0.025	mg/L	0.2500		104	80-120	0.8	20	

**Batch CI62818 - 3005A\_SPLP**

**Blank**

Lead	ND	2.50	mg/L							
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**LCS**

Lead	0.262	2.50	mg/L	0.2500		105	80-120			
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**LCS Dup**

Lead	0.263	2.50	mg/L	0.2500		105	80-120	0.4	20	
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*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)

Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609532

**Notes and Definitions**

- Z18      Temperature is not within 23 +/-2 °C.
- Z17      Temperature is within 23 +/-2 °C.
- U         Analyte included in the analysis, but not detected
- ND       Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
- dry       Sample results reported on a dry weight basis
- RPD      Relative Percent Difference
- MDL      Method Detection Limit
- MRL      Method Reporting Limit
- LOD      Limit of Detection
- LOQ      Limit of Quantitation
- DL       Detection Limit
- I/V       Initial Volume
- F/V       Final Volume
- §         Subcontracted analysis; see attached report
- 1         Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
- 2         Range result excludes concentrations of target analytes eluting in that range.
- 3         Range result excludes the concentration of the C9-C10 aromatic range.
- Avg       Results reported as a mathematical average.
- NR       No Recovery
- [CALC]   Calculated Analyte
- SUB      Subcontracted analysis; see attached report



*CERTIFICATE OF ANALYSIS*

Client Name: ESS Group, Inc. (MA)  
Client Project ID: Hope Mill

ESS Laboratory Work Order: 1609532

**ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS**

**ENVIRONMENTAL**

Rhode Island Potable and Non Potable Water: LAI00179

<http://www.health.ri.gov/find/labs/analytical/ESS.pdf>

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750

[http://www.ct.gov/dph/lib/dph/environmental\\_health/environmental\\_laboratories/pdf/OutOfStateCommercialLaboratories.pdf](http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutOfStateCommercialLaboratories.pdf)

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002

<http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/documents/AllLabs.xls>

Massachusetts Potable and Non Potable Water: M-RI002

<http://public.dep.state.ma.us/Labcert/Labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424

<http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm>

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313

<http://www.wadsworth.org/labcert/elap/comm.html>

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006

[http://datamine2.state.nj.us/DEP\\_OPRA/OpraMain/pi\\_main?mode=pi\\_by\\_site&sort\\_order=PI\\_NAMEA&Select+a+Site:=58715](http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715)

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752

[http://www.depweb.state.pa.us/portal/server.pt/community/labs/13780/laboratory\\_accreditation\\_program/590095](http://www.depweb.state.pa.us/portal/server.pt/community/labs/13780/laboratory_accreditation_program/590095)

Relog HDM 9-23-16  
 ESS Laboratory

Division of Thielsch Engineering, Inc.  
 185 Frances Avenue, Cranston, RI 02910-2211  
 Tel. (401) 461-7181 Fax (401) 461-4486  
 www.esslaboratory.com

Co. Name: **ESS Group, Inc.**  
 Contact Person: **Craig Paradis**  
 City: **Waltham**

Tel. **781-419-7714**

State: **MA**

Fax: **508-371-8103 (cell)**

email: **cparadis@essgroup.com**

CHAIN OF CUSTODY

Turn Time: Standard Other  
 Regulatory State: MA RI CT NH NJ NY ME Other  
 MA-MCP Navy USACE CT DEP Other

Project Name: **Hope Mill**  
 Address: **100 Fifth Avenue**  
 Zip: \_\_\_\_\_

PO # \_\_\_\_\_

Reporting Limits: **RI 6A Leach**

Electronic Deliverables (Ecol) Access (PDF)

Analysis	Vol of Container
WCS/260/3035	X
SVCS (200)	X
Pesticides (80818)	X
Metals (608/1170)	X
Metals (608/1170)	X
Total PCBs (302/350)	X
SVCS Metals	X
SVCS Mercury	X

ESS Lab ID	Date	Collection Time	Grab-G Composite-C	Matrix	Sample ID	Pres Code	# of Containers	Type of Container
1	9-8-16	0945	G	S	ESS-13 (2-8)	1/2		
2	9-8-16	1030	G	S	ESS-44 (2-8)	1/2		
3	9-8-16	1100	G	S	ESS-45 (2-8)	1/2		
4	9-8-16	1130	C	S	COMP-7	1/2		

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA  
 Matrix: S-Soil SP-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present: Yes  No  Internal Use Only

Seals Intact: Yes  No NA:  I I Pickup

Cooler Temperature: **7.4 ICE / 100 PA-45** Technician: \_\_\_\_\_

Received by: (Signature, Date & Time) **9/8/16 1600**

Relinquished by: (Signature, Date & Time) **9/8/16 1600**

Comments: **Note limited Pesticide list for comp 7**

Received by: (Signature, Date & Time)

Relinquished by: (Signature, Date & Time)

Please fax to the laboratory all changes to Chain of Custody

1 (White) Lab Copy

2 (Yellow) Client Receipt

\* By citing MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VTA

# ESS Laboratory

Division of Thielsch Engineering, Inc.

185 Frances Avenue, Cranston, RI 02910-2211  
 Tel. (401) 461-7181 Fax (401) 461-4486  
 www.esslaboratory.com

Co. Name: **ESS Group, Inc.**

Contact Person: **Craig Paradis**

City: **Waltham MA**

Tel: **781-419-7714**

State: **MA**

Matrix: **S**

Sample ID: **ESS-30 (3-8)**

Pres Code: **1/2**

Type of Container: **1/2**

Vol of Container: **1/2**

Analysis: **VOCs (8260/5055)**

Electronically Deliverable (Excel) Access: **Yes**

Reporting Limits: **RIDE MGA**

ESS Lab # **7609117**

Project Name: **Hopa Mill**

Address: **100 5th Avenue**

Zip: **01980**

PO #

email: **cparis@essgroup.com**

ESS Lab ID: **1**

Date: **9-7-16**

Collection Time: **0930**

Grab-G Composite-C: **G**

Matrix: **S**

Sample ID: **ESS-31 (3-8)**

Pres Code: **1/2**

Type of Container: **1/2**

Vol of Container: **1/2**

Analysis: **VOCs (8260/5055)**

Electronically Deliverable (Excel) Access: **Yes**

Reporting Limits: **RIDE MGA**

ESS Lab # **7609117**

Project Name: **Hopa Mill**

Address: **100 5th Avenue**

Zip: **01980**

PO #

email: **cparis@essgroup.com**

ESS Lab ID: **2**

Date: **9-7-16**

Collection Time: **1020**

Grab-G Composite-C: **G**

Matrix: **S**

Sample ID: **ESS-32 (3-8)**

Pres Code: **1/2**

Type of Container: **1/2**

Vol of Container: **1/2**

Analysis: **VOCs (8260/5055)**

Electronically Deliverable (Excel) Access: **Yes**

Reporting Limits: **RIDE MGA**

ESS Lab # **7609117**

Project Name: **Hopa Mill**

Address: **100 5th Avenue**

Zip: **01980**

PO #

email: **cparis@essgroup.com**

ESS Lab ID: **3**

Date: **9-7-16**

Collection Time: **1000**

Grab-G Composite-C: **G**

Matrix: **S**

Sample ID: **ESS-33 (3-8)**

Pres Code: **1/2**

Type of Container: **1/2**

Vol of Container: **1/2**

Analysis: **VOCs (8260/5055)**

Electronically Deliverable (Excel) Access: **Yes**

Reporting Limits: **RIDE MGA**

ESS Lab # **7609117**

Project Name: **Hopa Mill**

Address: **100 5th Avenue**

Zip: **01980**

PO #

email: **cparis@essgroup.com**

ESS Lab ID: **4**

Date: **9-7-16**

Collection Time: **1100**

Grab-G Composite-C: **G**

Matrix: **S**

Sample ID: **ESS-34 (3-8)**

Pres Code: **1/2**

Type of Container: **1/2**

Vol of Container: **1/2**

Analysis: **VOCs (8260/5055)**

Electronically Deliverable (Excel) Access: **Yes**

Reporting Limits: **RIDE MGA**

ESS Lab # **7609117**

Project Name: **Hopa Mill**

Address: **100 5th Avenue**

Zip: **01980**

PO #

email: **cparis@essgroup.com**

ESS Lab ID: **5**

Date: **9-7-16**

Collection Time: **1200**

Grab-G Composite-C: **G**

Matrix: **S**

Sample ID: **ESS-35 (3-8)**

Pres Code: **1/2**

Type of Container: **1/2**

Vol of Container: **1/2**

Analysis: **VOCs (8260/5055)**

Electronically Deliverable (Excel) Access: **Yes**

Reporting Limits: **RIDE MGA**

ESS Lab # **7609117**

Project Name: **Hopa Mill**

Address: **100 5th Avenue**

Zip: **01980**

PO #

email: **cparis@essgroup.com**

ESS Lab ID: **6**

Date: **9-7-16**

Collection Time: **1220**

Grab-G Composite-C: **G**

Matrix: **S**

Sample ID: **ESS-36 (3-8)**

Pres Code: **1/2**

Type of Container: **1/2**

Vol of Container: **1/2**

Analysis: **VOCs (8260/5055)**

Electronically Deliverable (Excel) Access: **Yes**

Reporting Limits: **RIDE MGA**

ESS Lab # **7609117**

Project Name: **Hopa Mill**

Address: **100 5th Avenue**

Zip: **01980**

PO #

email: **cparis@essgroup.com**

ESS Lab ID: **7**

Date: **9-7-16**

Collection Time: **1030**

Grab-G Composite-C: **C**

Matrix: **S**

Sample ID: **COMP-1**

Pres Code: **1/2**

Type of Container: **1/2**

Vol of Container: **1/2**

Analysis: **VOCs (8260/5055)**

Electronically Deliverable (Excel) Access: **Yes**

Reporting Limits: **RIDE MGA**

ESS Lab # **7609117**

Project Name: **Hopa Mill**

Address: **100 5th Avenue**

Zip: **01980**

PO #

email: **cparis@essgroup.com**

ESS Lab ID: **8**

Date: **9-7-16**

Collection Time: **1230**

Grab-G Composite-C: **C**

Matrix: **S**

Sample ID: **COMP-2**

Pres Code: **1/2**

Type of Container: **1/2**

Vol of Container: **1/2**

Analysis: **VOCs (8260/5055)**

Electronically Deliverable (Excel) Access: **Yes**

Reporting Limits: **RIDE MGA**

ESS Lab # **7609117**

Project Name: **Hopa Mill**

Address: **100 5th Avenue**

Zip: **01980**

PO #

email: **cparis@essgroup.com**

ESS Lab ID: **9**

Date: **9-7-16**

Collection Time: **1240**

Grab-G Composite-C: **G**

Matrix: **S**

Sample ID: **ESS-47 (8.5)**

Pres Code: **1**

Type of Container: **1**

Vol of Container: **1**

Analysis: **VOCs (8260/5055)**

Electronically Deliverable (Excel) Access: **Yes**

Reporting Limits: **RIDE MGA**

ESS Lab # **7609117**

Project Name: **Hopa Mill**

Address: **100 5th Avenue**

Zip: **01980**

PO #

email: **cparis@essgroup.com**

Container Type: **P-Poly G-Glass AG-Amber Glass S-Steels VA/OA**

Cooler Present: **Yes**

Seals Intact: **Yes**

Cooler Temperature: **7.1°C**

Received by: **[Signature]**

Date: **9-7-16**

Time: **1535**

Received by: **[Signature]**

Date: **9-7-16**

Time: **1535**

Received by: **[Signature]**

Date: **9-7-16**

Time: **1535**

Received by: **[Signature]**

Date: **9-7-16**

Time: **1535**

Received by: **[Signature]**

Date: **9-7-16**

Time: **1535**

Received by: **[Signature]**

Date: **9-7-16**

Time: **1535**

Received by: **[Signature]**

Date: **9-7-16**

Time: **1535**

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Date: **9-7-16**

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Received by: **[Signature]**

Date: **9-7-16**

Time: **1535**

Received by: **[Signature]**

Date: **9-7-16**

Time: **1535**

Received by: **[Signature]**

Date: **9-7-16**

Time: **1535**



April 10, 2020

Craig Paradis  
ESS Group Inc.  
404 Wyman St. Suite 375  
Waltham, MA 02451

Project Location: Scituate, RI  
Client Job Number:  
Project Number: P312-007  
Laboratory Work Order Number: 20D0148

Enclosed are results of analyses for samples received by the laboratory on April 3, 2020. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jessica L. Hoffman  
Project Manager

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

ESS Group Inc.  
404 Wyman St. Suite 375  
Waltham, MA 02451  
ATTN: Craig Paradis

REPORT DATE: 4/10/2020

PURCHASE ORDER NUMBER:

PROJECT NUMBER: P312-007

**ANALYTICAL SUMMARY**

WORK ORDER NUMBER: 20D0148

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

PROJECT LOCATION: Scituate, RI

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
ESS-30A (0-3')	20D0148-01	Soil		SM 2540G SW-846 8270D-E	
ESS-31A (0-3')	20D0148-02	Soil		SM 2540G SW-846 6010D SW-846 8270D-E	
ESS-31A (3-4.75')	20D0148-03	Soil		SM 2540G SW-846 6010D SW-846 8270D-E	
ESS-31B (0-3')	20D0148-04	Soil		SM 2540G SW-846 6010D SW-846 8270D-E	
ESS-31B (3-4.5')	20D0148-05	Soil		SM 2540G SW-846 6010D SW-846 8270D-E	
ESS-31C (0-3')	20D0148-06	Soil		SM 2540G SW-846 6010D SW-846 8270D-E	
ESS-31C (3-4.25')	20D0148-07	Soil		SM 2540G SW-846 6010D SW-846 8270D-E	
ESS-31D (0-3')	20D0148-08	Soil		SM 2540G SW-846 6010D SW-846 8270D-E	
ESS-31D (3-4.5')	20D0148-09	Soil		SM 2540G SW-846 6010D SW-846 8270D-E	
ESS-32A (0-3')	20D0148-10	Soil		SM 2540G SW-846 6010D SW-846 8270D-E	
ESS-33A (0-3')	20D0148-11	Soil		SM 2540G SW-846 6010D SW-846 8270D-E	
ESS-34A (0-3')	20D0148-12	Soil		SM 2540G SW-846 6010D SW-846 8270D-E	
ESS-35A (0-3')	20D0148-13	Soil		SM 2540G SW-846 6010D SW-846 8270D-E	
ESS-58 (0-3')	20D0148-14	Soil		SM 2540G SW-846 6010D SW-846 8270D-E	

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

ESS Group Inc.  
 404 Wyman St. Suite 375  
 Waltham, MA 02451  
 ATTN: Craig Paradis

REPORT DATE: 4/10/2020

PURCHASE ORDER NUMBER:

PROJECT NUMBER: P312-007

**ANALYTICAL SUMMARY**

WORK ORDER NUMBER: 20D0148

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

PROJECT LOCATION: Scituate, RI

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
ESS-59 (0-3')	20D0148-15	Soil		SM 2540G SW-846 6010D SW-846 8270D-E	
ESS-57A (0-3')	20D0148-16	Soil		SM 2540G SW-846 8081B	
ESS-57B (0-3')	20D0148-17	Soil		SM 2540G SW-846 8081B	
ESS-57C (0-3')	20D0148-18	Soil		SM 2540G SW-846 8081B	
ESS-57D (0-3')	20D0148-19	Soil		SM 2540G SW-846 8081B	
ESS-48 (0-4')	20D0148-20	Soil		SM 2540G SW-846 6010D SW-846 8270D-E	
ESS-50 (0-4')	20D0148-21	Soil		SM 2540G SW-846 6010D SW-846 8270D-E	
ESS-60 (0-4')	20D0148-22	Soil		SM 2540G SW-846 6010D SW-846 8270D-E	

**CASE NARRATIVE SUMMARY**

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

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

**SW-846 8081B****Qualifications:****DL-03**

Elevated reporting limit due to matrix interference.

**Analyte & Samples(s) Qualified:**

20D0148-17[ESS-57B (0-3')]

**SW-846 8270D-E****Qualifications:****E**

Reported result is estimated. Value reported over verified calibration range.

**Analyte & Samples(s) Qualified:****Benzo(a)pyrene**

20D0148-06[ESS-31C (0-3')]

**Benzo(b)fluoranthene**

20D0148-06[ESS-31C (0-3')]

**Pyrene**

20D0148-06[ESS-31C (0-3')]

**R-05**

Laboratory fortified blank duplicate RPD is outside of control limits. Reduced precision is anticipated for any reported value for this compound.

**Analyte & Samples(s) Qualified:****Fluorene**

20D0148-01[ESS-30A (0-3')], 20D0148-02[ESS-31A (0-3')], 20D0148-03[ESS-31A (3-4.75')], 20D0148-04[ESS-31B (0-3')], 20D0148-05[ESS-31B (3-4.5')], 20D0148-06[ESS-31C (0-3')], 20D0148-07[ESS-31C (3-4.25')], 20D0148-09[ESS-31D (3-4.5')], 20D0148-11[ESS-33A (0-3')], 20D0148-13[ESS-35A (0-3')], 20D0148-14[ESS-58 (0-3')], 20D0148-15[ESS-59 (0-3')], 20D0148-20[ESS-48 (0-4')], 20D0148-21[ESS-50 (0-4')], 20D0148-22[ESS-60 (0-4')], B255695-BLK1, B255695-BS1, B255695-BSD1

**RL-12**

Elevated reporting limit due to matrix interference.

**Analyte & Samples(s) Qualified:**

20D0148-02[ESS-31A (0-3')], 20D0148-08[ESS-31D (0-3')], 20D0148-10[ESS-32A (0-3')], 20D0148-12[ESS-34A (0-3')]

**V-06**

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

**Analyte & Samples(s) Qualified:****Fluorene**

20D0148-08[ESS-31D (0-3')], 20D0148-10[ESS-32A (0-3')], 20D0148-12[ESS-34A (0-3')], S047471-CCV1

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

A handwritten signature in black ink, appearing to read "Lisa A. Worthington", is written over a light gray rectangular background.

Lisa A. Worthington  
Technical Representative

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

Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-30A (0-3')

Sampled: 4/1/2020 08:40

Sample ID: 20D0148-01

Sample Matrix: Soil

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 13:47	BGL
Acenaphthylene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 13:47	BGL
Anthracene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 13:47	BGL
Benzo(a)anthracene	0.19	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 13:47	BGL
Benzo(a)pyrene	0.22	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 13:47	BGL
Benzo(b)fluoranthene	0.28	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 13:47	BGL
Benzo(g,h,i)perylene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 13:47	BGL
Benzo(k)fluoranthene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 13:47	BGL
Chrysene	0.22	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 13:47	BGL
Dibenz(a,h)anthracene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 13:47	BGL
Fluoranthene	0.39	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 13:47	BGL
Fluorene	ND	0.19	mg/Kg dry	1	R-05	SW-846 8270D-E	4/6/20	4/8/20 13:47	BGL
Indeno(1,2,3-cd)pyrene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 13:47	BGL
2-Methylnaphthalene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 13:47	BGL
Naphthalene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 13:47	BGL
Phenanthrene	0.23	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 13:47	BGL
Pyrene	0.39	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 13:47	BGL
Surrogates		% Recovery	Recovery Limits		Flag/Qual				
Nitrobenzene-d5		74.0	30-130					4/8/20 13:47	
2-Fluorobiphenyl		116	30-130					4/8/20 13:47	
p-Terphenyl-d14		96.8	30-130					4/8/20 13:47	

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-30A (0-3')

Sampled: 4/1/2020 08:40

Sample ID: 20D0148-01

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	87.8		% Wt	1		SM 2540G	4/8/20	4/8/20 17:20	CAH

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

Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-31A (0-3')

Sampled: 4/1/2020 09:30

Sample ID: 20D0148-02

Sample Matrix: Soil

Sample Flags: RL-12

**Semivolatile Organic Compounds by GC/MS**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	0.39	mg/Kg dry	2		SW-846 8270D-E	4/6/20	4/8/20 21:03	BGL
Acenaphthylene	3.0	0.39	mg/Kg dry	2		SW-846 8270D-E	4/6/20	4/8/20 21:03	BGL
Anthracene	1.1	0.39	mg/Kg dry	2		SW-846 8270D-E	4/6/20	4/8/20 21:03	BGL
Benzo(a)anthracene	6.3	0.39	mg/Kg dry	2		SW-846 8270D-E	4/6/20	4/8/20 21:03	BGL
Benzo(a)pyrene	8.3	0.39	mg/Kg dry	2		SW-846 8270D-E	4/6/20	4/8/20 21:03	BGL
Benzo(b)fluoranthene	12	0.97	mg/Kg dry	5		SW-846 8270D-E	4/6/20	4/8/20 19:18	BGL
Benzo(g,h,i)perylene	4.5	0.39	mg/Kg dry	2		SW-846 8270D-E	4/6/20	4/8/20 21:03	BGL
Benzo(k)fluoranthene	4.7	0.39	mg/Kg dry	2		SW-846 8270D-E	4/6/20	4/8/20 21:03	BGL
Chrysene	7.1	0.39	mg/Kg dry	2		SW-846 8270D-E	4/6/20	4/8/20 21:03	BGL
Dibenz(a,h)anthracene	1.3	0.39	mg/Kg dry	2		SW-846 8270D-E	4/6/20	4/8/20 21:03	BGL
Fluoranthene	7.6	0.39	mg/Kg dry	2		SW-846 8270D-E	4/6/20	4/8/20 21:03	BGL
Fluorene	ND	0.39	mg/Kg dry	2	R-05	SW-846 8270D-E	4/6/20	4/8/20 21:03	BGL
Indeno(1,2,3-cd)pyrene	6.2	0.39	mg/Kg dry	2		SW-846 8270D-E	4/6/20	4/8/20 21:03	BGL
2-Methylnaphthalene	ND	0.39	mg/Kg dry	2		SW-846 8270D-E	4/6/20	4/8/20 21:03	BGL
Naphthalene	ND	0.39	mg/Kg dry	2		SW-846 8270D-E	4/6/20	4/8/20 21:03	BGL
Phenanthrene	1.8	0.39	mg/Kg dry	2		SW-846 8270D-E	4/6/20	4/8/20 21:03	BGL
Pyrene	12	0.97	mg/Kg dry	5		SW-846 8270D-E	4/6/20	4/8/20 19:18	BGL
Surrogates		% Recovery	Recovery Limits		Flag/Qual				
Nitrobenzene-d5		65.5	30-130					4/8/20 21:03	
Nitrobenzene-d5		70.6	30-130					4/8/20 19:18	
2-Fluorobiphenyl		91.6	30-130					4/8/20 21:03	
2-Fluorobiphenyl		87.8	30-130					4/8/20 19:18	
p-Terphenyl-d14		104	30-130					4/8/20 21:03	
p-Terphenyl-d14		92.6	30-130					4/8/20 19:18	



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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-31A (0-3')

Sampled: 4/1/2020 09:30

Sample ID: 20D0148-02

Sample Matrix: Soil

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	9.8	3.7	mg/Kg dry	1		SW-846 6010D	4/6/20	4/7/20 15:54	MJH
Lead	63	0.56	mg/Kg dry	1		SW-846 6010D	4/6/20	4/7/20 15:54	MJH

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-31A (0-3')

Sampled: 4/1/2020 09:30

Sample ID: 20D0148-02

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	87.8		% Wt	1		SM 2540G	4/8/20	4/8/20 17:20	CAH

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-31A (3-4.75')

Sampled: 4/1/2020 10:15

Sample ID: 20D0148-03

Sample Matrix: Soil

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 14:38	BGL
Acenaphthylene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 14:38	BGL
Anthracene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 14:38	BGL
Benzo(a)anthracene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 14:38	BGL
Benzo(a)pyrene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 14:38	BGL
Benzo(b)fluoranthene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 14:38	BGL
Benzo(g,h,i)perylene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 14:38	BGL
Benzo(k)fluoranthene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 14:38	BGL
Chrysene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 14:38	BGL
Dibenz(a,h)anthracene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 14:38	BGL
Fluoranthene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 14:38	BGL
Fluorene	ND	0.20	mg/Kg dry	1	R-05	SW-846 8270D-E	4/6/20	4/8/20 14:38	BGL
Indeno(1,2,3-cd)pyrene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 14:38	BGL
2-Methylnaphthalene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 14:38	BGL
Naphthalene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 14:38	BGL
Phenanthrene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 14:38	BGL
Pyrene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 14:38	BGL
Surrogates		% Recovery	Recovery Limits		Flag/Qual				
Nitrobenzene-d5		75.3	30-130					4/8/20 14:38	
2-Fluorobiphenyl		107	30-130					4/8/20 14:38	
p-Terphenyl-d14		108	30-130					4/8/20 14:38	

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-31A (3-4.75')

Sampled: 4/1/2020 10:15

Sample ID: 20D0148-03

Sample Matrix: Soil

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	ND	3.8	mg/Kg dry	1		SW-846 6010D	4/6/20	4/7/20 16:10	MJH
Lead	4.5	0.57	mg/Kg dry	1		SW-846 6010D	4/6/20	4/7/20 16:10	MJH

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-31A (3-4.75')

Sampled: 4/1/2020 10:15

Sample ID: 20D0148-03

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	86.9		% Wt	1		SM 2540G	4/8/20	4/8/20 17:20	CAH

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-31B (0-3')

Sampled: 4/1/2020 09:45

Sample ID: 20D0148-04

Sample Matrix: Soil

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 15:03	BGL
Acenaphthylene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 15:03	BGL
Anthracene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 15:03	BGL
Benzo(a)anthracene	0.40	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 15:03	BGL
Benzo(a)pyrene	0.38	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 15:03	BGL
Benzo(b)fluoranthene	0.55	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 15:03	BGL
Benzo(g,h,i)perylene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 15:03	BGL
Benzo(k)fluoranthene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 15:03	BGL
Chrysene	0.40	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 15:03	BGL
Dibenz(a,h)anthracene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 15:03	BGL
Fluoranthene	0.78	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 15:03	BGL
Fluorene	ND	0.20	mg/Kg dry	1	R-05	SW-846 8270D-E	4/6/20	4/8/20 15:03	BGL
Indeno(1,2,3-cd)pyrene	0.25	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 15:03	BGL
2-Methylnaphthalene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 15:03	BGL
Naphthalene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 15:03	BGL
Phenanthrene	0.82	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 15:03	BGL
Pyrene	0.87	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 15:03	BGL
Surrogates		% Recovery	Recovery Limits		Flag/Qual				
Nitrobenzene-d5		63.5	30-130					4/8/20 15:03	
2-Fluorobiphenyl		94.5	30-130					4/8/20 15:03	
p-Terphenyl-d14		98.8	30-130					4/8/20 15:03	

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-31B (0-3')

Sampled: 4/1/2020 09:45

Sample ID: 20D0148-04

Sample Matrix: Soil

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	10	3.8	mg/Kg dry	1		SW-846 6010D	4/6/20	4/7/20 15:49	MJH
Lead	87	0.57	mg/Kg dry	1		SW-846 6010D	4/6/20	4/7/20 15:49	MJH

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-31B (0-3')

Sampled: 4/1/2020 09:45

Sample ID: 20D0148-04

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	85.5		% Wt	1		SM 2540G	4/8/20	4/8/20 17:21	CAH



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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-31B (3-4.5')

Sampled: 4/1/2020 10:35

Sample ID: 20D0148-05

Sample Matrix: Soil

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 15:28	BGL
Acenaphthylene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 15:28	BGL
Anthracene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 15:28	BGL
Benzo(a)anthracene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 15:28	BGL
Benzo(a)pyrene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 15:28	BGL
Benzo(b)fluoranthene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 15:28	BGL
Benzo(g,h,i)perylene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 15:28	BGL
Benzo(k)fluoranthene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 15:28	BGL
Chrysene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 15:28	BGL
Dibenz(a,h)anthracene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 15:28	BGL
Fluoranthene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 15:28	BGL
Fluorene	ND	0.20	mg/Kg dry	1	R-05	SW-846 8270D-E	4/6/20	4/8/20 15:28	BGL
Indeno(1,2,3-cd)pyrene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 15:28	BGL
2-Methylnaphthalene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 15:28	BGL
Naphthalene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 15:28	BGL
Phenanthrene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 15:28	BGL
Pyrene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 15:28	BGL
Surrogates		% Recovery	Recovery Limits		Flag/Qual				
Nitrobenzene-d5		74.9	30-130					4/8/20 15:28	
2-Fluorobiphenyl		107	30-130					4/8/20 15:28	
p-Terphenyl-d14		105	30-130					4/8/20 15:28	

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-31B (3-4.5')

Sampled: 4/1/2020 10:35

Sample ID: 20D0148-05

Sample Matrix: Soil

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	7.1	3.9	mg/Kg dry	1		SW-846 6010D	4/6/20	4/7/20 16:15	MJH
Lead	110	0.59	mg/Kg dry	1		SW-846 6010D	4/6/20	4/7/20 16:15	MJH

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-31B (3-4.5')

Sampled: 4/1/2020 10:35

Sample ID: 20D0148-05

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	84.5		% Wt	1		SM 2540G	4/8/20	4/8/20 17:21	CAH

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-31C (0-3')

Sampled: 4/1/2020 10:30

Sample ID: 20D0148-06

Sample Matrix: Soil

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 19:44	BGL
Acenaphthylene	2.0	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 19:44	BGL
Anthracene	0.81	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 19:44	BGL
Benzo(a)anthracene	3.2	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 19:44	BGL
Benzo(a)pyrene	4.6	0.19	mg/Kg dry	1	E	SW-846 8270D-E	4/6/20	4/8/20 19:44	BGL
Benzo(a)pyrene	4.8	0.77	mg/Kg dry	4		SW-846 8270D-E	4/6/20	4/9/20 10:55	BGL
Benzo(b)fluoranthene	6.4	0.19	mg/Kg dry	1	E	SW-846 8270D-E	4/6/20	4/8/20 19:44	BGL
Benzo(b)fluoranthene	6.7	0.77	mg/Kg dry	4		SW-846 8270D-E	4/6/20	4/9/20 10:55	BGL
Benzo(g,h,i)perylene	3.2	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 19:44	BGL
Benzo(k)fluoranthene	2.4	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 19:44	BGL
Chrysene	3.8	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 19:44	BGL
Dibenz(a,h)anthracene	0.87	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 19:44	BGL
Fluoranthene	3.9	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 19:44	BGL
Fluorene	ND	0.19	mg/Kg dry	1	R-05	SW-846 8270D-E	4/6/20	4/8/20 19:44	BGL
Indeno(1,2,3-cd)pyrene	4.1	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 19:44	BGL
2-Methylnaphthalene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 19:44	BGL
Naphthalene	0.22	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 19:44	BGL
Phenanthrene	1.4	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 19:44	BGL
Pyrene	7.7	0.19	mg/Kg dry	1	E	SW-846 8270D-E	4/6/20	4/8/20 19:44	BGL
Pyrene	5.7	0.77	mg/Kg dry	4		SW-846 8270D-E	4/6/20	4/9/20 10:55	BGL
Surrogates		% Recovery	Recovery Limits		Flag/Qual				
Nitrobenzene-d5		75.1	30-130					4/8/20 19:44	
Nitrobenzene-d5		74.8	30-130					4/9/20 10:55	
2-Fluorobiphenyl		103	30-130					4/8/20 19:44	
2-Fluorobiphenyl		103	30-130					4/9/20 10:55	
p-Terphenyl-d14		118	30-130					4/8/20 19:44	
p-Terphenyl-d14		91.3	30-130					4/9/20 10:55	

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-31C (0-3')

Sampled: 4/1/2020 10:30

Sample ID: 20D0148-06

Sample Matrix: Soil

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	8.3	3.7	mg/Kg dry	1		SW-846 6010D	4/6/20	4/7/20 16:20	MJH
Lead	88	0.56	mg/Kg dry	1		SW-846 6010D	4/6/20	4/7/20 16:20	MJH

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

Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-31C (0-3')

Sampled: 4/1/2020 10:30

Sample ID: 20D0148-06

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	88.0		% Wt	1		SM 2540G	4/8/20	4/8/20 17:21	CAH

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-31C (3-4.25')

Sampled: 4/1/2020 11:05

Sample ID: 20D0148-07

Sample Matrix: Soil

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 15:54	BGL
Acenaphthylene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 15:54	BGL
Anthracene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 15:54	BGL
Benzo(a)anthracene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 15:54	BGL
Benzo(a)pyrene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 15:54	BGL
Benzo(b)fluoranthene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 15:54	BGL
Benzo(g,h,i)perylene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 15:54	BGL
Benzo(k)fluoranthene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 15:54	BGL
Chrysene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 15:54	BGL
Dibenz(a,h)anthracene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 15:54	BGL
Fluoranthene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 15:54	BGL
Fluorene	ND	0.20	mg/Kg dry	1	R-05	SW-846 8270D-E	4/6/20	4/8/20 15:54	BGL
Indeno(1,2,3-cd)pyrene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 15:54	BGL
2-Methylnaphthalene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 15:54	BGL
Naphthalene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 15:54	BGL
Phenanthrene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 15:54	BGL
Pyrene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 15:54	BGL
Surrogates		% Recovery	Recovery Limits		Flag/Qual				
Nitrobenzene-d5		74.5	30-130					4/8/20 15:54	
2-Fluorobiphenyl		106	30-130					4/8/20 15:54	
p-Terphenyl-d14		105	30-130					4/8/20 15:54	

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-31C (3-4.25')

Sampled: 4/1/2020 11:05

Sample ID: 20D0148-07

Sample Matrix: Soil

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	4.8	3.7	mg/Kg dry	1		SW-846 6010D	4/6/20	4/7/20 16:25	MJH
Lead	7.3	0.55	mg/Kg dry	1		SW-846 6010D	4/6/20	4/7/20 16:25	MJH



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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-31C (3-4.25')

Sampled: 4/1/2020 11:05

Sample ID: 20D0148-07

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	85.0		% Wt	1		SM 2540G	4/8/20	4/8/20 17:21	CAH

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-31D (0-3')

Sampled: 4/1/2020 11:00

Sample ID: 20D0148-08

Sample Matrix: Soil

Sample Flags: RL-12

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	0.75	mg/Kg dry	4		SW-846 8270D-E	4/6/20	4/9/20 12:43	BGL
Acenaphthylene	0.76	0.75	mg/Kg dry	4		SW-846 8270D-E	4/6/20	4/9/20 12:43	BGL
Anthracene	ND	0.75	mg/Kg dry	4		SW-846 8270D-E	4/6/20	4/9/20 12:43	BGL
Benzo(a)anthracene	2.3	0.75	mg/Kg dry	4		SW-846 8270D-E	4/6/20	4/9/20 12:43	BGL
Benzo(a)pyrene	2.9	0.75	mg/Kg dry	4		SW-846 8270D-E	4/6/20	4/9/20 12:43	BGL
Benzo(b)fluoranthene	3.6	0.75	mg/Kg dry	4		SW-846 8270D-E	4/6/20	4/9/20 12:43	BGL
Benzo(g,h,i)perylene	3.5	0.75	mg/Kg dry	4		SW-846 8270D-E	4/6/20	4/9/20 12:43	BGL
Benzo(k)fluoranthene	1.3	0.75	mg/Kg dry	4		SW-846 8270D-E	4/6/20	4/9/20 12:43	BGL
Chrysene	2.7	0.75	mg/Kg dry	4		SW-846 8270D-E	4/6/20	4/9/20 12:43	BGL
Dibenz(a,h)anthracene	0.79	0.75	mg/Kg dry	4		SW-846 8270D-E	4/6/20	4/9/20 12:43	BGL
Fluoranthene	3.5	0.75	mg/Kg dry	4		SW-846 8270D-E	4/6/20	4/9/20 12:43	BGL
Fluorene	ND	0.75	mg/Kg dry	4	V-06	SW-846 8270D-E	4/6/20	4/9/20 12:43	BGL
Indeno(1,2,3-cd)pyrene	2.3	0.75	mg/Kg dry	4		SW-846 8270D-E	4/6/20	4/9/20 12:43	BGL
2-Methylnaphthalene	ND	0.75	mg/Kg dry	4		SW-846 8270D-E	4/6/20	4/9/20 12:43	BGL
Naphthalene	ND	0.75	mg/Kg dry	4		SW-846 8270D-E	4/6/20	4/9/20 12:43	BGL
Phenanthrene	2.9	0.75	mg/Kg dry	4		SW-846 8270D-E	4/6/20	4/9/20 12:43	BGL
Pyrene	5.2	0.75	mg/Kg dry	4		SW-846 8270D-E	4/6/20	4/9/20 12:43	BGL
Surrogates		% Recovery	Recovery Limits		Flag/Qual				
Nitrobenzene-d5		69.0	30-130					4/9/20 12:43	
2-Fluorobiphenyl		93.9	30-130					4/9/20 12:43	
p-Terphenyl-d14		93.0	30-130					4/9/20 12:43	

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-31D (0-3')

Sampled: 4/1/2020 11:00

Sample ID: 20D0148-08

Sample Matrix: Soil

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	6.0	3.6	mg/Kg dry	1		SW-846 6010D	4/6/20	4/7/20 16:30	MJH
Lead	340	0.55	mg/Kg dry	1		SW-846 6010D	4/6/20	4/7/20 16:30	MJH

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-31D (0-3')

Sampled: 4/1/2020 11:00

Sample ID: 20D0148-08

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	91.1		% Wt	1		SM 2540G	4/8/20	4/8/20 17:21	CAH

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-31D (3-4.5')

Sampled: 4/1/2020 12:10

Sample ID: 20D0148-09

Sample Matrix: Soil

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 16:19	BGL
Acenaphthylene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 16:19	BGL
Anthracene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 16:19	BGL
Benzo(a)anthracene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 16:19	BGL
Benzo(a)pyrene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 16:19	BGL
Benzo(b)fluoranthene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 16:19	BGL
Benzo(g,h,i)perylene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 16:19	BGL
Benzo(k)fluoranthene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 16:19	BGL
Chrysene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 16:19	BGL
Dibenz(a,h)anthracene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 16:19	BGL
Fluoranthene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 16:19	BGL
Fluorene	ND	0.19	mg/Kg dry	1	R-05	SW-846 8270D-E	4/6/20	4/8/20 16:19	BGL
Indeno(1,2,3-cd)pyrene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 16:19	BGL
2-Methylnaphthalene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 16:19	BGL
Naphthalene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 16:19	BGL
Phenanthrene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 16:19	BGL
Pyrene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 16:19	BGL
Surrogates		% Recovery	Recovery Limits		Flag/Qual				
Nitrobenzene-d5		76.0	30-130					4/8/20 16:19	
2-Fluorobiphenyl		104	30-130					4/8/20 16:19	
p-Terphenyl-d14		99.8	30-130					4/8/20 16:19	

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-31D (3-4.5')

Sampled: 4/1/2020 12:10

Sample ID: 20D0148-09

Sample Matrix: Soil

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	ND	3.7	mg/Kg dry	1		SW-846 6010D	4/6/20	4/7/20 16:35	MJH
Lead	5.4	0.56	mg/Kg dry	1		SW-846 6010D	4/6/20	4/7/20 16:35	MJH

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-31D (3-4.5')

Sampled: 4/1/2020 12:10

Sample ID: 20D0148-09

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	87.2		% Wt	1		SM 2540G	4/8/20	4/8/20 17:21	CAH

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-32A (0-3')

Sampled: 4/1/2020 13:10

Sample ID: 20D0148-10

Sample Matrix: Soil

Sample Flags: RL-12

**Semivolatile Organic Compounds by GC/MS**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	0.37	mg/Kg dry	2		SW-846 8270D-E	4/6/20	4/9/20 12:12	BGL
Acenaphthylene	0.85	0.37	mg/Kg dry	2		SW-846 8270D-E	4/6/20	4/9/20 12:12	BGL
Anthracene	0.70	0.37	mg/Kg dry	2		SW-846 8270D-E	4/6/20	4/9/20 12:12	BGL
Benzo(a)anthracene	3.2	0.37	mg/Kg dry	2		SW-846 8270D-E	4/6/20	4/9/20 12:12	BGL
Benzo(a)pyrene	3.3	0.37	mg/Kg dry	2		SW-846 8270D-E	4/6/20	4/9/20 12:12	BGL
Benzo(b)fluoranthene	4.8	0.37	mg/Kg dry	2		SW-846 8270D-E	4/6/20	4/9/20 12:12	BGL
Benzo(g,h,i)perylene	1.7	0.37	mg/Kg dry	2		SW-846 8270D-E	4/6/20	4/9/20 12:12	BGL
Benzo(k)fluoranthene	1.7	0.37	mg/Kg dry	2		SW-846 8270D-E	4/6/20	4/9/20 12:12	BGL
Chrysene	3.1	0.37	mg/Kg dry	2		SW-846 8270D-E	4/6/20	4/9/20 12:12	BGL
Dibenz(a,h)anthracene	0.46	0.37	mg/Kg dry	2		SW-846 8270D-E	4/6/20	4/9/20 12:12	BGL
Fluoranthene	5.0	0.37	mg/Kg dry	2		SW-846 8270D-E	4/6/20	4/9/20 12:12	BGL
Fluorene	ND	0.37	mg/Kg dry	2	V-06	SW-846 8270D-E	4/6/20	4/9/20 12:12	BGL
Indeno(1,2,3-cd)pyrene	2.1	0.37	mg/Kg dry	2		SW-846 8270D-E	4/6/20	4/9/20 12:12	BGL
2-Methylnaphthalene	ND	0.37	mg/Kg dry	2		SW-846 8270D-E	4/6/20	4/9/20 12:12	BGL
Naphthalene	ND	0.37	mg/Kg dry	2		SW-846 8270D-E	4/6/20	4/9/20 12:12	BGL
Phenanthrene	2.8	0.37	mg/Kg dry	2		SW-846 8270D-E	4/6/20	4/9/20 12:12	BGL
Pyrene	5.7	0.37	mg/Kg dry	2		SW-846 8270D-E	4/6/20	4/9/20 12:12	BGL
Surrogates		% Recovery	Recovery Limits		Flag/Qual				
Nitrobenzene-d5		71.7	30-130					4/9/20 12:12	
2-Fluorobiphenyl		99.8	30-130					4/9/20 12:12	
p-Terphenyl-d14		84.2	30-130					4/9/20 12:12	



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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-32A (0-3')

Sampled: 4/1/2020 13:10

Sample ID: 20D0148-10

Sample Matrix: Soil

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	ND	3.5	mg/Kg dry	1		SW-846 6010D	4/6/20	4/7/20 16:40	MJH
Lead	36	0.52	mg/Kg dry	1		SW-846 6010D	4/6/20	4/7/20 16:40	MJH

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-32A (0-3')

Sampled: 4/1/2020 13:10

Sample ID: 20D0148-10

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	93.0		% Wt	1		SM 2540G	4/8/20	4/8/20 17:22	CAH

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-33A (0-3')

Sampled: 4/1/2020 13:45

Sample ID: 20D0148-11

Sample Matrix: Soil

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 16:44	BGL
Acenaphthylene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 16:44	BGL
Anthracene	0.33	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 16:44	BGL
Benzo(a)anthracene	1.0	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 16:44	BGL
Benzo(a)pyrene	0.99	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 16:44	BGL
Benzo(b)fluoranthene	1.3	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 16:44	BGL
Benzo(g,h,i)perylene	0.55	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 16:44	BGL
Benzo(k)fluoranthene	0.50	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 16:44	BGL
Chrysene	1.0	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 16:44	BGL
Dibenz(a,h)anthracene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 16:44	BGL
Fluoranthene	2.1	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 16:44	BGL
Fluorene	ND	0.19	mg/Kg dry	1	R-05	SW-846 8270D-E	4/6/20	4/8/20 16:44	BGL
Indeno(1,2,3-cd)pyrene	0.67	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 16:44	BGL
2-Methylnaphthalene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 16:44	BGL
Naphthalene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 16:44	BGL
Phenanthrene	1.7	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 16:44	BGL
Pyrene	2.2	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 16:44	BGL
Surrogates		% Recovery	Recovery Limits		Flag/Qual				
Nitrobenzene-d5		71.0	30-130					4/8/20 16:44	
2-Fluorobiphenyl		100	30-130					4/8/20 16:44	
p-Terphenyl-d14		92.1	30-130					4/8/20 16:44	

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-33A (0-3')

Sampled: 4/1/2020 13:45

Sample ID: 20D0148-11

Sample Matrix: Soil

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	ND	3.6	mg/Kg dry	1		SW-846 6010D	4/6/20	4/7/20 16:45	MJH
Lead	41	0.54	mg/Kg dry	1		SW-846 6010D	4/6/20	4/7/20 16:45	MJH

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-33A (0-3')

Sampled: 4/1/2020 13:45

Sample ID: 20D0148-11

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	89.6		% Wt	1		SM 2540G	4/8/20	4/8/20 17:22	CAH

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-34A (0-3')

Sampled: 4/1/2020 13:30

Sample ID: 20D0148-12

Sample Matrix: Soil

Sample Flags: RL-12

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	0.93	mg/Kg dry	5		SW-846 8270D-E	4/6/20	4/9/20 11:21	BGL
Acenaphthylene	ND	0.93	mg/Kg dry	5		SW-846 8270D-E	4/6/20	4/9/20 11:21	BGL
Anthracene	2.1	0.93	mg/Kg dry	5		SW-846 8270D-E	4/6/20	4/9/20 11:21	BGL
Benzo(a)anthracene	5.0	0.93	mg/Kg dry	5		SW-846 8270D-E	4/6/20	4/9/20 11:21	BGL
Benzo(a)pyrene	4.6	0.93	mg/Kg dry	5		SW-846 8270D-E	4/6/20	4/9/20 11:21	BGL
Benzo(b)fluoranthene	5.5	0.93	mg/Kg dry	5		SW-846 8270D-E	4/6/20	4/9/20 11:21	BGL
Benzo(g,h,i)perylene	2.0	0.93	mg/Kg dry	5		SW-846 8270D-E	4/6/20	4/9/20 11:21	BGL
Benzo(k)fluoranthene	2.0	0.93	mg/Kg dry	5		SW-846 8270D-E	4/6/20	4/9/20 11:21	BGL
Chrysene	5.0	0.93	mg/Kg dry	5		SW-846 8270D-E	4/6/20	4/9/20 11:21	BGL
Dibenz(a,h)anthracene	ND	0.93	mg/Kg dry	5		SW-846 8270D-E	4/6/20	4/9/20 11:21	BGL
Fluoranthene	11	0.93	mg/Kg dry	5		SW-846 8270D-E	4/6/20	4/9/20 11:21	BGL
Fluorene	ND	0.93	mg/Kg dry	5	V-06	SW-846 8270D-E	4/6/20	4/9/20 11:21	BGL
Indeno(1,2,3-cd)pyrene	2.7	0.93	mg/Kg dry	5		SW-846 8270D-E	4/6/20	4/9/20 11:21	BGL
2-Methylnaphthalene	ND	0.93	mg/Kg dry	5		SW-846 8270D-E	4/6/20	4/9/20 11:21	BGL
Naphthalene	ND	0.93	mg/Kg dry	5		SW-846 8270D-E	4/6/20	4/9/20 11:21	BGL
Phenanthrene	10	0.93	mg/Kg dry	5		SW-846 8270D-E	4/6/20	4/9/20 11:21	BGL
Pyrene	11	0.93	mg/Kg dry	5		SW-846 8270D-E	4/6/20	4/9/20 11:21	BGL
Surrogates		% Recovery	Recovery Limits		Flag/Qual				
Nitrobenzene-d5		85.2	30-130					4/9/20 11:21	
2-Fluorobiphenyl		111	30-130					4/9/20 11:21	
p-Terphenyl-d14		95.6	30-130					4/9/20 11:21	

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-34A (0-3')

Sampled: 4/1/2020 13:30

Sample ID: 20D0148-12

Sample Matrix: Soil

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	ND	3.6	mg/Kg dry	1		SW-846 6010D	4/6/20	4/7/20 16:50	MJH
Lead	52	0.54	mg/Kg dry	1		SW-846 6010D	4/6/20	4/7/20 16:50	MJH

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-34A (0-3')

Sampled: 4/1/2020 13:30

Sample ID: 20D0148-12

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	91.2		% Wt	1		SM 2540G	4/8/20	4/8/20 17:22	CAH



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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-35A (0-3')

Sampled: 4/1/2020 14:00

Sample ID: 20D0148-13

Sample Matrix: Soil

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	0.20	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 17:35	BGL
Acenaphthylene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 17:35	BGL
Anthracene	0.51	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 17:35	BGL
Benzo(a)anthracene	1.2	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 17:35	BGL
Benzo(a)pyrene	1.0	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 17:35	BGL
Benzo(b)fluoranthene	1.4	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 17:35	BGL
Benzo(g,h,i)perylene	0.50	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 17:35	BGL
Benzo(k)fluoranthene	0.53	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 17:35	BGL
Chrysene	1.1	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 17:35	BGL
Dibenz(a,h)anthracene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 17:35	BGL
Fluoranthene	2.6	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 17:35	BGL
Fluorene	ND	0.20	mg/Kg dry	1	R-05	SW-846 8270D-E	4/6/20	4/8/20 17:35	BGL
Indeno(1,2,3-cd)pyrene	0.70	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 17:35	BGL
2-Methylnaphthalene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 17:35	BGL
Naphthalene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 17:35	BGL
Phenanthrene	2.6	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 17:35	BGL
Pyrene	3.0	0.20	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 17:35	BGL
Surrogates		% Recovery	Recovery Limits		Flag/Qual				
Nitrobenzene-d5		80.2	30-130					4/8/20 17:35	
2-Fluorobiphenyl		108	30-130					4/8/20 17:35	
p-Terphenyl-d14		111	30-130					4/8/20 17:35	

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-35A (0-3')

Sampled: 4/1/2020 14:00

Sample ID: 20D0148-13

Sample Matrix: Soil

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	4.1	3.8	mg/Kg dry	1		SW-846 6010D	4/6/20	4/7/20 16:55	MJH
Lead	59	0.56	mg/Kg dry	1		SW-846 6010D	4/6/20	4/7/20 16:55	MJH

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-35A (0-3')

Sampled: 4/1/2020 14:00

Sample ID: 20D0148-13

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	86.7		% Wt	1		SM 2540G	4/8/20	4/8/20 17:22	CAH

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-58 (0-3')

Sampled: 4/1/2020 14:45

Sample ID: 20D0148-14

Sample Matrix: Soil

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	0.21	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 18:00	BGL
Acenaphthylene	ND	0.21	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 18:00	BGL
Anthracene	ND	0.21	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 18:00	BGL
Benzo(a)anthracene	ND	0.21	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 18:00	BGL
Benzo(a)pyrene	ND	0.21	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 18:00	BGL
Benzo(b)fluoranthene	ND	0.21	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 18:00	BGL
Benzo(g,h,i)perylene	ND	0.21	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 18:00	BGL
Benzo(k)fluoranthene	ND	0.21	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 18:00	BGL
Chrysene	ND	0.21	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 18:00	BGL
Dibenz(a,h)anthracene	ND	0.21	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 18:00	BGL
Fluoranthene	0.39	0.21	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 18:00	BGL
Fluorene	ND	0.21	mg/Kg dry	1	R-05	SW-846 8270D-E	4/6/20	4/8/20 18:00	BGL
Indeno(1,2,3-cd)pyrene	ND	0.21	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 18:00	BGL
2-Methylnaphthalene	ND	0.21	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 18:00	BGL
Naphthalene	ND	0.21	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 18:00	BGL
Phenanthrene	0.41	0.21	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 18:00	BGL
Pyrene	0.41	0.21	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 18:00	BGL
Surrogates		% Recovery	Recovery Limits		Flag/Qual				
Nitrobenzene-d5		75.2	30-130					4/8/20 18:00	
2-Fluorobiphenyl		102	30-130					4/8/20 18:00	
p-Terphenyl-d14		104	30-130					4/8/20 18:00	

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-58 (0-3')

Sampled: 4/1/2020 14:45

Sample ID: 20D0148-14

Sample Matrix: Soil

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	7.8	4.0	mg/Kg dry	1		SW-846 6010D	4/6/20	4/7/20 17:11	MJH
Lead	54	0.60	mg/Kg dry	1		SW-846 6010D	4/6/20	4/7/20 17:11	MJH

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-58 (0-3')

Sampled: 4/1/2020 14:45

Sample ID: 20D0148-14

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	80.7		% Wt	1		SM 2540G	4/8/20	4/8/20 17:22	CAH

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-59 (0-3')

Sampled: 4/1/2020 15:00

Sample ID: 20D0148-15

Sample Matrix: Soil

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 18:26	BGL
Acenaphthylene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 18:26	BGL
Anthracene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 18:26	BGL
Benzo(a)anthracene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 18:26	BGL
Benzo(a)pyrene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 18:26	BGL
Benzo(b)fluoranthene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 18:26	BGL
Benzo(g,h,i)perylene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 18:26	BGL
Benzo(k)fluoranthene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 18:26	BGL
Chrysene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 18:26	BGL
Dibenz(a,h)anthracene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 18:26	BGL
Fluoranthene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 18:26	BGL
Fluorene	ND	0.19	mg/Kg dry	1	R-05	SW-846 8270D-E	4/6/20	4/8/20 18:26	BGL
Indeno(1,2,3-cd)pyrene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 18:26	BGL
2-Methylnaphthalene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 18:26	BGL
Naphthalene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 18:26	BGL
Phenanthrene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 18:26	BGL
Pyrene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 18:26	BGL
Surrogates		% Recovery	Recovery Limits		Flag/Qual				
Nitrobenzene-d5		73.4	30-130					4/8/20 18:26	
2-Fluorobiphenyl		99.6	30-130					4/8/20 18:26	
p-Terphenyl-d14		105	30-130					4/8/20 18:26	

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-59 (0-3')

Sampled: 4/1/2020 15:00

Sample ID: 20D0148-15

Sample Matrix: Soil

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	ND	3.7	mg/Kg dry	1		SW-846 6010D	4/6/20	4/7/20 17:15	MJH
Lead	12	0.55	mg/Kg dry	1		SW-846 6010D	4/6/20	4/7/20 17:15	MJH



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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-59 (0-3')

Sampled: 4/1/2020 15:00

Sample ID: 20D0148-15

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	87.7		% Wt	1		SM 2540G	4/8/20	4/8/20 17:22	CAH

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-57A (0-3')

Sampled: 4/2/2020 07:50

Sample ID: 20D0148-16

Sample Matrix: Soil

**Organochloride Pesticides by GC/ECD**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Chlordane [1]	ND	0.021	mg/Kg dry	1		SW-846 8081B	4/6/20	4/8/20 0:26	TG
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
Decachlorobiphenyl [1]	85.7	30-150						4/8/20 0:26	
Decachlorobiphenyl [2]	85.7	30-150						4/8/20 0:26	
Tetrachloro-m-xylene [1]	82.6	30-150						4/8/20 0:26	
Tetrachloro-m-xylene [2]	91.8	30-150						4/8/20 0:26	

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-57A (0-3')

Sampled: 4/2/2020 07:50

Sample ID: 20D0148-16

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	89.8		% Wt	1		SM 2540G	4/8/20	4/8/20 17:23	CAH

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-57B (0-3')

Sampled: 4/2/2020 08:25

Sample ID: 20D0148-17

Sample Matrix: Soil

Sample Flags: DL-03

**Organochloride Pesticides by GC/ECD**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Chlordane [1]	ND	0.10	mg/Kg dry	5		SW-846 8081B	4/6/20	4/8/20 0:53	TG
Surrogates		% Recovery	Recovery Limits		Flag/Qual				
Decachlorobiphenyl [1]		87.7	30-150					4/8/20 0:53	
Decachlorobiphenyl [2]		88.5	30-150					4/8/20 0:53	
Tetrachloro-m-xylene [1]		93.4	30-150					4/8/20 0:53	
Tetrachloro-m-xylene [2]		96.5	30-150					4/8/20 0:53	

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-57B (0-3')

Sampled: 4/2/2020 08:25

Sample ID: 20D0148-17

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	91.3		% Wt	1		SM 2540G	4/8/20	4/8/20 17:23	CAH

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-57C (0-3')

Sampled: 4/2/2020 08:10

Sample ID: 20D0148-18

Sample Matrix: Soil

**Organochloride Pesticides by GC/ECD**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Chlordane [1]	ND	0.022	mg/Kg dry	1		SW-846 8081B	4/6/20	4/8/20 1:20	TG
Surrogates		% Recovery	Recovery Limits		Flag/Qual				
Decachlorobiphenyl [1]		86.4	30-150					4/8/20 1:20	
Decachlorobiphenyl [2]		89.2	30-150					4/8/20 1:20	
Tetrachloro-m-xylene [1]		84.7	30-150					4/8/20 1:20	
Tetrachloro-m-xylene [2]		96.6	30-150					4/8/20 1:20	

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-57C (0-3')

Sampled: 4/2/2020 08:10

Sample ID: 20D0148-18

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	89.1		% Wt	1		SM 2540G	4/8/20	4/8/20 17:23	CAH

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-57D (0-3')

Sampled: 4/2/2020 07:50

Sample ID: 20D0148-19

Sample Matrix: Soil

**Organochloride Pesticides by GC/ECD**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Chlordane [1]	ND	0.021	mg/Kg dry	1		SW-846 8081B	4/6/20	4/8/20 1:47	TG
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
Decachlorobiphenyl [1]	87.2	30-150					4/8/20	1:47	
Decachlorobiphenyl [2]	88.4	30-150					4/8/20	1:47	
Tetrachloro-m-xylene [1]	82.0	30-150					4/8/20	1:47	
Tetrachloro-m-xylene [2]	92.6	30-150					4/8/20	1:47	



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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-57D (0-3')

Sampled: 4/2/2020 07:50

Sample ID: 20D0148-19

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	89.8		% Wt	1		SM 2540G	4/8/20	4/8/20 17:23	CAH

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-48 (0-4')

Sampled: 4/2/2020 14:40

Sample ID: 20D0148-20

Sample Matrix: Soil

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 18:52	BGL
Acenaphthylene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 18:52	BGL
Anthracene	0.20	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 18:52	BGL
Benzo(a)anthracene	0.41	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 18:52	BGL
Benzo(a)pyrene	0.34	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 18:52	BGL
Benzo(b)fluoranthene	0.41	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 18:52	BGL
Benzo(g,h,i)perylene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 18:52	BGL
Benzo(k)fluoranthene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 18:52	BGL
Chrysene	0.35	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 18:52	BGL
Dibenz(a,h)anthracene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 18:52	BGL
Fluoranthene	0.87	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 18:52	BGL
Fluorene	ND	0.19	mg/Kg dry	1	R-05	SW-846 8270D-E	4/6/20	4/8/20 18:52	BGL
Indeno(1,2,3-cd)pyrene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 18:52	BGL
2-Methylnaphthalene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 18:52	BGL
Naphthalene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 18:52	BGL
Phenanthrene	0.82	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 18:52	BGL
Pyrene	0.86	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/8/20 18:52	BGL
Surrogates		% Recovery	Recovery Limits		Flag/Qual				
Nitrobenzene-d5		72.1	30-130					4/8/20 18:52	
2-Fluorobiphenyl		98.1	30-130					4/8/20 18:52	
p-Terphenyl-d14		101	30-130					4/8/20 18:52	

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-48 (0-4')

Sampled: 4/2/2020 14:40

Sample ID: 20D0148-20

Sample Matrix: Soil

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	ND	3.6	mg/Kg dry	1		SW-846 6010D	4/6/20	4/7/20 17:20	MJH
Lead	13	0.55	mg/Kg dry	1		SW-846 6010D	4/6/20	4/7/20 17:20	MJH

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-48 (0-4')

Sampled: 4/2/2020 14:40

Sample ID: 20D0148-20

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	89.2		% Wt	1		SM 2540G	4/8/20	4/8/20 17:23	CAH

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-50 (0-4')

Sampled: 4/2/2020 13:10

Sample ID: 20D0148-21

Sample Matrix: Soil

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/9/20 6:40	KLB
Acenaphthylene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/9/20 6:40	KLB
Anthracene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/9/20 6:40	KLB
Benzo(a)anthracene	0.53	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/9/20 6:40	KLB
Benzo(a)pyrene	0.52	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/9/20 6:40	KLB
Benzo(b)fluoranthene	0.59	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/9/20 6:40	KLB
Benzo(g,h,i)perylene	0.31	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/9/20 6:40	KLB
Benzo(k)fluoranthene	0.24	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/9/20 6:40	KLB
Chrysene	0.55	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/9/20 6:40	KLB
Dibenz(a,h)anthracene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/9/20 6:40	KLB
Fluoranthene	1.1	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/9/20 6:40	KLB
Fluorene	ND	0.19	mg/Kg dry	1	R-05	SW-846 8270D-E	4/6/20	4/9/20 6:40	KLB
Indeno(1,2,3-cd)pyrene	0.38	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/9/20 6:40	KLB
2-Methylnaphthalene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/9/20 6:40	KLB
Naphthalene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/9/20 6:40	KLB
Phenanthrene	0.74	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/9/20 6:40	KLB
Pyrene	1.4	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/9/20 6:40	KLB
Surrogates		% Recovery	Recovery Limits		Flag/Qual				
Nitrobenzene-d5		56.2	30-130					4/9/20 6:40	
2-Fluorobiphenyl		73.1	30-130					4/9/20 6:40	
p-Terphenyl-d14		79.0	30-130					4/9/20 6:40	

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-50 (0-4')

Sampled: 4/2/2020 13:10

Sample ID: 20D0148-21

Sample Matrix: Soil

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	ND	3.7	mg/Kg dry	1		SW-846 6010D	4/6/20	4/7/20 17:25	MJH
Lead	32	0.55	mg/Kg dry	1		SW-846 6010D	4/6/20	4/7/20 17:25	MJH

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-50 (0-4')

Sampled: 4/2/2020 13:10

Sample ID: 20D0148-21

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	90.2		% Wt	1		SM 2540G	4/8/20	4/8/20 17:24	CAH

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-60 (0-4')

Sampled: 4/2/2020 15:45

Sample ID: 20D0148-22

Sample Matrix: Soil

Semivolatle Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/9/20 7:03	KLB
Acenaphthylene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/9/20 7:03	KLB
Anthracene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/9/20 7:03	KLB
Benzo(a)anthracene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/9/20 7:03	KLB
Benzo(a)pyrene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/9/20 7:03	KLB
Benzo(b)fluoranthene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/9/20 7:03	KLB
Benzo(g,h,i)perylene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/9/20 7:03	KLB
Benzo(k)fluoranthene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/9/20 7:03	KLB
Chrysene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/9/20 7:03	KLB
Dibenz(a,h)anthracene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/9/20 7:03	KLB
Fluoranthene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/9/20 7:03	KLB
Fluorene	ND	0.19	mg/Kg dry	1	R-05	SW-846 8270D-E	4/6/20	4/9/20 7:03	KLB
Indeno(1,2,3-cd)pyrene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/9/20 7:03	KLB
2-Methylnaphthalene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/9/20 7:03	KLB
Naphthalene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/9/20 7:03	KLB
Phenanthrene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/9/20 7:03	KLB
Pyrene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/6/20	4/9/20 7:03	KLB
Surrogates		% Recovery	Recovery Limits		Flag/Qual				
Nitrobenzene-d5		57.9	30-130					4/9/20 7:03	
2-Fluorobiphenyl		77.1	30-130					4/9/20 7:03	
p-Terphenyl-d14		81.4	30-130					4/9/20 7:03	



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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-60 (0-4')

Sampled: 4/2/2020 15:45

Sample ID: 20D0148-22

Sample Matrix: Soil

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	ND	3.7	mg/Kg dry	1		SW-846 6010D	4/6/20	4/7/20 17:30	MJH
Lead	10	0.55	mg/Kg dry	1		SW-846 6010D	4/6/20	4/7/20 17:30	MJH

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0148

Date Received: 4/3/2020

Field Sample #: ESS-60 (0-4')

Sampled: 4/2/2020 15:45

Sample ID: 20D0148-22

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	89.6		% Wt	1		SM 2540G	4/8/20	4/8/20 17:24	CAH

**Sample Extraction Data**

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

Lab Number [Field ID]	Batch	Date
20D0148-01 [ESS-30A (0-3')]	B255820	04/08/20
20D0148-02 [ESS-31A (0-3')]	B255820	04/08/20
20D0148-03 [ESS-31A (3-4.75')]	B255820	04/08/20
20D0148-04 [ESS-31B (0-3')]	B255820	04/08/20
20D0148-05 [ESS-31B (3-4.5')]	B255820	04/08/20
20D0148-06 [ESS-31C (0-3')]	B255820	04/08/20
20D0148-07 [ESS-31C (3-4.25')]	B255820	04/08/20
20D0148-08 [ESS-31D (0-3')]	B255820	04/08/20
20D0148-09 [ESS-31D (3-4.5')]	B255820	04/08/20
20D0148-10 [ESS-32A (0-3')]	B255820	04/08/20
20D0148-11 [ESS-33A (0-3')]	B255820	04/08/20
20D0148-12 [ESS-34A (0-3')]	B255820	04/08/20
20D0148-13 [ESS-35A (0-3')]	B255820	04/08/20
20D0148-14 [ESS-58 (0-3')]	B255820	04/08/20
20D0148-15 [ESS-59 (0-3')]	B255820	04/08/20
20D0148-16 [ESS-57A (0-3')]	B255820	04/08/20
20D0148-17 [ESS-57B (0-3')]	B255820	04/08/20
20D0148-18 [ESS-57C (0-3')]	B255820	04/08/20
20D0148-19 [ESS-57D (0-3')]	B255820	04/08/20
20D0148-20 [ESS-48 (0-4')]	B255820	04/08/20
20D0148-21 [ESS-50 (0-4')]	B255820	04/08/20
20D0148-22 [ESS-60 (0-4')]	B255820	04/08/20

**Prep Method: SW-846 3050B    Analytical Method: SW-846 6010D**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
20D0148-02 [ESS-31A (0-3')]	B255749	1.53	50.0	04/06/20
20D0148-03 [ESS-31A (3-4.75')]	B255749	1.52	50.0	04/06/20
20D0148-04 [ESS-31B (0-3')]	B255749	1.53	50.0	04/06/20
20D0148-05 [ESS-31B (3-4.5')]	B255749	1.51	50.0	04/06/20
20D0148-06 [ESS-31C (0-3')]	B255749	1.52	50.0	04/06/20
20D0148-07 [ESS-31C (3-4.25')]	B255749	1.59	50.0	04/06/20
20D0148-08 [ESS-31D (0-3')]	B255749	1.51	50.0	04/06/20
20D0148-09 [ESS-31D (3-4.5')]	B255749	1.54	50.0	04/06/20
20D0148-10 [ESS-32A (0-3')]	B255749	1.54	50.0	04/06/20
20D0148-11 [ESS-33A (0-3')]	B255749	1.56	50.0	04/06/20
20D0148-12 [ESS-34A (0-3')]	B255749	1.53	50.0	04/06/20
20D0148-13 [ESS-35A (0-3')]	B255749	1.54	50.0	04/06/20
20D0148-14 [ESS-58 (0-3')]	B255749	1.56	50.0	04/06/20
20D0148-15 [ESS-59 (0-3')]	B255749	1.56	50.0	04/06/20
20D0148-20 [ESS-48 (0-4')]	B255749	1.54	50.0	04/06/20
20D0148-21 [ESS-50 (0-4')]	B255749	1.52	50.0	04/06/20
20D0148-22 [ESS-60 (0-4')]	B255749	1.52	50.0	04/06/20

**Prep Method: SW-846 3546    Analytical Method: SW-846 8081B**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
20D0148-16 [ESS-57A (0-3')]	B255755	10.4	10.0	04/06/20
20D0148-17 [ESS-57B (0-3')]	B255755	10.8	10.0	04/06/20
20D0148-18 [ESS-57C (0-3')]	B255755	10.3	10.0	04/06/20
20D0148-19 [ESS-57D (0-3')]	B255755	10.8	10.0	04/06/20

**Sample Extraction Data**

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

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
20D0148-01 [ESS-30A (0-3')]	B255695	30.0	1.00	04/06/20
20D0148-02 [ESS-31A (0-3')]	B255695	30.0	1.00	04/06/20
20D0148-02RE1 [ESS-31A (0-3')]	B255695	30.0	1.00	04/06/20
20D0148-03 [ESS-31A (3-4.75')]	B255695	30.0	1.00	04/06/20
20D0148-04 [ESS-31B (0-3')]	B255695	30.0	1.00	04/06/20
20D0148-05 [ESS-31B (3-4.5')]	B255695	30.0	1.00	04/06/20
20D0148-06 [ESS-31C (0-3')]	B255695	30.0	1.00	04/06/20
20D0148-06RE1 [ESS-31C (0-3')]	B255695	30.0	1.00	04/06/20
20D0148-07 [ESS-31C (3-4.25')]	B255695	30.0	1.00	04/06/20
20D0148-08 [ESS-31D (0-3')]	B255695	30.0	1.00	04/06/20
20D0148-09 [ESS-31D (3-4.5')]	B255695	30.0	1.00	04/06/20
20D0148-10 [ESS-32A (0-3')]	B255695	30.0	1.00	04/06/20
20D0148-11 [ESS-33A (0-3')]	B255695	30.0	1.00	04/06/20
20D0148-12 [ESS-34A (0-3')]	B255695	30.0	1.00	04/06/20
20D0148-13 [ESS-35A (0-3')]	B255695	30.0	1.00	04/06/20
20D0148-14 [ESS-58 (0-3')]	B255695	30.0	1.00	04/06/20
20D0148-15 [ESS-59 (0-3')]	B255695	30.0	1.00	04/06/20
20D0148-20 [ESS-48 (0-4')]	B255695	30.0	1.00	04/06/20
20D0148-21 [ESS-50 (0-4')]	B255695	30.0	1.00	04/06/20
20D0148-22 [ESS-60 (0-4')]	B255695	30.0	1.00	04/06/20

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**QUALITY CONTROL**

**Semivolatile Organic Compounds by GC/MS - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B255695 - SW-846 3546</b>										
<b>Blank (B255695-BLK1)</b>										
Prepared & Analyzed: 04/06/20										
Acenaphthene	ND	0.17	mg/Kg wet							
Acenaphthylene	ND	0.17	mg/Kg wet							
Anthracene	ND	0.17	mg/Kg wet							
Benzo(a)anthracene	ND	0.17	mg/Kg wet							
Benzo(a)pyrene	ND	0.17	mg/Kg wet							
Benzo(b)fluoranthene	ND	0.17	mg/Kg wet							
Benzo(g,h,i)perylene	ND	0.17	mg/Kg wet							
Benzo(k)fluoranthene	ND	0.17	mg/Kg wet							
Chrysene	ND	0.17	mg/Kg wet							
Dibenz(a,h)anthracene	ND	0.17	mg/Kg wet							
Fluoranthene	ND	0.17	mg/Kg wet							
Fluorene	ND	0.17	mg/Kg wet							R-05
Indeno(1,2,3-cd)pyrene	ND	0.17	mg/Kg wet							
2-Methylnaphthalene	ND	0.17	mg/Kg wet							
Naphthalene	ND	0.17	mg/Kg wet							
Phenanthrene	ND	0.17	mg/Kg wet							
Pyrene	ND	0.17	mg/Kg wet							
Surrogate: Nitrobenzene-d5	2.75		mg/Kg wet	3.33		82.6	30-130			
Surrogate: 2-Fluorobiphenyl	3.68		mg/Kg wet	3.33		110	30-130			
Surrogate: p-Terphenyl-d14	3.61		mg/Kg wet	3.33		108	30-130			
<b>LCS (B255695-BS1)</b>										
Prepared & Analyzed: 04/06/20										
Acenaphthene	1.22	0.17	mg/Kg wet	1.67		73.2	40-140			
Acenaphthylene	1.22	0.17	mg/Kg wet	1.67		73.1	40-140			
Anthracene	1.28	0.17	mg/Kg wet	1.67		76.8	40-140			
Benzo(a)anthracene	1.22	0.17	mg/Kg wet	1.67		73.3	40-140			
Benzo(a)pyrene	1.31	0.17	mg/Kg wet	1.67		78.8	40-140			
Benzo(b)fluoranthene	1.27	0.17	mg/Kg wet	1.67		76.2	40-140			
Benzo(g,h,i)perylene	1.40	0.17	mg/Kg wet	1.67		84.1	40-140			
Benzo(k)fluoranthene	1.24	0.17	mg/Kg wet	1.67		74.7	40-140			
Chrysene	1.24	0.17	mg/Kg wet	1.67		74.2	40-140			
Dibenz(a,h)anthracene	1.25	0.17	mg/Kg wet	1.67		75.0	40-140			
Fluoranthene	1.24	0.17	mg/Kg wet	1.67		74.3	40-140			
Fluorene	1.25	0.17	mg/Kg wet	1.67		75.0	40-140			R-05
Indeno(1,2,3-cd)pyrene	1.40	0.17	mg/Kg wet	1.67		83.9	40-140			
2-Methylnaphthalene	1.33	0.17	mg/Kg wet	1.67		79.6	40-140			
Naphthalene	1.16	0.17	mg/Kg wet	1.67		69.7	40-140			
Phenanthrene	1.28	0.17	mg/Kg wet	1.67		76.8	40-140			
Pyrene	1.38	0.17	mg/Kg wet	1.67		82.8	40-140			
Surrogate: Nitrobenzene-d5	2.36		mg/Kg wet	3.33		70.8	30-130			
Surrogate: 2-Fluorobiphenyl	3.11		mg/Kg wet	3.33		93.3	30-130			
Surrogate: p-Terphenyl-d14	3.00		mg/Kg wet	3.33		90.0	30-130			

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**QUALITY CONTROL**

**Semivolatile Organic Compounds by GC/MS - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B255695 - SW-846 3546</b>										
<b>LCS Dup (B255695-BSD1)</b>										
Prepared & Analyzed: 04/06/20										
Acenaphthene	1.42	0.17	mg/Kg wet	1.67		85.1	40-140	15.0	30	
Acenaphthylene	1.42	0.17	mg/Kg wet	1.67		85.3	40-140	15.5	30	
Anthracene	1.50	0.17	mg/Kg wet	1.67		89.9	40-140	15.7	30	
Benzo(a)anthracene	1.44	0.17	mg/Kg wet	1.67		86.4	40-140	16.3	30	
Benzo(a)pyrene	1.48	0.17	mg/Kg wet	1.67		88.9	40-140	12.0	30	
Benzo(b)fluoranthene	1.50	0.17	mg/Kg wet	1.67		90.2	40-140	16.8	30	
Benzo(g,h,i)perylene	1.51	0.17	mg/Kg wet	1.67		90.5	40-140	7.42	30	
Benzo(k)fluoranthene	1.52	0.17	mg/Kg wet	1.67		91.3	40-140	20.1	30	
Chrysene	1.45	0.17	mg/Kg wet	1.67		87.2	40-140	16.2	30	
Dibenz(a,h)anthracene	1.53	0.17	mg/Kg wet	1.67		91.9	40-140	20.3	30	
Fluoranthene	1.46	0.17	mg/Kg wet	1.67		87.5	40-140	16.3	30	
Fluorene	1.87	0.17	mg/Kg wet	1.67		112	40-140	<b>39.6</b>	*	30 R-05
Indeno(1,2,3-cd)pyrene	1.59	0.17	mg/Kg wet	1.67		95.4	40-140	12.8	30	
2-Methylnaphthalene	1.51	0.17	mg/Kg wet	1.67		90.3	40-140	12.6	30	
Naphthalene	1.31	0.17	mg/Kg wet	1.67		78.6	40-140	12.1	30	
Phenanthrene	1.48	0.17	mg/Kg wet	1.67		89.1	40-140	14.8	30	
Pyrene	1.55	0.17	mg/Kg wet	1.67		92.7	40-140	11.3	30	
Surrogate: Nitrobenzene-d5	2.52		mg/Kg wet	3.33		75.7	30-130			
Surrogate: 2-Fluorobiphenyl	3.58		mg/Kg wet	3.33		107	30-130			
Surrogate: p-Terphenyl-d14	3.31		mg/Kg wet	3.33		99.4	30-130			
<b>Matrix Spike (B255695-MS1)</b>										
<b>Source: 20D0148-01</b>										
Prepared: 04/06/20 Analyzed: 04/08/20										
Acenaphthene	1.60	0.19	mg/Kg dry	1.90	ND	84.2	40-140			
Acenaphthylene	1.60	0.19	mg/Kg dry	1.90	ND	84.1	40-140			
Anthracene	1.62	0.19	mg/Kg dry	1.90	ND	85.4	40-140			
Benzo(a)anthracene	1.75	0.19	mg/Kg dry	1.90	0.195	81.7	40-140			
Benzo(a)pyrene	1.82	0.19	mg/Kg dry	1.90	0.217	84.3	40-140			
Benzo(b)fluoranthene	1.79	0.19	mg/Kg dry	1.90	0.281	79.4	40-140			
Benzo(g,h,i)perylene	1.30	0.19	mg/Kg dry	1.90	ND	68.7	40-140			
Benzo(k)fluoranthene	1.80	0.19	mg/Kg dry	1.90	ND	94.9	40-140			
Chrysene	1.77	0.19	mg/Kg dry	1.90	0.220	81.5	40-140			
Dibenz(a,h)anthracene	1.40	0.19	mg/Kg dry	1.90	ND	73.7	40-140			
Fluoranthene	2.25	0.19	mg/Kg dry	1.90	0.393	98.1	40-140			
Fluorene	1.62	0.19	mg/Kg dry	1.90	ND	85.2	40-140			
Indeno(1,2,3-cd)pyrene	1.53	0.19	mg/Kg dry	1.90	ND	80.7	40-140			
2-Methylnaphthalene	1.72	0.19	mg/Kg dry	1.90	ND	90.6	40-140			
Naphthalene	1.52	0.19	mg/Kg dry	1.90	ND	80.2	40-140			
Phenanthrene	1.82	0.19	mg/Kg dry	1.90	0.228	84.0	40-140			
Pyrene	1.99	0.19	mg/Kg dry	1.90	0.394	84.1	40-140			
Surrogate: Nitrobenzene-d5	2.96		mg/Kg dry	3.80		78.0	30-130			
Surrogate: 2-Fluorobiphenyl	4.19		mg/Kg dry	3.80		111	30-130			
Surrogate: p-Terphenyl-d14	3.63		mg/Kg dry	3.80		95.8	30-130			

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**QUALITY CONTROL**

**Semivolatile Organic Compounds by GC/MS - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B255695 - SW-846 3546</b>										
<b>Matrix Spike Dup (B255695-MSD1)</b>	<b>Source: 20D0148-01</b>			Prepared: 04/06/20 Analyzed: 04/08/20						
Acenaphthene	1.46	0.19	mg/Kg dry	1.90	ND	76.7	40-140	9.35	30	
Acenaphthylene	1.45	0.19	mg/Kg dry	1.90	ND	76.3	40-140	9.73	30	
Anthracene	1.52	0.19	mg/Kg dry	1.90	ND	79.9	40-140	6.63	30	
Benzo(a)anthracene	1.65	0.19	mg/Kg dry	1.90	0.195	76.5	40-140	5.89	30	
Benzo(a)pyrene	1.71	0.19	mg/Kg dry	1.90	0.217	78.8	40-140	5.91	30	
Benzo(b)fluoranthene	1.76	0.19	mg/Kg dry	1.90	0.281	78.1	40-140	1.33	30	
Benzo(g,h,i)perylene	1.15	0.19	mg/Kg dry	1.90	ND	60.4	40-140	12.9	30	
Benzo(k)fluoranthene	1.75	0.19	mg/Kg dry	1.90	ND	92.0	40-140	3.08	30	
Chrysene	1.63	0.19	mg/Kg dry	1.90	0.220	74.4	40-140	7.97	30	
Dibenz(a,h)anthracene	1.13	0.19	mg/Kg dry	1.90	ND	59.4	40-140	21.4	30	
Fluoranthene	1.82	0.19	mg/Kg dry	1.90	0.393	75.2	40-140	21.3	30	
Fluorene	1.50	0.19	mg/Kg dry	1.90	ND	78.8	40-140	7.81	30	
Indeno(1,2,3-cd)pyrene	1.40	0.19	mg/Kg dry	1.90	ND	73.7	40-140	9.14	30	
2-Methylnaphthalene	1.60	0.19	mg/Kg dry	1.90	ND	84.2	40-140	7.34	30	
Naphthalene	1.39	0.19	mg/Kg dry	1.90	ND	73.3	40-140	8.91	30	
Phenanthrene	1.72	0.19	mg/Kg dry	1.90	0.228	78.7	40-140	5.63	30	
Pyrene	1.98	0.19	mg/Kg dry	1.90	0.394	83.5	40-140	0.555	30	
Surrogate: Nitrobenzene-d5	2.66		mg/Kg dry	3.80		70.0	30-130			
Surrogate: 2-Fluorobiphenyl	3.48		mg/Kg dry	3.80		91.7	30-130			
Surrogate: p-Terphenyl-d14	3.46		mg/Kg dry	3.80		91.2	30-130			

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**QUALITY CONTROL**

**Organochloride Pesticides by GC/ECD - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B255755 - SW-846 3546</b>										
<b>Blank (B255755-BLK1)</b>										
Prepared: 04/06/20 Analyzed: 04/07/20										
Chlordane	ND	0.020	mg/Kg wet							
Chlordane [2C]	ND	0.020	mg/Kg wet							
Toxaphene	ND	0.10	mg/Kg wet							
Toxaphene [2C]	ND	0.10	mg/Kg wet							
Surrogate: Decachlorobiphenyl	0.178		mg/Kg wet	0.200		89.1	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.181		mg/Kg wet	0.200		90.7	30-150			
Surrogate: Tetrachloro-m-xylene	0.174		mg/Kg wet	0.200		87.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.153		mg/Kg wet	0.200		76.4	30-150			
<b>LCS (B255755-BS1)</b>										
Prepared: 04/06/20 Analyzed: 04/07/20										
Surrogate: Decachlorobiphenyl	0.173		mg/Kg wet	0.200		86.7	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.180		mg/Kg wet	0.200		89.8	30-150			
Surrogate: Tetrachloro-m-xylene	0.178		mg/Kg wet	0.200		88.9	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.161		mg/Kg wet	0.200		80.4	30-150			
<b>LCS (B255755-BS2)</b>										
Prepared: 04/06/20 Analyzed: 04/07/20										
Surrogate: Decachlorobiphenyl	0.182		mg/Kg wet	0.200		90.8	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.190		mg/Kg wet	0.200		95.0	30-150			
Surrogate: Tetrachloro-m-xylene	0.186		mg/Kg wet	0.200		92.8	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.164		mg/Kg wet	0.200		81.8	30-150			
<b>LCS Dup (B255755-BSD1)</b>										
Prepared: 04/06/20 Analyzed: 04/07/20										
Surrogate: Decachlorobiphenyl	0.182		mg/Kg wet	0.200		91.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.191		mg/Kg wet	0.200		95.3	30-150			
Surrogate: Tetrachloro-m-xylene	0.180		mg/Kg wet	0.200		90.0	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.168		mg/Kg wet	0.200		84.2	30-150			
<b>LCS Dup (B255755-BSD2)</b>										
Prepared: 04/06/20 Analyzed: 04/07/20										
Surrogate: Decachlorobiphenyl	0.183		mg/Kg wet	0.200		91.3	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.192		mg/Kg wet	0.200		96.0	30-150			
Surrogate: Tetrachloro-m-xylene	0.163		mg/Kg wet	0.200		81.4	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.181		mg/Kg wet	0.200		90.7	30-150			



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**QUALITY CONTROL**

**Metals Analyses (Total) - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B255749 - SW-846 3050B</b>										
<b>Blank (B255749-BLK1)</b>										
Prepared: 04/06/20 Analyzed: 04/07/20										
Arsenic	ND	3.3	mg/Kg wet							
Lead	ND	0.50	mg/Kg wet							
<b>LCS (B255749-BS1)</b>										
Prepared: 04/06/20 Analyzed: 04/07/20										
Arsenic	139	10	mg/Kg wet	143		97.1	83.2-117.5			
Lead	124	1.5	mg/Kg wet	125		99.3	82.4-116.8			
<b>LCS Dup (B255749-BSD1)</b>										
Prepared: 04/06/20 Analyzed: 04/07/20										
Arsenic	142	10	mg/Kg wet	143		99.6	83.2-117.5	2.54	30	
Lead	125	1.5	mg/Kg wet	125		99.8	82.4-116.8	0.489	30	
<b>Duplicate (B255749-DUP1)</b>										
<b>Source: 20D0148-04</b>										
Prepared: 04/06/20 Analyzed: 04/07/20										
Arsenic	10.8	3.8	mg/Kg dry		10.3			5.05	35	
Lead	88.2	0.57	mg/Kg dry		87.3			0.998	35	
<b>Matrix Spike (B255749-MS1)</b>										
<b>Source: 20D0148-04</b>										
Prepared: 04/06/20 Analyzed: 04/07/20										
Arsenic	27.6	3.8	mg/Kg dry	19.2	10.3	89.9	75-125			
Lead	106	0.58	mg/Kg dry	19.2	87.3	98.0	75-125			
<b>Reference (B255749-SRM1)</b>										
Prepared: 04/06/20 Analyzed: 04/07/20										
Lead	0.437	0.50	mg/Kg wet	0.500		87.4	80-120			

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**QUALITY CONTROL**

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B255820 - % Solids</b>										
<b>Duplicate (B255820-DUP3)</b>	<b>Source: 20D0148-01</b>		Prepared & Analyzed: 04/08/20							
% Solids	87.1		% Wt		87.8			0.793	20	
<b>Duplicate (B255820-DUP4)</b>	<b>Source: 20D0148-02</b>		Prepared & Analyzed: 04/08/20							
% Solids	87.9		% Wt		87.8			0.0696	20	
<b>Duplicate (B255820-DUP5)</b>	<b>Source: 20D0148-03</b>		Prepared & Analyzed: 04/08/20							
% Solids	86.2		% Wt		86.9			0.824	20	
<b>Duplicate (B255820-DUP6)</b>	<b>Source: 20D0148-04</b>		Prepared & Analyzed: 04/08/20							
% Solids	85.8		% Wt		85.5			0.374	20	
<b>Duplicate (B255820-DUP7)</b>	<b>Source: 20D0148-05</b>		Prepared & Analyzed: 04/08/20							
% Solids	84.7		% Wt		84.5			0.197	20	

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## BREAKDOWN REPORT

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**Lab Sample ID:** S047426-PEM1 **Analyzed:** 04/07/2020

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**Column Number:** 1

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Analyte	% Breakdown
4,4'-DDT [1]	1.54
Endrin [1]	3.77

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**Column Number:** 2

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Analyte	% Breakdown
4,4'-DDT [2]	1.34
Endrin [2]	4.34

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## BREAKDOWN REPORT

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**Lab Sample ID:** S047426-PEM2 **Analyzed:** 04/07/2020

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**Column Number:** 1

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Analyte	% Breakdown
4,4'-DDT [1]	1.27
Endrin [1]	2.95

---

**Column Number:** 2

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Analyte	% Breakdown
4,4'-DDT [2]	1.12
Endrin [2]	3.25

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**FLAG/QUALIFIER SUMMARY**

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
DL-03	Elevated reporting limit due to matrix interference.
E	Reported result is estimated. Value reported over verified calibration range.
R-05	Laboratory fortified blank duplicate RPD is outside of control limits. Reduced precision is anticipated for any reported value for this compound.
RL-12	Elevated reporting limit due to matrix interference.
V-06	Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side for this compound.

**CERTIFICATIONS**

**Certified Analyses included in this Report**

Analyte	Certifications
<b>SW-846 6010D in Soil</b>	
Arsenic	CT,NH,NY,ME,VA,NC
Lead	CT,NH,NY,AIHA,ME,VA,NC
<b>SW-846 8081B in Soil</b>	
Chlordane	CT,NC,NH,NY,ME,VA
Chlordane [2C]	CT,NC,NH,NY,ME,VA
<b>SW-846 8081B in Water</b>	
Chlordane	CT,NC,NH,NY,ME,VA
Chlordane [2C]	CT,NC,NH,NY,ME,VA
<b>SW-846 8270D-E in Soil</b>	
Acenaphthene	CT,NY,NH,ME,NC,VA
Acenaphthylene	CT,NY,NH,ME,NC,VA
Anthracene	CT,NY,NH,ME,NC,VA
Benzo(a)anthracene	CT,NY,NH,ME,NC,VA
Benzo(a)pyrene	CT,NY,NH,ME,NC,VA
Benzo(b)fluoranthene	CT,NY,NH,ME,NC,VA
Benzo(g,h,i)perylene	CT,NY,NH,ME,NC,VA
Benzo(k)fluoranthene	CT,NY,NH,ME,NC,VA
Chrysene	CT,NY,NH,ME,NC,VA
Dibenz(a,h)anthracene	CT,NY,NH,ME,NC,VA
Fluoranthene	CT,NY,NH,ME,NC,VA
Fluorene	CT,NY,NH,ME,NC,VA
Indeno(1,2,3-cd)pyrene	CT,NY,NH,ME,NC,VA
2-Methylnaphthalene	CT,NY,NH,ME,NC,VA
Naphthalene	CT,NY,NH,ME,NC,VA
Phenanthrene	CT,NY,NH,ME,NC,VA
Pyrene	CT,NY,NH,ME,NC,VA
<b>SW-846 8270D-E in Water</b>	
Acenaphthene	CT,NY,NH,ME,NC,VA
Acenaphthylene	CT,NY,NH,ME,NC,VA
Anthracene	CT,NY,NH,ME,NC,VA
Benzo(a)anthracene	CT,NY,NH,ME,NC,VA
Benzo(a)pyrene	CT,NY,NH,ME,NC,VA
Benzo(b)fluoranthene	CT,NY,NH,ME,NC,VA
Benzo(g,h,i)perylene	CT,NY,NH,ME,NC,VA
Benzo(k)fluoranthene	CT,NY,NH,ME,NC,VA
Chrysene	CT,NY,NH,ME,NC,VA
Dibenz(a,h)anthracene	CT,NY,NH,ME,NC,VA
Fluoranthene	CT,NY,NH,ME,NC,VA
Fluorene	CT,NY,NH,ME,NC,VA
Indeno(1,2,3-cd)pyrene	CT,NY,NH,ME,NC,VA
2-Methylnaphthalene	CT,NY,NH,ME,NC,VA
Naphthalene	CT,NY,NH,ME,NC,VA
Phenanthrene	CT,NY,NH,ME,NC,VA
Pyrene	CT,NY,NH,ME,NC,VA

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

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2017	100033	03/1/2022
MA	Massachusetts DEP	M-MA100	06/30/2020
CT	Connecticut Department of Public Health	PH-0567	09/30/2021
NY	New York State Department of Health	10899 NELAP	04/1/2021
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2021
RI	Rhode Island Department of Health	LAO00112	12/30/2020
NC	North Carolina Div. of Water Quality	652	12/31/2020
NJ	New Jersey DEP	MA007 NELAP	06/30/2020
FL	Florida Department of Health	E871027 NELAP	06/30/2020
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2020
ME	State of Maine	2011028	06/9/2021
VA	Commonwealth of Virginia	460217	12/14/2020
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2020
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2020
NC-DW	North Carolina Department of Health	25703	07/31/2020
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2020

STANDARD CHAIN OF CUSTODY RECORD  
 10-Day  10-Day  Due Date:   
 PFAS 10-Day (std)  Field Filtered   
 Lab to Filter   
 1-Day  3-Day  Field Filtered   
 2-Day  4-Day  Lab to Filter   
 Format: PDF  EXCEL   
 Other:   
 CLP Like Data Pig Required:   
 Email To: CORRANIS@ESSGROUP.COM  
 Fax To #:

Con-Test Work Order #	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE
1	ESS-30A (0-3)	4/1/20	8:40	GRAB	S	U	1				
2	ESS-31A (0-3)		7:30		S	U	1				
3	ESS-31A (3-4.75)		10:15		S	U	1				
4	ESS-31B (0-3)		9:45		S	U	1				
5	ESS-31B (3-4.5)		10:35		S	U	1				
6	ESS-31C (0-3)		10:30		S	U	1				
7	ESS-31C (0.3-4.25)		11:05		S	U	1				
8	ESS-31D (0-3)		11:00		S	U	1				
9	ESS-31D (3-4.5)		12:10		S	U	1				
10	ESS-32A (0-3)		13:10		S	U	1				

Relinquished by: (signature) Craig P. Paradowski Date/Time: 4/13/20 10:20  
 Received by: (signature) [Signature] Date/Time: 4/13/20 10:21  
 Relinquished by: (signature) [Signature] Date/Time: 4/13/20 16:10  
 Received by: (signature) [Signature] Date/Time: 4/13/20 16:10  
 Relinquished by: (signature) [Signature] Date/Time: 4/13/20 16:10  
 Received by: (signature) [Signature] Date/Time: 4/13/20 16:10

Client Comments: **MUST SEE RIDEM REMEDIATION REGULATION RDECs, EXCEPT FOR ESS-30A, HOLD ALL SPLP LEAD ANALYSIS PENDING TOTAL LEAD CONCENTRATIONS AT 20X SPLP LEAD CONCENTRATION. CALL CRAIG P. WITH QUESTIONS.**

MA MCP Required  MA MCP Certification Form Required   
 MUP Certification Form Required  CT RCP Required   
 RCP Certification Form Required  MA State DW Required

Project Entity:  Government  Municipality  MWRA  WRTA  Other   
 Federal  21 J  School  Chromatogram   
 City  Brownfield  MBTA  AIHA-LAP, LLC

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

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

Preservation Code: None  
 Total Number Of: 10  
 VIALS \_\_\_\_\_  
 GLASS \_\_\_\_\_  
 PLASTIC \_\_\_\_\_  
 BACTERIA \_\_\_\_\_  
 ENCORE \_\_\_\_\_

Glassware in the fridge? Y/N \_\_\_\_\_  
 Glassware in freezer? Y/N \_\_\_\_\_  
 Prepackaged Cooler? Y/N \_\_\_\_\_  
 \*Contest is not responsible for missing samples from prepackaged coolers

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

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

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

MA MCP Required  MA MCP Certification Form Required   
 MUP Certification Form Required  CT RCP Required   
 RCP Certification Form Required  MA State DW Required

Project Entity:  Government  Municipality  MWRA  WRTA  Other   
 Federal  21 J  School  Chromatogram   
 City  Brownfield  MBTA  AIHA-LAP, LLC

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



20200148  
 Phone: 413-525-2332  
 Fax: 413-525-6405  
 Email: info@contestlabs.com

Address: 404 WYMAN ST SUITE 305 WALTHAM, MA  
 Phone: 781-419-7714  
 Project Location: SCITUATE A1  
 Project Number: P312-007.03  
 Project Manager: C. PARADIS  
 Con-Test Quote Name/Number: BOABRAL@ESSGROUP.COM  
 Invoice Recipient: CP FMO

STANDARD CHAIR OF CUSTODY RECORD  
 39 Spruce Street  
 East Longmeadow, MA 01028

Page 2 of 4

Con-Test Work Order#	Client Sample ID / Description	Receiving Date/Time	Ending Date/Time	COMP/GRAB	Matrix Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE
11	ESS-33A (0-3')	4/1/20	13:45	GRAB	S	U	4X			
12	ESS-34A (0-3')	13:30	13:30				4X			
13	ESS-35A (0-3')	14:00	14:00				4X			
14	ESS-58 (0-3')	14:45	14:45				3X			
15	ESS-58 (3-7.5')	15:15	15:15				1X			
15	ESS-58 (8-10.5')	15:20	15:20				1X			
15	ESS-59 (0-3')	15:00	15:00				3X			
15	ESS-59 (3-8')	15:45	15:45				1X			
10	ESS-57A (0-3')	4/2/20	7:50	GRAB	S	U	1X			
10	ESS-57A (3-5')	4/2/20	10:20	GRAB	S	U	1X			

Client Comments: MUST MEET RIDEM REMEDIATION REGULATIONS RDECs. HOLD ALL SPLD LEAD ANALYSIS PENDING TOTAL LEAD AT CONCENTRATIONS AT GREATER THAN 20X THE SPLD CONCENTRATION. CALL C. PARADIS WITH QUESTIONS

ICED ANALYSIS REQUESTED

Preservation Code: COOLERS ONLY

Total Number Of:           

VIALS:             
 GLASS:             
 PLASTIC:             
 BACTERIA:             
 ENCORE:           

Glassware in the fridge? Y/N           

Glassware in freezer? Y/N           

Prepackaged Cooler? Y/N           

\*Context is not responsible for missing samples from prepackaged coolers

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

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

MA MCP Required	MCP Certification Form Required	CT RCP Required	RCP Certification Form Required	MA State D/W Required	PWSID #	Project Entity	Government	Federal	City	Municipality	21 J	Brownfield	MWRA	School	MBTA	WRTA	Other	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Lab Comments:

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





SLH  
2020148  
Phone: 413-525-2332  
Fax: 413-525-6405  
Email: info@contestlabs.com

Address: 46 WILMAN ST. SUITE 375, WALTHAM  
Phone: 781-419-7714  
Project Location: SCITUATE, RI  
Project Number: P32-007.03  
Project Manager: C. PARADIS  
Con-Test Quote Name/Number: CP-410  
Invoice Recipient: B-CABRAL@ESSGROUP.COM  
Sampled By: CP-410

Doc # 381 Rev 2\_06262019

39 Spruce Street  
East Longmeadow, MA 01028

CHAIN OF CUSTODY RECORD

STANDARD

39 Spruce Street  
East Longmeadow, MA 01028



Address: 46 WILMAN ST. SUITE 375, WALTHAM  
Phone: 781-419-7714  
Project Location: SCITUATE, RI  
Project Number: P32-007.03  
Project Manager: C. PARADIS  
Con-Test Quote Name/Number: CP-410  
Invoice Recipient: B-CABRAL@ESSGROUP.COM  
Sampled By: CP-410

STANDARD CHAIN OF CUSTODY RECORD

10-Day  10-Day  Field Filtered   
 PFAS 10-Day (std)  Due Date:  Lab to Filter   
 1-Day  3-Day  Field Filtered   
 2-Day  4-Day  Lab to Filter

Format: PDF  EXCEL   
 Other:

CLP Like Data Pkg Required:

Email To: C.PARADIS@ESSGROUP.COM  
 Fax To #:

Con-Test Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	Matrix Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE
17	ESS-57A (5-9')	4/2/20	11:00	GRAB	S	1	X			
	ESS-57B (0-3')		8:25			1	X			
	ESS-57B (3-5')		9:10			1	X			
	ESS-57B (5-8')		9:35			1	X			
	ESS-57C (0-3')		8:10			1	X			
	ESS-57C (3-5')		11:10			1	X			
	ESS-57C (5-8')		11:40			1	X			
19	ESS-57D (0-3')		7:50			1	X			
	ESS-57D (3-5')		8:45			1	X			
	ESS-57D (5-9')		9:00			1	X			

Relinquished by: (signature) *Joe Ellis* Date: 4/3/20 10:20  
 Received by: (signature) *Joe Ellis* Date: 4/3/20 10:20  
 Relinquished by: (signature) *Joe Ellis* Date: 4/3/20 16:10  
 Received by: (signature) *Joe Ellis* Date: 4/3/20 16:10  
 Relinquished by: (signature) *Joe Ellis* Date: 5/5/20 10:10  
 Received by: (signature) *Joe Ellis* Date: 5/5/20 10:10

Client Comments: MUST MEET RIDEM REMEDIATION REGULATION DEC. CALL C. PARADIS WITH QUESTIONS

MA MCP Required   
 MCP Certification Form Required   
 CT RCP Required   
 RCP Certification Form Required   
 MA State DWR Required   
 PWSID #

Project Entity:  Government  Municipality  WRTA  Other   
 Federal  21 J  School  MBTA  Chromatogram   
 City  Brownfield  ALPHA-LAP, LLC

NEIAC and ALPHA-LAP, LLC Accredited

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

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

3 PCB ONLY  
 Soxhlet  
 Non Soxhlet

ANALYSIS REQUESTED: Iced

Preservation Code:  Iced

Total Number Of:  VIALS  GLASS  PLASTIC  BACTERIA  ENCORE

Glassware in the fridge? Y/N

Glassware in freezer? Y/N

Prepackaged Cooler? Y/N

\*Contest is not responsible for missing samples from prepacked coolers

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

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

3 PCB ONLY  
 Soxhlet  
 Non Soxhlet

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

MA MCP Required   
 MCP Certification Form Required   
 CT RCP Required   
 RCP Certification Form Required   
 MA State DWR Required   
 PWSID #

Project Entity:  Government  Municipality  WRTA  Other   
 Federal  21 J  School  MBTA  Chromatogram   
 City  Brownfield  ALPHA-LAP, LLC

NEIAC and ALPHA-LAP, LLC Accredited

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

Doc # 381 Rev 2\_06262019

**STANDARD CHAIN OF CUSTODY RECORD**  
 39 Spruce Street  
 East Longmeadow, MA 01028  
**COMBINED CONTAINER ANALYSIS REQUESTED**

Client Name: **ESS GROUP, INC**  
 Address: **404 WYMAN ST SUITE 375 WALTHAM**  
 Phone: **781-419-7714**  
 Project Location: **30 TOWATE, RI**  
 Project Number: **P312-007.03**  
 Project Manager: **C. PARADIS**  
 Con-Test Quote Name/Number:  
 Invoice Recipient: **C. PARADIS @ ESSGROUP.COM**  
 Sampled By: **CP + MG**

Analysis Requested: **PFAS 10-Day (std)**  **Field Filtered**   
**10-Day**  **Lab to Filter**   
**Due Date:**  
**3-Day**  **Field Filtered**   
**4-Day**  **Lab to Filter**   
 Format: **PDF**  **EXCEL**   
 Other:  
 CLP Like Data Pkg Required:   
 Email To: **C. PARADIS @ ESSGROUP.COM**  
 Fax To #:

Con-Test Work Order #	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP GRAB	Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE
20	ESS-48 (0-4')	4/2/20	14:40	GRAB	S	0	1X				
	ESS-48 (4-8')		15:00				1X				
	ESS-48 (8-10.5')		15:20				1X				
21	ESS-50 (0-4')		13:10				1X				
	ESS-50 (4-8')		13:40				1X				
	ESS-50 (8-9.5')		14:10				1X				
22	ESS-60 (0-4')		15:45				1X				
	ESS-60 (4-8')		16:00				1X				
	ESS-60 (8-9.5')		16:20				1X				

Client Comments: **MUST MEET RIDEM REM. REGS RDEC'S. CALL CRAIG P. WITH QUESTIONS**

Relinquished by: (signature) *Craig P. Paradis* Date/Time: **4/3/20 10:20**  
 Received by: (signature) *Joe Ellis* Date/Time: **4/3/20 10:20**  
 Relinquished by: (signature) *Joe Ellis* Date/Time: **4/13/20 16:16**  
 Received by: (signature) *Joe Ellis* Date/Time: **4/13/20 16:10**  
 Relinquished by: (signature) *Joe Ellis* Date/Time: **4/13/20 16:10**  
 Received by: (signature) *Joe Ellis* Date/Time: **4/13/20 16:10**

Project Entity:  Government  Federal  City  
 Municipality  WRTA  Other  
 21 J Brownfield  
 MBTA School MBTA

MA MCP Required   
 MCP Certification Form Required   
 CT RCP Required   
 RCP Certification Form Required   
 MA State DW Required

Preservation Code	Total Number Of:	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE

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

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

\*Context is not responsible for missing samples from prepacked coolers

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

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

MA MCP Required   
 MCP Certification Form Required   
 CT RCP Required   
 RCP Certification Form Required   
 MA State DW Required

NEELAC and AIHA-LAP UIC Accredited

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

## Rebecca Faust

---

**From:** Jessica Hoffman <jessica.hoffman@contestlabs.com> on behalf of Jessica Hoffman  
**Sent:** Friday, April 03, 2020 2:54 PM  
**To:** Rebecca Faust  
**Subject:** FW: Samples  
**Attachments:** P312-007.03\_Test Pits\_CP (78).JPG

Does below make sense for a Prelog we should have received?

Have a great day,

Jessica Hoffman  
 Project Manager  
 Con-Test Analytical Laboratory  
 40 Spruce Street., East Longmeadow, MA 01028  
 Office Phone: 413.525.2332 x56 | Email: [jessica.hoffman@contestlabs.com](mailto:jessica.hoffman@contestlabs.com)  
**My current phone number is 413-285-6707**

---

**From:** Craig Paradis <[cparadis@essgroup.com](mailto:cparadis@essgroup.com)>  
**Sent:** Friday, April 03, 2020 11:32 AM  
**To:** Jessica Hoffman <[jessica.hoffman@contestlabs.com](mailto:jessica.hoffman@contestlabs.com)>  
**Cc:** Derek Lonczak <[derek.lonczak@contestlabs.com](mailto:derek.lonczak@contestlabs.com)>  
**Subject:** Samples

Hi Jessica,

Unfortunately, I don't have scanning capability so please refer to the photo attached. I submitted four (4) COCs with the samples that were collected from my house today. On the fourth page (refer to photo) I requested analysis for ESS-48 (4-8), ESS-48 (8-10.5), ESS-50 (4-8), ESS-50 (8-9.5), ESS-60 (4-8), and ESS-60 (8-9.5). I would like to hold all analysis on these samples.

Also, on the COCs I indicated a hold on SPLP lead for all samples pending total lead concentrations at 20x greater than the SPLP lead concentration. I want to clarify this by stating that the SPLP lead analysis should be performed if the total lead concentration is equal to or greater than 0.8 mg/kg.

Please confirm the above or contact me should you have any questions.

Thank you,  
 Craig

**Craig Paradis | Hazardous Materials & Remediation Scientist**  
**Land & Waterfront Development and Remediation**  
**ESS Group, Inc.**  
 404 Wyman Street, Suite 375, Waltham, MA 02451 | p 781.419.7714 | c 508.341.8103

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This email message and any attachments are confidential. If you are not the intended recipient, please immediately reply to the sender and delete the message from your email system. Thank you.



**con-test**  
ANALYTICAL LABORATORY

Doc# 277 Rev 5 2017

I Have Not Confirmed Sample Container Numbers With Lab Staff Before Relinquishing Over Samples \_\_\_\_\_

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

Client ESS  
 Received By gda Date 4/3/20 Time 1610  
 How were the samples received? In Cooler T No Cooler \_\_\_\_\_ On Ice T No Ice \_\_\_\_\_  
 Direct from Sampling \_\_\_\_\_ Ambient \_\_\_\_\_ Melted Ice \_\_\_\_\_  
 Were samples within Temperature? 2-6°C T By Gun # 2 Actual Temp - 5.8  
 By Blank # \_\_\_\_\_ Actual Temp - \_\_\_\_\_  
 Was Custody Seal Intact? n/a Were Samples Tampered with? n/a  
 Was COC Relinquished? T Does Chain Agree With Samples? T  
 Are there broken/leaking/loose caps on any samples? F  
 Is COC in ink/ Legible? T Were samples received within holding time? T  
 Did COC include all pertinent Information? Client T Analysis T Sampler Name F  
 Project T ID's T Collection Dates/Times T  
 Are Sample labels filled out and legible? T  
 Are there Lab to Filters? F Who was notified? \_\_\_\_\_  
 Are there Rushes? F Who was notified? \_\_\_\_\_  
 Are there Short Holds? F Who was notified? \_\_\_\_\_  
 Is there enough Volume? T  
 Is there Headspace where applicable? n/a MS/MSD? F  
 Proper Media/Containers Used? T Is splitting samples required? F  
 Were trip blanks received? F On COC? F  
 Do all samples have the proper pH? Acid n/a Base n/a

Vials	#	Containers:	#	#	#	#
Unp-		1 Liter Amb.		1 Liter Plastic		16 oz Amb.
HCL-		500 mL Amb.		500 mL Plastic		8oz Amb/Clear
Meoh-		250 mL Amb.		250 mL Plastic		4oz Amb/Clear
Bisulfate-		Flashpoint		Col./Bacteria		2oz Amb/Clear
DI-		Other Glass		Other Plastic		Encore
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:
Sulfuric-		Perchlorate		Ziplock		

**Unused Media**

Vials	#	Containers:	#	#	#	#
Unp-		1 Liter Amb.		1 Liter Plastic		16 oz Amb.
HCL-		500 mL Amb.		500 mL Plastic		8oz Amb/Clear
Meoh-		250 mL Amb.		250 mL Plastic		4oz Amb/Clear
Bisulfate-		Col./Bacteria		Flashpoint		2oz Amb/Clear
DI-		Other Plastic		Other Glass		Encore
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:
Sulfuric-		Perchlorate		Ziplock		

Comments:

April 23, 2020

Craig Paradis  
ESS Group Inc.  
404 Wyman St. Suite 375  
Waltham, MA 02451

Project Location: Scituate, RI  
Client Job Number:  
Project Number: P312-007  
Laboratory Work Order Number: 20D0149

Enclosed are results of analyses for samples received by the laboratory on April 3, 2020. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Jessica Hoffman". The signature is written in a cursive style with a light blue background behind it.

Jessica L. Hoffman  
Project Manager

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

ESS Group Inc.  
 404 Wyman St. Suite 375  
 Waltham, MA 02451  
 ATTN: Craig Paradis

REPORT DATE: 4/23/2020

PURCHASE ORDER NUMBER:

PROJECT NUMBER: P312-007

**ANALYTICAL SUMMARY**

WORK ORDER NUMBER: 20D0149

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

PROJECT LOCATION: Scituate, RI

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
ESS-58 (3-7.5')	20D0149-01	Soil		SM 2540G SW-846 6010D	
ESS-57A (3-5')	20D0149-04	Soil		SM 2540G SW-846 8081B	
ESS-57A (5-9')	20D0149-05	Soil		SM 2540G SW-846 8081B	
ESS-57B (3-5')	20D0149-06	Soil		SM 2540G SW-846 8081B	
ESS-57B (5-8')	20D0149-07	Soil		SM 2540G SW-846 8081B	
ESS-57C (3-5')	20D0149-08	Soil		SM 2540G SW-846 8081B	
ESS-57C (5-8')	20D0149-09	Soil		SM 2540G SW-846 8081B	
ESS-57D (3-5')	20D0149-10	Soil		SM 2540G SW-846 8081B	
ESS-57D (5-9')	20D0149-11	Soil		SM 2540G SW-846 8081B	
ESS-50 (4-8')	20D0149-14	Soil		SM 2540G SW-846 8270D-E	



**CASE NARRATIVE SUMMARY**

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

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

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

A handwritten signature in black ink, appearing to read "Lisa A. Worthington", is written over a light gray rectangular background.

Lisa A. Worthington  
Technical Representative

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

Project Location: Scituate, RI

Sample Description:

Work Order: 20D0149

Date Received: 4/3/2020

Field Sample #: ESS-58 (3-7.5')

Sampled: 4/1/2020 15:15

Sample ID: 20D0149-01

Sample Matrix: Soil

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	ND	3.7	mg/Kg dry	1		SW-846 6010D	4/17/20	4/17/20 15:40	MJH

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0149

Date Received: 4/3/2020

Field Sample #: ESS-58 (3-7.5')

Sampled: 4/1/2020 15:15

Sample ID: 20D0149-01

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	87.4		% Wt	1		SM 2540G	4/20/20	4/21/20 10:15	CBM

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0149

Date Received: 4/3/2020

Field Sample #: ESS-57A (3-5')

Sampled: 4/2/2020 10:20

Sample ID: 20D0149-04

Sample Matrix: Soil

**Organochloride Pesticides by GC/ECD**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Chlordane [1]	ND	0.019	mg/Kg dry	1		SW-846 8081B	4/16/20	4/22/20 4:11	WAL
Surrogates	% Recovery	Recovery Limits			Flag/Qual				
Decachlorobiphenyl [1]	90.0	30-150						4/22/20 4:11	
Decachlorobiphenyl [2]	92.9	30-150						4/22/20 4:11	
Tetrachloro-m-xylene [1]	82.5	30-150						4/22/20 4:11	
Tetrachloro-m-xylene [2]	81.2	30-150						4/22/20 4:11	

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0149

Date Received: 4/3/2020

Field Sample #: ESS-57A (3-5')

Sampled: 4/2/2020 10:20

Sample ID: 20D0149-04

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	95.5		% Wt	1		SM 2540G	4/20/20	4/21/20 10:15	CBM

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0149

Date Received: 4/3/2020

Field Sample #: ESS-57A (5-9')

Sampled: 4/2/2020 11:00

Sample ID: 20D0149-05

Sample Matrix: Soil

**Organochloride Pesticides by GC/ECD**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Chlordane [1]	ND	0.021	mg/Kg dry	1		SW-846 8081B	4/16/20	4/22/20 9:47	WAL
Surrogates	% Recovery	Recovery Limits			Flag/Qual				
Decachlorobiphenyl [1]	90.6	30-150						4/22/20 9:47	
Decachlorobiphenyl [2]	93.9	30-150						4/22/20 9:47	
Tetrachloro-m-xylene [1]	86.0	30-150						4/22/20 9:47	
Tetrachloro-m-xylene [2]	83.6	30-150						4/22/20 9:47	

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0149

Date Received: 4/3/2020

Field Sample #: ESS-57A (5-9')

Sampled: 4/2/2020 11:00

Sample ID: 20D0149-05

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	92.3		% Wt	1		SM 2540G	4/20/20	4/21/20 10:15	CBM

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0149

Date Received: 4/3/2020

Field Sample #: ESS-57B (3-5')

Sampled: 4/2/2020 09:10

Sample ID: 20D0149-06

Sample Matrix: Soil

**Organochloride Pesticides by GC/ECD**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Chlordane [1]	ND	0.020	mg/Kg dry	1		SW-846 8081B	4/16/20	4/22/20 5:05	WAL
Surrogates		% Recovery	Recovery Limits		Flag/Qual				
Decachlorobiphenyl [1]		97.0	30-150					4/22/20 5:05	
Decachlorobiphenyl [2]		100	30-150					4/22/20 5:05	
Tetrachloro-m-xylene [1]		85.2	30-150					4/22/20 5:05	
Tetrachloro-m-xylene [2]		86.0	30-150					4/22/20 5:05	



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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0149

Date Received: 4/3/2020

Field Sample #: ESS-57B (3-5')

Sampled: 4/2/2020 09:10

Sample ID: 20D0149-06

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	94.8		% Wt	1		SM 2540G	4/20/20	4/21/20 10:16	CBM

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0149

Date Received: 4/3/2020

Field Sample #: ESS-57B (5-8')

Sampled: 4/2/2020 09:35

Sample ID: 20D0149-07

Sample Matrix: Soil

**Organochloride Pesticides by GC/ECD**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Chlordane [1]	ND	0.021	mg/Kg dry	1		SW-846 8081B	4/16/20	4/22/20 5:31	WAL
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
Decachlorobiphenyl [1]	92.0	30-150					4/22/20	5:31	
Decachlorobiphenyl [2]	96.1	30-150					4/22/20	5:31	
Tetrachloro-m-xylene [1]	82.0	30-150					4/22/20	5:31	
Tetrachloro-m-xylene [2]	78.2	30-150					4/22/20	5:31	

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0149

Date Received: 4/3/2020

Field Sample #: ESS-57B (5-8')

Sampled: 4/2/2020 09:35

Sample ID: 20D0149-07

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	92.1		% Wt	1		SM 2540G	4/20/20	4/21/20 10:16	CBM

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0149

Date Received: 4/3/2020

Field Sample #: ESS-57C (3-5')

Sampled: 4/2/2020 11:10

Sample ID: 20D0149-08

Sample Matrix: Soil

**Organochloride Pesticides by GC/ECD**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Chlordane [1]	ND	0.020	mg/Kg dry	1		SW-846 8081B	4/16/20	4/22/20 5:58	WAL
Surrogates		% Recovery	Recovery Limits		Flag/Qual				
Decachlorobiphenyl [1]		92.8	30-150					4/22/20 5:58	
Decachlorobiphenyl [2]		96.3	30-150					4/22/20 5:58	
Tetrachloro-m-xylene [1]		91.3	30-150					4/22/20 5:58	
Tetrachloro-m-xylene [2]		88.3	30-150					4/22/20 5:58	

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0149

Date Received: 4/3/2020

Field Sample #: ESS-57C (3-5')

Sampled: 4/2/2020 11:10

Sample ID: 20D0149-08

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	94.7		% Wt	1		SM 2540G	4/20/20	4/21/20 10:17	CBM

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0149

Date Received: 4/3/2020

Field Sample #: ESS-57C (5-8')

Sampled: 4/2/2020 11:40

Sample ID: 20D0149-09

Sample Matrix: Soil

**Organochloride Pesticides by GC/ECD**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Chlordane [1]	ND	0.020	mg/Kg dry	1		SW-846 8081B	4/16/20	4/22/20 6:25	WAL
Surrogates	% Recovery		Recovery Limits		Flag/Qual				
Decachlorobiphenyl [1]	93.5		30-150					4/22/20 6:25	
Decachlorobiphenyl [2]	97.6		30-150					4/22/20 6:25	
Tetrachloro-m-xylene [1]	87.5		30-150					4/22/20 6:25	
Tetrachloro-m-xylene [2]	87.4		30-150					4/22/20 6:25	

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0149

Date Received: 4/3/2020

Field Sample #: ESS-57C (5-8')

Sampled: 4/2/2020 11:40

Sample ID: 20D0149-09

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	92.1		% Wt	1		SM 2540G	4/20/20	4/21/20 10:17	CBM

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0149

Date Received: 4/3/2020

Field Sample #: ESS-57D (3-5')

Sampled: 4/2/2020 08:45

Sample ID: 20D0149-10

Sample Matrix: Soil

**Organochloride Pesticides by GC/ECD**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Chlordane [1]	ND	0.020	mg/Kg dry	1		SW-846 8081B	4/16/20	4/22/20 6:52	WAL
Surrogates	% Recovery	Recovery Limits			Flag/Qual				
Decachlorobiphenyl [1]	88.9	30-150						4/22/20 6:52	
Decachlorobiphenyl [2]	93.2	30-150						4/22/20 6:52	
Tetrachloro-m-xylene [1]	80.2	30-150						4/22/20 6:52	
Tetrachloro-m-xylene [2]	78.4	30-150						4/22/20 6:52	



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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0149

Date Received: 4/3/2020

Field Sample #: ESS-57D (3-5')

Sampled: 4/2/2020 08:45

Sample ID: 20D0149-10

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	93.6		% Wt	1		SM 2540G	4/20/20	4/21/20 10:17	CBM

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0149

Date Received: 4/3/2020

Field Sample #: ESS-57D (5-9')

Sampled: 4/2/2020 09:00

Sample ID: 20D0149-11

Sample Matrix: Soil

**Organochloride Pesticides by GC/ECD**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Chlordane [1]	ND	0.019	mg/Kg dry	1		SW-846 8081B	4/16/20	4/22/20 7:33	WAL
Surrogates		% Recovery	Recovery Limits		Flag/Qual				
Decachlorobiphenyl [1]		87.0	30-150					4/22/20 7:33	
Decachlorobiphenyl [2]		89.9	30-150					4/22/20 7:33	
Tetrachloro-m-xylene [1]		89.5	30-150					4/22/20 7:33	
Tetrachloro-m-xylene [2]		83.4	30-150					4/22/20 7:33	

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0149

Date Received: 4/3/2020

Field Sample #: ESS-57D (5-9')

Sampled: 4/2/2020 09:00

Sample ID: 20D0149-11

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	95.2		% Wt	1		SM 2540G	4/20/20	4/21/20 10:17	CBM

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0149

Date Received: 4/3/2020

Field Sample #: ESS-50 (4-8')

Sampled: 4/2/2020 13:40

Sample ID: 20D0149-14

Sample Matrix: Soil

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/16/20	4/17/20 13:06	BGL
Acenaphthylene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/16/20	4/17/20 13:06	BGL
Anthracene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/16/20	4/17/20 13:06	BGL
Benzo(a)anthracene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/16/20	4/17/20 13:06	BGL
Benzo(a)pyrene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/16/20	4/17/20 13:06	BGL
Benzo(b)fluoranthene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/16/20	4/17/20 13:06	BGL
Benzo(g,h,i)perylene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/16/20	4/17/20 13:06	BGL
Benzo(k)fluoranthene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/16/20	4/17/20 13:06	BGL
Chrysene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/16/20	4/17/20 13:06	BGL
Dibenz(a,h)anthracene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/16/20	4/17/20 13:06	BGL
Fluoranthene	0.39	0.19	mg/Kg dry	1		SW-846 8270D-E	4/16/20	4/17/20 13:06	BGL
Fluorene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/16/20	4/17/20 13:06	BGL
Indeno(1,2,3-cd)pyrene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/16/20	4/17/20 13:06	BGL
2-Methylnaphthalene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/16/20	4/17/20 13:06	BGL
Naphthalene	ND	0.19	mg/Kg dry	1		SW-846 8270D-E	4/16/20	4/17/20 13:06	BGL
Phenanthrene	0.39	0.19	mg/Kg dry	1		SW-846 8270D-E	4/16/20	4/17/20 13:06	BGL
Pyrene	0.33	0.19	mg/Kg dry	1		SW-846 8270D-E	4/16/20	4/17/20 13:06	BGL
Surrogates		% Recovery	Recovery Limits		Flag/Qual				
Nitrobenzene-d5		74.4	30-130					4/17/20 13:06	
2-Fluorobiphenyl		87.6	30-130					4/17/20 13:06	
p-Terphenyl-d14		78.4	30-130					4/17/20 13:06	

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Project Location: Scituate, RI

Sample Description:

Work Order: 20D0149

Date Received: 4/3/2020

Field Sample #: ESS-50 (4-8')

Sampled: 4/2/2020 13:40

Sample ID: 20D0149-14

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	89.4		% Wt	1		SM 2540G	4/20/20	4/21/20 10:18	CBM

**Sample Extraction Data**

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

Lab Number [Field ID]	Batch	Date
20D0149-01 [ESS-58 (3-7.5')]	B256585	04/20/20
20D0149-04 [ESS-57A (3-5')]	B256585	04/20/20
20D0149-05 [ESS-57A (5-9')]	B256585	04/20/20
20D0149-06 [ESS-57B (3-5')]	B256585	04/20/20
20D0149-07 [ESS-57B (5-8')]	B256585	04/20/20
20D0149-08 [ESS-57C (3-5')]	B256585	04/20/20
20D0149-09 [ESS-57C (5-8')]	B256585	04/20/20
20D0149-10 [ESS-57D (3-5')]	B256585	04/20/20
20D0149-11 [ESS-57D (5-9')]	B256585	04/20/20
20D0149-14 [ESS-50 (4-8')]	B256585	04/20/20

**Prep Method: SW-846 3050B    Analytical Method: SW-846 6010D**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
20D0149-01 [ESS-58 (3-7.5')]	B256476	1.55	50.0	04/17/20

**Prep Method: SW-846 3546    Analytical Method: SW-846 8081B**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
20D0149-04 [ESS-57A (3-5')]	B256434	10.9	10.0	04/16/20
20D0149-05 [ESS-57A (5-9')]	B256434	10.5	10.0	04/16/20
20D0149-06 [ESS-57B (3-5')]	B256434	10.3	10.0	04/16/20
20D0149-07 [ESS-57B (5-8')]	B256434	10.5	10.0	04/16/20
20D0149-08 [ESS-57C (3-5')]	B256434	10.5	10.0	04/16/20
20D0149-09 [ESS-57C (5-8')]	B256434	10.8	10.0	04/16/20
20D0149-10 [ESS-57D (3-5')]	B256434	10.7	10.0	04/16/20
20D0149-11 [ESS-57D (5-9')]	B256434	10.8	10.0	04/16/20

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

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
20D0149-14 [ESS-50 (4-8')]	B256435	30.5	1.00	04/16/20

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**QUALITY CONTROL**

**Semivolatile Organic Compounds by GC/MS - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B256435 - SW-846 3546**

**Blank (B256435-BLK1)**

Prepared: 04/16/20 Analyzed: 04/17/20

Acenaphthene	ND	0.17	mg/Kg wet							
Acenaphthylene	ND	0.17	mg/Kg wet							
Anthracene	ND	0.17	mg/Kg wet							
Benzo(a)anthracene	ND	0.17	mg/Kg wet							
Benzo(a)pyrene	ND	0.17	mg/Kg wet							
Benzo(b)fluoranthene	ND	0.17	mg/Kg wet							
Benzo(g,h,i)perylene	ND	0.17	mg/Kg wet							
Benzo(k)fluoranthene	ND	0.17	mg/Kg wet							
Chrysene	ND	0.17	mg/Kg wet							
Dibenz(a,h)anthracene	ND	0.17	mg/Kg wet							
Fluoranthene	ND	0.17	mg/Kg wet							
Fluorene	ND	0.17	mg/Kg wet							
Indeno(1,2,3-cd)pyrene	ND	0.17	mg/Kg wet							
2-Methylnaphthalene	ND	0.17	mg/Kg wet							
Naphthalene	ND	0.17	mg/Kg wet							
Phenanthrene	ND	0.17	mg/Kg wet							
Pyrene	ND	0.17	mg/Kg wet							
Surrogate: Nitrobenzene-d5	2.60		mg/Kg wet	3.33		78.1	30-130			
Surrogate: 2-Fluorobiphenyl	3.12		mg/Kg wet	3.33		93.5	30-130			
Surrogate: p-Terphenyl-d14	2.98		mg/Kg wet	3.33		89.4	30-130			

**LCS (B256435-BS1)**

Prepared: 04/16/20 Analyzed: 04/17/20

Acenaphthene	1.35	0.17	mg/Kg wet	1.67		81.1	40-140			
Acenaphthylene	1.37	0.17	mg/Kg wet	1.67		82.1	40-140			
Anthracene	1.45	0.17	mg/Kg wet	1.67		87.1	40-140			
Benzo(a)anthracene	1.39	0.17	mg/Kg wet	1.67		83.7	40-140			
Benzo(a)pyrene	1.42	0.17	mg/Kg wet	1.67		85.5	40-140			
Benzo(b)fluoranthene	1.37	0.17	mg/Kg wet	1.67		82.5	40-140			
Benzo(g,h,i)perylene	1.42	0.17	mg/Kg wet	1.67		84.9	40-140			
Benzo(k)fluoranthene	1.38	0.17	mg/Kg wet	1.67		82.8	40-140			
Chrysene	1.39	0.17	mg/Kg wet	1.67		83.6	40-140			
Dibenz(a,h)anthracene	1.52	0.17	mg/Kg wet	1.67		90.9	40-140			
Fluoranthene	1.43	0.17	mg/Kg wet	1.67		86.0	40-140			
Fluorene	1.46	0.17	mg/Kg wet	1.67		87.9	40-140			
Indeno(1,2,3-cd)pyrene	1.70	0.17	mg/Kg wet	1.67		102	40-140			
2-Methylnaphthalene	1.54	0.17	mg/Kg wet	1.67		92.2	40-140			
Naphthalene	1.36	0.17	mg/Kg wet	1.67		81.9	40-140			
Phenanthrene	1.42	0.17	mg/Kg wet	1.67		85.4	40-140			
Pyrene	1.40	0.17	mg/Kg wet	1.67		83.9	40-140			
Surrogate: Nitrobenzene-d5	2.66		mg/Kg wet	3.33		79.8	30-130			
Surrogate: 2-Fluorobiphenyl	3.13		mg/Kg wet	3.33		94.0	30-130			
Surrogate: p-Terphenyl-d14	2.76		mg/Kg wet	3.33		82.9	30-130			

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**QUALITY CONTROL**

**Semivolatile Organic Compounds by GC/MS - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B256435 - SW-846 3546</b>										
<b>LCS Dup (B256435-BSD1)</b>										
					Prepared: 04/16/20 Analyzed: 04/17/20					
Acenaphthene	1.32	0.17	mg/Kg wet	1.67		78.9	40-140	2.70	30	
Acenaphthylene	1.29	0.17	mg/Kg wet	1.67		77.5	40-140	5.81	30	
Anthracene	1.44	0.17	mg/Kg wet	1.67		86.3	40-140	0.923	30	
Benzo(a)anthracene	1.33	0.17	mg/Kg wet	1.67		79.6	40-140	4.95	30	
Benzo(a)pyrene	1.39	0.17	mg/Kg wet	1.67		83.2	40-140	2.63	30	
Benzo(b)fluoranthene	1.32	0.17	mg/Kg wet	1.67		79.0	40-140	4.36	30	
Benzo(g,h,i)perylene	1.37	0.17	mg/Kg wet	1.67		82.2	40-140	3.28	30	
Benzo(k)fluoranthene	1.33	0.17	mg/Kg wet	1.67		79.6	40-140	3.92	30	
Chrysene	1.32	0.17	mg/Kg wet	1.67		78.9	40-140	5.81	30	
Dibenz(a,h)anthracene	1.46	0.17	mg/Kg wet	1.67		87.5	40-140	3.88	30	
Fluoranthene	1.37	0.17	mg/Kg wet	1.67		82.4	40-140	4.35	30	
Fluorene	1.41	0.17	mg/Kg wet	1.67		84.5	40-140	3.92	30	
Indeno(1,2,3-cd)pyrene	1.63	0.17	mg/Kg wet	1.67		97.6	40-140	4.37	30	
2-Methylnaphthalene	1.46	0.17	mg/Kg wet	1.67		87.4	40-140	5.41	30	
Naphthalene	1.32	0.17	mg/Kg wet	1.67		79.3	40-140	3.20	30	
Phenanthrene	1.40	0.17	mg/Kg wet	1.67		84.1	40-140	1.46	30	
Pyrene	1.27	0.17	mg/Kg wet	1.67		76.4	40-140	9.36	30	
Surrogate: Nitrobenzene-d5	2.60		mg/Kg wet	3.33		78.1	30-130			
Surrogate: 2-Fluorobiphenyl	2.96		mg/Kg wet	3.33		88.9	30-130			
Surrogate: p-Terphenyl-d14	2.49		mg/Kg wet	3.33		74.6	30-130			



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**QUALITY CONTROL**

**Organochloride Pesticides by GC/ECD - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B256434 - SW-846 3546</b>										
<b>Blank (B256434-BLK1)</b>										
Prepared: 04/16/20 Analyzed: 04/21/20										
Chlordane	ND	0.020	mg/Kg wet							
Chlordane [2C]	ND	0.020	mg/Kg wet							
Surrogate: Decachlorobiphenyl	0.211		mg/Kg wet	0.200		106	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.218		mg/Kg wet	0.200		109	30-150			
Surrogate: Tetrachloro-m-xylene	0.209		mg/Kg wet	0.200		104	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.199		mg/Kg wet	0.200		99.4	30-150			
<b>LCS (B256434-BS2)</b>										
Prepared: 04/16/20 Analyzed: 04/22/20										
Chlordane	0.11	0.020	mg/Kg wet	0.100		114	40-140			
Chlordane [2C]	0.11	0.020	mg/Kg wet	0.100		107	40-140			
Surrogate: Decachlorobiphenyl	0.212		mg/Kg wet	0.200		106	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.219		mg/Kg wet	0.200		110	30-150			
Surrogate: Tetrachloro-m-xylene	0.211		mg/Kg wet	0.200		105	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.201		mg/Kg wet	0.200		101	30-150			
<b>LCS Dup (B256434-BSD2)</b>										
Prepared: 04/16/20 Analyzed: 04/22/20										
Chlordane	0.13	0.020	mg/Kg wet	0.100		125	40-140	9.32	30	
Chlordane [2C]	0.12	0.020	mg/Kg wet	0.100		119	40-140	10.1	30	
Surrogate: Decachlorobiphenyl	0.226		mg/Kg wet	0.200		113	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.234		mg/Kg wet	0.200		117	30-150			
Surrogate: Tetrachloro-m-xylene	0.233		mg/Kg wet	0.200		116	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.221		mg/Kg wet	0.200		110	30-150			

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**QUALITY CONTROL**

**Metals Analyses (Total) - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B256476 - SW-846 3050B</b>										
<b>Blank (B256476-BLK1)</b>										
Prepared & Analyzed: 04/17/20										
Arsenic	ND	3.3	mg/Kg wet							
<b>LCS (B256476-BS1)</b>										
Prepared & Analyzed: 04/17/20										
Arsenic	158	10	mg/Kg wet	143		111	83.2-117.5			
<b>LCS Dup (B256476-BSD1)</b>										
Prepared & Analyzed: 04/17/20										
Arsenic	145	10	mg/Kg wet	143		101	83.2-117.5	8.88	30	

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**QUALITY CONTROL**

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B256585 - % Solids</b>										
<b>Duplicate (B256585-DUP1)</b>	<b>Source: 20D0149-01</b>		Prepared: 04/20/20 Analyzed: 04/21/20							
% Solids	86.7		% Wt		87.4			0.845	20	
<b>Duplicate (B256585-DUP2)</b>	<b>Source: 20D0149-04</b>		Prepared: 04/20/20 Analyzed: 04/21/20							
% Solids	95.4		% Wt		95.5			0.0505	20	
<b>Duplicate (B256585-DUP3)</b>	<b>Source: 20D0149-05</b>		Prepared: 04/20/20 Analyzed: 04/21/20							
% Solids	92.2		% Wt		92.3			0.0746	20	
<b>Duplicate (B256585-DUP4)</b>	<b>Source: 20D0149-06</b>		Prepared: 04/20/20 Analyzed: 04/21/20							
% Solids	95.4		% Wt		94.8			0.611	20	
<b>Duplicate (B256585-DUP5)</b>	<b>Source: 20D0149-07</b>		Prepared: 04/20/20 Analyzed: 04/21/20							
% Solids	92.2		% Wt		92.1			0.0839	20	

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## BREAKDOWN REPORT

---

**Lab Sample ID:** S047860-PEM1 **Analyzed:** 04/21/2020

---

**Column Number:** 1  
**Analyte** **% Breakdown**  
4,4'-DDT [1] 3.75  
Endrin [1] 3.18

---

**Column Number:** 2  
**Analyte** **% Breakdown**  
4,4'-DDT [2] 4.04  
Endrin [2] 3.06

---

## BREAKDOWN REPORT

---

**Lab Sample ID:** S047860-PEM2 **Analyzed:** 04/22/2020

---

**Column Number:** 1  
**Analyte** **% Breakdown**  
4,4'-DDT [1] 5.00  
Endrin [1] 3.77

---

**Column Number:** 2  
**Analyte** **% Breakdown**  
4,4'-DDT [2] 5.05  
Endrin [2] 3.66

---

## BREAKDOWN REPORT

---

**Lab Sample ID:** S047860-PEM3 **Analyzed:** 04/22/2020

---

**Column Number:** 1  
**Analyte** **% Breakdown**  
4,4'-DDT [1] 3.90  
Endrin [1] 3.68

---

---

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BREAKDOWN REPORT

---

Lab Sample ID: S047860-PEM3 Analyzed: 04/22/2020

---

Column Number: 2

Analyte	% Breakdown
4,4'-DDT [2]	4.02
Endrin [2]	3.78

---

**IDENTIFICATION SUMMARY  
FOR SINGLE COMPONENT ANALYTES**

LCS

*SW-846 8081B*

Lab Sample ID:           B256434-BS2                                Date(s) Analyzed           04/22/2020                     04/22/2020          

Instrument ID (1):           ECD2                                                Instrument ID (2):           ECD2          

GC Column (1):                                      ID:                                      (mm)                      GC Column (2):                                      ID:                                      (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Chlordane	1	0.000	0.000	0.000	0.11	
	2	0.000	0.000	0.000	0.11	0.0

**IDENTIFICATION SUMMARY  
FOR SINGLE COMPONENT ANALYTES**

LCS Dup

*SW-846 8081B*

Lab Sample ID:                     B256434-BSD2                                          Date(s) Analyzed           04/22/2020                     04/22/2020          

Instrument ID (1):                     ECD2                                          Instrument ID (2):                     ECD2                    

GC Column (1):                      ID:                      (mm)                      GC Column (2):                      ID:                      (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Chlordane	1	0.000	0.000	0.000	0.13	
	2	0.000	0.000	0.000	0.12	8.0

---

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**FLAG/QUALIFIER SUMMARY**

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level

Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.

No results have been blank subtracted unless specified in the case narrative section.



**CERTIFICATIONS**

**Certified Analyses included in this Report**

Analyte	Certifications
<b>SW-846 6010D in Soil</b>	
Arsenic	CT,NH,NY,ME,VA,NC
<b>SW-846 8081B in Soil</b>	
Chlordane	CT,NC,NH,NY,ME,VA
Chlordane [2C]	CT,NC,NH,NY,ME,VA
<b>SW-846 8081B in Water</b>	
Chlordane	CT,NC,NH,NY,ME,VA
Chlordane [2C]	CT,NC,NH,NY,ME,VA
<b>SW-846 8270D-E in Soil</b>	
Acenaphthene	CT,NY,NH,ME,NC,VA
Acenaphthylene	CT,NY,NH,ME,NC,VA
Anthracene	CT,NY,NH,ME,NC,VA
Benzo(a)anthracene	CT,NY,NH,ME,NC,VA
Benzo(a)pyrene	CT,NY,NH,ME,NC,VA
Benzo(b)fluoranthene	CT,NY,NH,ME,NC,VA
Benzo(g,h,i)perylene	CT,NY,NH,ME,NC,VA
Benzo(k)fluoranthene	CT,NY,NH,ME,NC,VA
Chrysene	CT,NY,NH,ME,NC,VA
Dibenz(a,h)anthracene	CT,NY,NH,ME,NC,VA
Fluoranthene	CT,NY,NH,ME,NC,VA
Fluorene	CT,NY,NH,ME,NC,VA
Indeno(1,2,3-cd)pyrene	CT,NY,NH,ME,NC,VA
2-Methylnaphthalene	CT,NY,NH,ME,NC,VA
Naphthalene	CT,NY,NH,ME,NC,VA
Phenanthrene	CT,NY,NH,ME,NC,VA
Pyrene	CT,NY,NH,ME,NC,VA
<b>SW-846 8270D-E in Water</b>	
Acenaphthene	CT,NY,NH,ME,NC,VA
Acenaphthylene	CT,NY,NH,ME,NC,VA
Anthracene	CT,NY,NH,ME,NC,VA
Benzo(a)anthracene	CT,NY,NH,ME,NC,VA
Benzo(a)pyrene	CT,NY,NH,ME,NC,VA
Benzo(b)fluoranthene	CT,NY,NH,ME,NC,VA
Benzo(g,h,i)perylene	CT,NY,NH,ME,NC,VA
Benzo(k)fluoranthene	CT,NY,NH,ME,NC,VA
Chrysene	CT,NY,NH,ME,NC,VA
Dibenz(a,h)anthracene	CT,NY,NH,ME,NC,VA
Fluoranthene	CT,NY,NH,ME,NC,VA
Fluorene	CT,NY,NH,ME,NC,VA
Indeno(1,2,3-cd)pyrene	CT,NY,NH,ME,NC,VA
2-Methylnaphthalene	CT,NY,NH,ME,NC,VA
Naphthalene	CT,NY,NH,ME,NC,VA
Phenanthrene	CT,NY,NH,ME,NC,VA
Pyrene	CT,NY,NH,ME,NC,VA

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The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2017	100033	03/1/2022
MA	Massachusetts DEP	M-MA100	06/30/2020
CT	Connecticut Department of Public Health	PH-0567	09/30/2021
NY	New York State Department of Health	10899 NELAP	04/1/2021
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2021
RI	Rhode Island Department of Health	LAO00112	12/30/2020
NC	North Carolina Div. of Water Quality	652	12/31/2020
NJ	New Jersey DEP	MA007 NELAP	06/30/2020
FL	Florida Department of Health	E871027 NELAP	06/30/2020
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2020
ME	State of Maine	2011028	06/9/2021
VA	Commonwealth of Virginia	460217	12/14/2020
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2020
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2020
NC-DW	North Carolina Department of Health	25703	07/31/2020
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2020



JLH 20D0149

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http://www.contestlabs.com

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East Longmeadow, MA 01028

Doc # 381 Rev 2\_06262019

STANDARD

CHAIN OF CUSTODY RECORD

COMBINED CONTAINERS Iced

Page 1 of 4

Company Name: **ESS GROUP INC.**  
Address: **404 WYMAN ST. SUITE 375. WALTHAM**  
Phone: **781-419-7714**  
Project Name: **HOPE HILL**  
Project Location: **3CITUATE, RI**  
Project Number: **P312-007.03**  
Project Manager: **CRAIG PARADIS**  
Con-Test Quote Name/Number:  
Invoice Recipient: **CBABRAL@ESSGROUP.COM**  
Sampled By: **CP + MO**

Requested Turnaround Time		Dissolved Metals Samples	
1-Day <input checked="" type="checkbox"/>	10-Day <input type="checkbox"/>	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> Lab to Filter
PFAS 10-Day (std) <input type="checkbox"/>	Due Date: <input type="checkbox"/>	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> Lab to Filter
Rush-Approval Required		Orthophosphate Samples	
1-Day <input type="checkbox"/>	3-Day <input type="checkbox"/>	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> Lab to Filter
2-Day <input type="checkbox"/>	4-Day <input type="checkbox"/>	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> Lab to Filter
Data Delivery			
Format:	PDF <input checked="" type="checkbox"/>	EXCEL <input checked="" type="checkbox"/>	
Other:			
CLP Like Data Pkg Required:	<input type="checkbox"/>		
Email To:	<b>CPARADIS@ESSGROUP.COM</b>		
Fax To #:			

ANALYSIS REQUESTED											
PRESERVATION CODE											
TOTAL LEAD											
TOTAL ARSENIC											
8290 (PARTS ONLY)											
SPLP LEAD (CONTAINERS)											
HOLD											

Con-Test Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP / GRAB	Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE
	ESS-30A (0-3')	4/1/20	8:40	GRAB	S	U		1			
	ESS-31A (0-3')		9:30		S	U		1			
	ESS-31A (3-4.75')		10:15		S	U		1			
	ESS-31B (0-3')		9:45		S	U		1			
	ESS-31B (3-4.5')		10:35		S	U		1			
	ESS-31C (0-3')		10:30		S	U		1			
	ESS-31C (0.3-4.25')		11:05		S	U		1			
	ESS-31D (0-3')		11:00		S	U		1			
	ESS-31D (3-4.5')		12:10		S	U		1			
	ESS-32A (0-3')		13:10		S	U		1			

1 Preservation Code

Couler Use Only

Total Number Of:

VIALS \_\_\_\_\_

GLASS \_\_\_\_\_

PLASTIC \_\_\_\_\_

BACTERIA \_\_\_\_\_

ENCORE \_\_\_\_\_

Glassware in the fridge? Y / N

Glassware in freezer? Y / N

Prepackaged Cooler? Y / N

\*Contest is not responsible for missing samples from prepacked coolers

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

Relinquished by: (signature) *Craig P. Paradis* Date/Time: **4/13/20 1020**

Received by: (signature) *Joe GUS* Date/Time: **4/3/20 1020**

Relinquished by: (signature) *Joe GUS* Date/Time: **4/3/20 1610**

Received by: (signature) *Joe GUS* Date/Time: **4/3/20 1610**

Relinquished by: (signature) Date/Time:

Received by: (signature) Date/Time:

Relinquished by: (signature) Date/Time:

Received by: (signature) Date/Time:

Client Comments: **MUST HEE RIDEM REMEDIATION REGULATION RDECS, EXCEPT FOR ESS-30A, HOLD ALL SPLP LEAD ANALYSIS PENDING TOTAL LEAD CONCENTRATIONS AT 20X SPLP LEAD CONCENTRATION. CALL CRAIG P. WITH QUESTIONS.**

Detection Limit Requirements	Special Requirements
<input checked="" type="checkbox"/> RI RDEC	MA MCP Required <input type="checkbox"/>
<input type="checkbox"/>	MCP Certification <input type="checkbox"/>
<input type="checkbox"/>	RCP Certification <input type="checkbox"/>
<input type="checkbox"/>	MA State <input type="checkbox"/>
Other: _____	PWSID # _____

Please use the following codes to indicate

Per client on page 4 "analysis for ESS-48 (4-8), ESS-48 (8-10.5), ESS-50 (4-8), ESS-50 (8-9.5), ESS-60 (4-8), and ESS-60 (8-9.5). I would like to hold all analysis on these samples." JLH 4/6/2020

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

PCB ONLY  
 Soxhlet  
 Non Soxhlet

Lab Comments:

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

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



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 East Longmeadow, MA 01028

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**STANDARD CHAIN OF CUSTODY RECORD**

**Requested Turnaround Time:** 10-Day  15-Day  20-Day  30-Day  45-Day  60-Day  90-Day  **ICED ANALYSIS REQUESTED**

**Disinfectant:**  Field Filtered  Lab to Filter  **DISINFECTION**

**Orthophosphate Samples:** 1-Day  3-Day  4-Day  **Orthophosphate Samples**

**Data Delivery:** PDF  EXCEL

**Format:** PDF  EXCEL

**Other:** \_\_\_\_\_

**CLP Like Data Plg Required:**

**Email To:** C.PARADIS@ESSGROUP.COM

**Fax To #:** \_\_\_\_\_

Con-Test Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE
1	ESS-33A (0-3')	4/1/20	13:45	GRAB	S	U	4X				
2	ESS-34A (0-3')	13:30	14:00				4X				
3	ESS-35A (0-3')		14:45				3X				
4	ESS-58 (0-3')		15:15				1X				
5	ESS-58 (3-7.5')		15:20				1X				
6	ESS-58 (8-10.5')		15:00				3X				
7	ESS-59 (0-3')		15:45				1X				
8	ESS-57A (0-3')	4/2/20	7:50	GRAB	S	U	1X				
9	ESS-57A (3-5')	4/2/20	10:20	GRAB	S	U	1X				

Relinquished by: (signature) *Clay Paradis*  
 Date/Time: 4/3/20 10:20  
 Received by: (signature) *Joe Paradis*  
 Date/Time: 4/3/20 10:20  
 Relinquished by: (signature) *Clay Paradis*  
 Date/Time: 4/3/20 16:10  
 Received by: (signature) *Clay Paradis*  
 Date/Time: 4/3/20 16:10  
 Relinquished by: (signature) *Clay Paradis*  
 Date/Time: 4/3/20 16:10

Detection Limit Requirements		Special Requirements	
MA	RI, RDEC	MA MCP Required	
CT		MCP Certification Form Required	
MA		CT RCP Required	
MA		RCP Certification Form Required	
MA		MA State BW Required	
MA		MA State BW Required	

**Client Comments:** MUST MEET RIDEM REMEDIATION REGULATIONS RDECs, HOLD ALL SPLD LEAD ANALYSIS PENDING TOTAL LEAD AT CONCENTRATIONS AT/GREATER THAN 20X THE SPLD CONCENTRATION. CALL C.PARADIS WITH QUESTIONS

**Project Entity:** Government  Federal  City  Municipality  21 J  Brownfield  AWRA  School  MBTA  WRTA

**Other:**  Chromatogram  AIHA-LAP, LLC

**PCB ONLY:**  Soxhlet  Non Soxhlet

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

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

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

**Project Name:** HOPE MILL  
**Project Location:** SCITUATE, RI  
**Project Number:** P312-007.03  
**Project Manager:** C. PARADIS  
**Con-Test Quote Name/Number:**  
**Invoice Recipient:** BOABRAL@ESSGROUP.COM  
**Sampled By:** CP + MO

**Comments:** Con-Test Labs is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine who analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Con-Test values your partnership on each project and will try to assist with missing information, but will not hold accountable.



20200149  
 Phone: 413-525-2332  
 Fax: 413-525-6405  
 Email: info@contestlabs.com

Company Name: **ESS GROUP, INC.**  
 Address: **409 WYMAN ST. SUITE 375, WALTHAM**  
 Phone: **781-419-7714**  
 Project Name: **HOPE MILL**  
 Project Location: **SCITUATE, RI**  
 Project Number: **P3R-007.03**  
 Project Manager: **C. PARADIS**  
 Con-Test Quote Name/Number:  
 Invoice Recipient: **B. CABRAL@ESSGROUP.COM**  
 Sampled By: **CP +40**

http://www.contestlabs.com  
 STANDARD CHAIN OF CUSTODY RECORD  
 39 Spruce Street  
 East Longmeadow, MA 01028

Con-Test Work Order #	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	Matrix Code	Cont. Code	Disinfectant Samples				Orthophosphate Samples				Preservation Code
							VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	VIALS	GLASS	PLASTIC	
5	ESS-57A (5-9')	4/2/20	11:00	GRAB	S	U	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
6	ESS-57B (0-3')		8:25				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
7	ESS-57B (3-5')		9:10				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
	ESS-57B (5-8')		9:35				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
8	ESS-57C (0-3')		8:10				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
9	ESS-57C (3-5')		11:10				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
	ESS-57C (5-8')		11:40				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
	ESS-57D (0-3')		7:50				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
	ESS-57D (3-5')		8:45				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
	ESS-57D (5-9')		9:00				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Client Comments: <b>MUST MEET RIDEM REMEDIATION REGULATION RDEC. CALL C. PARADIS WITH QUESTIONS</b>															
Relinquished by: (signature) <i>C. Paradis</i>	Date/Time: 4/3/20 10:20														
Received by: (signature) <i>Chris</i>	Date/Time: 4/3/20 16:10														
Relinquished by: (signature) <i>Chris</i>	Date/Time: 4/3/20 16:10														
Received by: (signature) <i>Chris</i>	Date/Time: 4/3/20 16:10														
Relinquished by: (signature)	Date/Time:														
Received by: (signature)	Date/Time:														
Relinquished by: (signature)	Date/Time:														
Received by: (signature)	Date/Time:														

**ICED ANALYSIS REQUESTED**

**PESTICIDES (CHLORANIL ONLY)**

**MA MCP Required**  **MA State DW Required**

**MCP Certification Form Required**  **CT MCP Required**

**RCP Certification Form Required**

**Special Requirements**

**Detection Limit Requirements**  **RDEC**

**Project Entity**

Government  Municipality  WRTA  Other

Federal  City  School  MBTA  Chromatogram

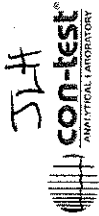
City  Brownfield  MBTA  AIHA-LAP, LLC

**PCB ONLY**

Soxhlet  Non Soxhlet

**Comments:**

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



20201019  
 Phone: 413-525-2332  
 Fax: 413-525-6405  
 Email: info@contestlabs.com

Company Name: **ESS GROUP, INC.**  
 Address: **404 WYMANIST SUITE 375, WATNAM**  
 Phone: **781-419-7714**  
 Project Name: **HOPE HILL**  
 Project Location: **SCITUATE, RI**  
 Project Number: **P312-007-03**  
 Project Manager: **C. PARADIS**  
 Con-Test Quote Name/Number:  
 Invoice Recipient: **BCARRAL@ESSGROUP.COM**  
 Sampled By: **CP + MO**

http://www.contestlabs.com  
 CHAIN OF CUSTODY RECORD  
 39 Spruce Street  
 East Longmeadow, MA 01028  
 Doc # 381 Rev 2\_06262019

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**COMBINED CONTAINER ANALYSIS REQUESTED**

Con-Test Work Order #	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE
	ESS-48 (0-4')	4/2/20	14:40	GRAB	S	0		1X			
12	ESS-48 (4-8')		15:00					1X			
13	ESS-48 (8-10.5')		15:10					1X			
14	ESS-50 (0-4')		13:10					1X			
15	ESS-50 (4-8')		13:40					1X			
16	ESS-50 (8-9.5')		14:10					1X			
16	ESS-60 (0-4')		15:45					1X			
16	ESS-60 (4-8')		16:00					1X			
17	ESS-60 (8-9.5')		16:20					1X			

TOTAL LEAD  
 TOTAL ARSENIC  
 B270 (PARTS ONLY)

Requested Turnaround Time:  4-Day  10-Day  15-Day  
 PRAS 10-Day (Std)  Due Date:  3-Day  4-Day  
 1-Day  2-Day  3-Day  4-Day  
 Disinfectant Vials Samples:  Field Filtered  Lab to Filter  
 Orthophosphate Samples:  Field Filtered  Lab to Filter  
 Format: PDF  EXCEL  
 Other:   
 CLP Like Data Pkg Required:   
 Email To: **CPARADIS@ESSGROUP.COM**  
 Fax To #:

Relinquished by (signature)	Date/Time	Received by (signature)	Date/Time	Relinquished by (signature)	Date/Time	Received by (signature)	Date/Time
<i>Craig Paradis</i>	4/3/20 10:20	<i>Joe Ellis</i>	4/3/20 10:20	<i>Joe Ellis</i>	4/3/20 16:10	<i>Joe Ellis</i>	4/3/20 16:10
<i>Joe Ellis</i>	4/3/20 16:10	<i>Joe Ellis</i>	4/3/20 16:10	<i>Joe Ellis</i>	4/3/20 16:10	<i>Joe Ellis</i>	4/3/20 16:10

Client Comments: **MUST MEET RIDEM REM. REGS RDECS. CALL CRAIG P. WITH QUESTIONS**

MA MCP Required	MA Concentration Form Required	CT RCP Required	RCP Certification Form Required	MA State PW Required
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Project Entity:  Government  Federal  City  
 Municipality:  21 J  Brownfield  
 Other:  WRTA  MWRA School MBTA  
 Chromatogram  Chromatogram  AIHA-LAP, LLC  
 PCB ONLY  Soxhlet  Non Soxhlet

Preservation Codes:  
 1 = Iced  
 H = HCL  
 M = Methanol  
 N = Nitric Acid  
 S = Sulfuric Acid  
 B = Sodium Bisulfate  
 X = Sodium Hydroxide  
 T = Thiou sulfate  
 O = Other (please define)

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

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

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

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



## Rebecca Faust

---

**From:** Jessica Hoffman <jessica.hoffman@contestlabs.com> on behalf of Jessica Hoffman  
**Sent:** Friday, April 03, 2020 2:54 PM  
**To:** Rebecca Faust  
**Subject:** FW: Samples  
**Attachments:** P312-007.03\_Test Pits\_CP (78).JPG

Does below make sense for a Prelog we should have received?

Have a great day,

Jessica Hoffman  
 Project Manager  
 Con-Test Analytical Laboratory  
 40 Spruce Street., East Longmeadow, MA 01028  
 Office Phone: 413.525.2332 x56 | Email: [jessica.hoffman@contestlabs.com](mailto:jessica.hoffman@contestlabs.com)  
**My current phone number is 413-285-6707**

**From:** Craig Paradis <[cparadis@essgroup.com](mailto:cparadis@essgroup.com)>  
**Sent:** Friday, April 03, 2020 11:32 AM  
**To:** Jessica Hoffman <[jessica.hoffman@contestlabs.com](mailto:jessica.hoffman@contestlabs.com)>  
**Cc:** Derek Lonczak <[derek.lonczak@contestlabs.com](mailto:derek.lonczak@contestlabs.com)>  
**Subject:** Samples

Hi Jessica,

Unfortunately, I don't have scanning capability so please refer to the photo attached. I submitted four (4) COCs with the samples that were collected from my house today. On the fourth page (refer to photo) I requested analysis for ESS-48 (4-8), ESS-48 (8-10.5), ESS-50 (4-8), ESS-50 (8-9.5), ESS-60 (4-8), and ESS-60 (8-9.5). I would like to hold all analysis on these samples.

Also, on the COCs I indicated a hold on SPLP lead for all samples pending total lead concentrations at 20x greater than the SPLP lead concentration. I want to clarify this by stating that the SPLP lead analysis should be performed if the total lead concentration is equal to or greater than 0.8 mg/kg.

Please confirm the above or contact me should you have any questions.

Thank you,  
Craig

**Craig Paradis | Hazardous Materials & Remediation Scientist**  
**Land & Waterfront Development and Remediation**  
**ESS Group, Inc.**  
 404 Wyman Street, Suite 375, Waltham, MA 02451 | p 781.419.7714 | c 508.341.8103

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This email message and any attachments are confidential. If you are not the intended recipient, please immediately reply to the sender and delete the message from your email system. Thank you.

I Have Not Confirmed Sample Container Numbers With Lab Staff Before Relinquishing Over Samples \_\_\_\_\_



**con-test**  
ANALYTICAL LABORATORY

Doc# 277 Rev 5 2017

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

Client ESS

Received By [Signature] Date 4/3/20 Time 1610

How were the samples received? In Cooler T No Cooler \_\_\_\_\_ On Ice T No Ice \_\_\_\_\_  
Direct from Sampling \_\_\_\_\_ Ambient \_\_\_\_\_ Melted Ice \_\_\_\_\_

Were samples within Temperature? 2-6°C T By Gun # 2 Actual Temp - 5.8  
By Blank # \_\_\_\_\_ Actual Temp - \_\_\_\_\_

Was Custody Seal Intact? n/a Were Samples Tampered with? n/a  
Was COC Relinquished? T Does Chain Agree With Samples? F

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

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

Did COC include all pertinent Information? Client T Analysis T Sampler Name F  
Project T ID's T Collection Dates/Times T

Are Sample labels filled out and legible? T

Are there Lab to Filters? F Who was notified? \_\_\_\_\_

Are there Rushes? F Who was notified? \_\_\_\_\_

Are there Short Holds? F Who was notified? \_\_\_\_\_

Is there enough Volume? T

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

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

Were trip blanks received? F On COC? F

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

Vials	#	Containers:	#	#	#
Unp-		1 Liter Amb.		1 Liter Plastic	16 oz Amb.
HCL-		500 mL Amb.		500 mL Plastic	8oz Amb/Clear <u>10</u>
Meoh-		250 mL Amb.		250 mL Plastic	4oz Amb/Clear
Bisulfate-		Flashpoint		Col./Bacteria	2oz Amb/Clear
DI-		Other Glass		Other Plastic	Encore
Thiosulfate-		SOC Kit		Plastic Bag	Frozen:
Sulfuric-		Perchlorate		Ziplock	

**Unused Media**

Vials	#	Containers:	#	#	#
Unp-		1 Liter Amb.		1 Liter Plastic	16 oz Amb.
HCL-		500 mL Amb.		500 mL Plastic	8oz Amb/Clear
Meoh-		250 mL Amb.		250 mL Plastic	4oz Amb/Clear
Bisulfate-		Col./Bacteria		Flashpoint	2oz Amb/Clear
DI-		Other Plastic		Other Glass	Encore
Thiosulfate-		SOC Kit		Plastic Bag	Frozen:
Sulfuric-		Perchlorate		Ziplock	

**Comments:**

Sample ESS-58 (8-10.5') was not received.  
Sample ESS-48 (8-10.5') was mislabeled as ESS-48 (8-10')



April 23, 2020

Craig Paradis  
ESS Group Inc.  
404 Wyman St. Suite 375  
Waltham, MA 02451

Project Location: Scituate, RI  
Client Job Number:  
Project Number: P312-007  
Laboratory Work Order Number: 20D0713

Enclosed are results of analyses for samples received by the laboratory on April 17, 2020. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, reading "Jessica Hoffman", is displayed on a light blue rectangular background. The signature is written in a cursive, flowing style.

Jessica L. Hoffman  
Project Manager

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20D0713-06	16
20D0713-07	18
20D0713-08	20
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39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

ESS Group Inc.  
 404 Wyman St. Suite 375  
 Waltham, MA 02451  
 ATTN: Craig Paradis

REPORT DATE: 4/23/2020

PURCHASE ORDER NUMBER:

PROJECT NUMBER: P312-007

**ANALYTICAL SUMMARY**

WORK ORDER NUMBER: 20D0713

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

PROJECT LOCATION: Scituate, RI

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
ESS-30A (0-3')	20D0713-01	Soil		SM 2540G SW-846 6020B	
ESS-31A (0-3')	20D0713-02	Soil		SM 2540G SW-846 6020B	
ESS-31A (3-4.75')	20D0713-03	Soil		SM 2540G SW-846 6020B	
ESS-31B (0-3')	20D0713-04	Soil		SM 2540G SW-846 6020B	
ESS-31B (3-4.5')	20D0713-05	Soil		SM 2540G SW-846 6020B	
ESS-31C (0-3')	20D0713-06	Soil		SM 2540G SW-846 6020B	
ESS-31C (3-4.25')	20D0713-07	Soil		SM 2540G SW-846 6020B	
ESS-31D (0-3')	20D0713-08	Soil		SM 2540G SW-846 6020B	
ESS-31D (3-4.5')	20D0713-09	Soil		SM 2540G SW-846 6020B	
ESS-32A (0-3')	20D0713-10	Soil		SM 2540G SW-846 6020B	
ESS-33A (0-3')	20D0713-11	Soil		SM 2540G SW-846 6020B	
ESS-34A (0-3')	20D0713-12	Soil		SM 2540G SW-846 6020B	
ESS-35A (0-3')	20D0713-13	Soil		SM 2540G SW-846 6020B	
ESS-58 (0-3')	20D0713-14	Soil		SM 2540G SW-846 6020B	
ESS-59 (0-3')	20D0713-15	Soil		SM 2540G SW-846 6020B	
ESS-48 (0-4')	20D0713-16	Soil		SM 2540G SW-846 6020B	
ESS-50 (0-4')	20D0713-17	Soil		SM 2540G SW-846 6020B	
ESS-60 (0-4')	20D0713-18	Soil		SM 2540G SW-846 6020B	

**CASE NARRATIVE SUMMARY**

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

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

A handwritten signature in black ink, appearing to read "Lisa A. Worthington", is written over a light gray rectangular background.

Lisa A. Worthington  
Technical Representative

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

Project Location: Scituate, RI

Sample Description:

Work Order: 20D0713

Date Received: 4/17/2020

Field Sample #: ESS-30A (0-3')

Sampled: 4/1/2020 08:40

Sample ID: 20D0713-01

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	87.8		% Wt	1		SM 2540G	4/22/20	4/22/20 7:57	JS

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

Project Location: Scituate, RI

Sample Description:

Work Order: 20D0713

Date Received: 4/17/2020

Field Sample #: ESS-30A (0-3')

Sampled: 4/1/2020 08:40

Sample ID: 20D0713-01

Sample Matrix: Soil

SPLP - Metals Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Lead	ND	2.5	µg/L	5		SW-846 6020B	4/22/20	4/22/20 19:00	MJH

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

Project Location: Scituate, RI

Sample Description:

Work Order: 20D0713

Date Received: 4/17/2020

Field Sample #: ESS-31A (0-3')

Sampled: 4/1/2020 09:30

Sample ID: 20D0713-02

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	87.8		% Wt	1		SM 2540G	4/22/20	4/22/20 7:57	JS



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

Project Location: Scituate, RI

Sample Description:

Work Order: 20D0713

Date Received: 4/17/2020

Field Sample #: ESS-31A (0-3')

Sampled: 4/1/2020 09:30

Sample ID: 20D0713-02

Sample Matrix: Soil

SPLP - Metals Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Lead	5.6	2.5	µg/L	5		SW-846 6020B	4/22/20	4/22/20 19:01	MJH

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

Project Location: Scituate, RI

Sample Description:

Work Order: 20D0713

Date Received: 4/17/2020

Field Sample #: ESS-31A (3-4.75')

Sampled: 4/1/2020 10:15

Sample ID: 20D0713-03

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	86.9		% Wt	1		SM 2540G	4/22/20	4/22/20 7:57	JS

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

Project Location: Scituate, RI

Sample Description:

Work Order: 20D0713

Date Received: 4/17/2020

Field Sample #: ESS-31A (3-4.75')

Sampled: 4/1/2020 10:15

Sample ID: 20D0713-03

Sample Matrix: Soil

SPLP - Metals Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Lead	ND	2.5	µg/L	5		SW-846 6020B	4/22/20	4/22/20 19:03	MJH

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

Project Location: Scituate, RI

Sample Description:

Work Order: 20D0713

Date Received: 4/17/2020

Field Sample #: ESS-31B (0-3')

Sampled: 4/1/2020 09:45

Sample ID: 20D0713-04

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	85.5		% Wt	1		SM 2540G	4/22/20	4/22/20 7:57	JS

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

Project Location: Scituate, RI

Sample Description:

Work Order: 20D0713

Date Received: 4/17/2020

Field Sample #: ESS-31B (0-3')

Sampled: 4/1/2020 09:45

Sample ID: 20D0713-04

Sample Matrix: Soil

SPLP - Metals Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Lead	15	2.5	µg/L	5		SW-846 6020B	4/22/20	4/22/20 19:04	MJH

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

Project Location: Scituate, RI

Sample Description:

Work Order: 20D0713

Date Received: 4/17/2020

Field Sample #: ESS-31B (3-4.5')

Sampled: 4/1/2020 10:35

Sample ID: 20D0713-05

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	84.5		% Wt	1		SM 2540G	4/22/20	4/22/20 7:57	JS

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

Project Location: Scituate, RI

Sample Description:

Work Order: 20D0713

Date Received: 4/17/2020

Field Sample #: ESS-31B (3-4.5')

Sampled: 4/1/2020 10:35

Sample ID: 20D0713-05

Sample Matrix: Soil

SPLP - Metals Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Lead	34	2.5	µg/L	5		SW-846 6020B	4/22/20	4/22/20 19:09	MJH

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

Project Location: Scituate, RI

Sample Description:

Work Order: 20D0713

Date Received: 4/17/2020

Field Sample #: ESS-31C (0-3')

Sampled: 4/1/2020 10:30

Sample ID: 20D0713-06

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	88.0		% Wt	1		SM 2540G	4/22/20	4/22/20 7:57	JS



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

Project Location: Scituate, RI

Sample Description:

Work Order: 20D0713

Date Received: 4/17/2020

Field Sample #: ESS-31C (0-3')

Sampled: 4/1/2020 10:30

Sample ID: 20D0713-06

Sample Matrix: Soil

SPLP - Metals Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Lead	27	2.5	µg/L	5		SW-846 6020B	4/22/20	4/22/20 19:11	MJH

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

Project Location: Scituate, RI

Sample Description:

Work Order: 20D0713

Date Received: 4/17/2020

Field Sample #: ESS-31C (3-4.25')

Sampled: 4/1/2020 11:05

Sample ID: 20D0713-07

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	85.0		% Wt	1		SM 2540G	4/22/20	4/22/20 7:57	JS

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

Project Location: Scituate, RI

Sample Description:

Work Order: 20D0713

Date Received: 4/17/2020

Field Sample #: ESS-31C (3-4.25')

Sampled: 4/1/2020 11:05

Sample ID: 20D0713-07

Sample Matrix: Soil

SPLP - Metals Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Lead	ND	2.5	µg/L	5		SW-846 6020B	4/22/20	4/22/20 19:12	MJH

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

Project Location: Scituate, RI

Sample Description:

Work Order: 20D0713

Date Received: 4/17/2020

Field Sample #: ESS-31D (0-3')

Sampled: 4/1/2020 11:00

Sample ID: 20D0713-08

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	91.1		% Wt	1		SM 2540G	4/22/20	4/22/20 7:57	JS

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

Project Location: Scituate, RI

Sample Description:

Work Order: 20D0713

Date Received: 4/17/2020

Field Sample #: ESS-31D (0-3')

Sampled: 4/1/2020 11:00

Sample ID: 20D0713-08

Sample Matrix: Soil

SPLP - Metals Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Lead	260	2.5	µg/L	5		SW-846 6020B	4/22/20	4/22/20 19:14	MJH

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

Project Location: Scituate, RI

Sample Description:

Work Order: 20D0713

Date Received: 4/17/2020

Field Sample #: ESS-31D (3-4.5')

Sampled: 4/1/2020 12:10

Sample ID: 20D0713-09

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	87.2		% Wt	1		SM 2540G	4/22/20	4/22/20 7:57	JS

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

Project Location: Scituate, RI

Sample Description:

Work Order: 20D0713

Date Received: 4/17/2020

Field Sample #: ESS-31D (3-4.5')

Sampled: 4/1/2020 12:10

Sample ID: 20D0713-09

Sample Matrix: Soil

SPLP - Metals Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Lead	4.8	2.5	µg/L	5		SW-846 6020B	4/22/20	4/22/20 19:15	MJH

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

Project Location: Scituate, RI

Sample Description:

Work Order: 20D0713

Date Received: 4/17/2020

Field Sample #: ESS-32A (0-3')

Sampled: 4/1/2020 13:10

Sample ID: 20D0713-10

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	93.0		% Wt	1		SM 2540G	4/22/20	4/22/20 7:57	JS



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

Project Location: Scituate, RI

Sample Description:

Work Order: 20D0713

Date Received: 4/17/2020

Field Sample #: ESS-32A (0-3')

Sampled: 4/1/2020 13:10

Sample ID: 20D0713-10

Sample Matrix: Soil

SPLP - Metals Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Lead	ND	2.5	µg/L	5		SW-846 6020B	4/22/20	4/22/20 19:17	MJH

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

Project Location: Scituate, RI

Sample Description:

Work Order: 20D0713

Date Received: 4/17/2020

Field Sample #: ESS-33A (0-3')

Sampled: 4/1/2020 13:45

Sample ID: 20D0713-11

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	89.6		% Wt	1		SM 2540G	4/22/20	4/22/20 7:57	JS

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

Project Location: Scituate, RI

Sample Description:

Work Order: 20D0713

Date Received: 4/17/2020

Field Sample #: ESS-33A (0-3')

Sampled: 4/1/2020 13:45

Sample ID: 20D0713-11

Sample Matrix: Soil

SPLP - Metals Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Lead	ND	2.5	µg/L	5		SW-846 6020B	4/22/20	4/22/20 19:18	MJH

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

Project Location: Scituate, RI

Sample Description:

Work Order: 20D0713

Date Received: 4/17/2020

Field Sample #: ESS-34A (0-3')

Sampled: 4/1/2020 13:30

Sample ID: 20D0713-12

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	91.2		% Wt	1		SM 2540G	4/22/20	4/22/20 7:57	JS

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

Project Location: Scituate, RI

Sample Description:

Work Order: 20D0713

Date Received: 4/17/2020

Field Sample #: ESS-34A (0-3')

Sampled: 4/1/2020 13:30

Sample ID: 20D0713-12

Sample Matrix: Soil

SPLP - Metals Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Lead	ND	2.5	µg/L	5		SW-846 6020B	4/22/20	4/22/20 19:20	MJH

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

Project Location: Scituate, RI

Sample Description:

Work Order: 20D0713

Date Received: 4/17/2020

Field Sample #: ESS-35A (0-3')

Sampled: 4/1/2020 14:00

Sample ID: 20D0713-13

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	86.7		% Wt	1		SM 2540G	4/22/20	4/22/20 7:57	JS

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

Project Location: Scituate, RI

Sample Description:

Work Order: 20D0713

Date Received: 4/17/2020

Field Sample #: ESS-35A (0-3')

Sampled: 4/1/2020 14:00

Sample ID: 20D0713-13

Sample Matrix: Soil

SPLP - Metals Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Lead	31	2.5	µg/L	5		SW-846 6020B	4/22/20	4/22/20 19:21	MJH

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

Project Location: Scituate, RI

Sample Description:

Work Order: 20D0713

Date Received: 4/17/2020

Field Sample #: ESS-58 (0-3')

Sampled: 4/1/2020 14:45

Sample ID: 20D0713-14

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	80.7		% Wt	1		SM 2540G	4/17/20	4/17/20 9:40	JS



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

Project Location: Scituate, RI

Sample Description:

Work Order: 20D0713

Date Received: 4/17/2020

Field Sample #: ESS-58 (0-3')

Sampled: 4/1/2020 14:45

Sample ID: 20D0713-14

Sample Matrix: Soil

SPLP - Metals Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Lead	7.8	2.5	µg/L	5		SW-846 6020B	4/22/20	4/22/20 19:23	MJH

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

Project Location: Scituate, RI

Sample Description:

Work Order: 20D0713

Date Received: 4/17/2020

Field Sample #: ESS-59 (0-3')

Sampled: 4/1/2020 15:00

Sample ID: 20D0713-15

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	87.7		% Wt	1		SM 2540G	4/17/20	4/17/20 9:40	JS

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

Project Location: Scituate, RI

Sample Description:

Work Order: 20D0713

Date Received: 4/17/2020

Field Sample #: ESS-59 (0-3')

Sampled: 4/1/2020 15:00

Sample ID: 20D0713-15

Sample Matrix: Soil

SPLP - Metals Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Lead	ND	2.5	µg/L	5		SW-846 6020B	4/22/20	4/22/20 19:27	MJH

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

Project Location: Scituate, RI

Sample Description:

Work Order: 20D0713

Date Received: 4/17/2020

Field Sample #: ESS-48 (0-4')

Sampled: 4/2/2020 14:40

Sample ID: 20D0713-16

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	89.2		% Wt	1		SM 2540G	4/17/20	4/17/20 9:40	JS

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

Project Location: Scituate, RI

Sample Description:

Work Order: 20D0713

Date Received: 4/17/2020

Field Sample #: ESS-48 (0-4')

Sampled: 4/2/2020 14:40

Sample ID: 20D0713-16

Sample Matrix: Soil

SPLP - Metals Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Lead	21	2.5	µg/L	5		SW-846 6020B	4/22/20	4/22/20 19:29	MJH

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

Project Location: Scituate, RI

Sample Description:

Work Order: 20D0713

Date Received: 4/17/2020

Field Sample #: ESS-50 (0-4')

Sampled: 4/2/2020 13:10

Sample ID: 20D0713-17

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	90.2		% Wt	1		SM 2540G	4/17/20	4/17/20 9:40	JS

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

Project Location: Scituate, RI

Sample Description:

Work Order: 20D0713

Date Received: 4/17/2020

Field Sample #: ESS-50 (0-4')

Sampled: 4/2/2020 13:10

Sample ID: 20D0713-17

Sample Matrix: Soil

SPLP - Metals Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Lead	ND	2.5	µg/L	5		SW-846 6020B	4/22/20	4/22/20 19:30	MJH

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

Project Location: Scituate, RI

Sample Description:

Work Order: 20D0713

Date Received: 4/17/2020

Field Sample #: ESS-60 (0-4')

Sampled: 4/2/2020 15:45

Sample ID: 20D0713-18

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	89.6		% Wt	1		SM 2540G	4/17/20	4/17/20 9:40	JS



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

Project Location: Scituate, RI

Sample Description:

Work Order: 20D0713

Date Received: 4/17/2020

Field Sample #: ESS-60 (0-4')

Sampled: 4/2/2020 15:45

Sample ID: 20D0713-18

Sample Matrix: Soil

SPLP - Metals Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Lead	ND	2.5	µg/L	5		SW-846 6020B	4/22/20	4/22/20 19:32	MJH

**Sample Extraction Data**

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

Lab Number [Field ID]	Batch	Date
20D0713-14 [ESS-58 (0-3')]	B256481	04/17/20
20D0713-15 [ESS-59 (0-3')]	B256481	04/17/20
20D0713-16 [ESS-48 (0-4')]	B256481	04/17/20
20D0713-17 [ESS-50 (0-4')]	B256481	04/17/20
20D0713-18 [ESS-60 (0-4')]	B256481	04/17/20

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

Lab Number [Field ID]	Batch	Date
20D0713-01 [ESS-30A (0-3')]	B256694	04/22/20
20D0713-02 [ESS-31A (0-3')]	B256694	04/22/20
20D0713-03 [ESS-31A (3-4.75')]	B256694	04/22/20
20D0713-04 [ESS-31B (0-3')]	B256694	04/22/20
20D0713-05 [ESS-31B (3-4.5')]	B256694	04/22/20
20D0713-06 [ESS-31C (0-3')]	B256694	04/22/20
20D0713-07 [ESS-31C (3-4.25')]	B256694	04/22/20
20D0713-08 [ESS-31D (0-3')]	B256694	04/22/20
20D0713-09 [ESS-31D (3-4.5')]	B256694	04/22/20
20D0713-10 [ESS-32A (0-3')]	B256694	04/22/20
20D0713-11 [ESS-33A (0-3')]	B256694	04/22/20
20D0713-12 [ESS-34A (0-3')]	B256694	04/22/20
20D0713-13 [ESS-35A (0-3')]	B256694	04/22/20

**Prep Method: SW-846 3010A    Analytical Method: SW-846 6020B    Leachates were extracted on 4/21/2020 per SW-846 1312 in Batch B256631**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
20D0713-01 [ESS-30A (0-3')]	B256738	50.0	50.0	04/22/20
20D0713-02 [ESS-31A (0-3')]	B256738	50.0	50.0	04/22/20
20D0713-03 [ESS-31A (3-4.75')]	B256738	50.0	50.0	04/22/20
20D0713-04 [ESS-31B (0-3')]	B256738	50.0	50.0	04/22/20
20D0713-05 [ESS-31B (3-4.5')]	B256738	50.0	50.0	04/22/20
20D0713-06 [ESS-31C (0-3')]	B256738	50.0	50.0	04/22/20
20D0713-07 [ESS-31C (3-4.25')]	B256738	50.0	50.0	04/22/20
20D0713-08 [ESS-31D (0-3')]	B256738	50.0	50.0	04/22/20
20D0713-09 [ESS-31D (3-4.5')]	B256738	50.0	50.0	04/22/20
20D0713-10 [ESS-32A (0-3')]	B256738	50.0	50.0	04/22/20
20D0713-11 [ESS-33A (0-3')]	B256738	50.0	50.0	04/22/20
20D0713-12 [ESS-34A (0-3')]	B256738	50.0	50.0	04/22/20
20D0713-13 [ESS-35A (0-3')]	B256738	50.0	50.0	04/22/20
20D0713-14 [ESS-58 (0-3')]	B256738	50.0	50.0	04/22/20
20D0713-15 [ESS-59 (0-3')]	B256738	50.0	50.0	04/22/20
20D0713-16 [ESS-48 (0-4')]	B256738	50.0	50.0	04/22/20
20D0713-17 [ESS-50 (0-4')]	B256738	50.0	50.0	04/22/20
20D0713-18 [ESS-60 (0-4')]	B256738	50.0	50.0	04/22/20

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**QUALITY CONTROL**

**SPLP - Metals Analyses - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B256738 - SW-846 3010A</b>										
<b>Blank (B256738-BLK1)</b>				Prepared & Analyzed: 04/22/20						
Lead	ND	2.5	µg/L							
<b>LCS (B256738-BS1)</b>				Prepared & Analyzed: 04/22/20						
Lead	504	5.0	µg/L	500		101	80-120			
<b>LCS Dup (B256738-BSD1)</b>				Prepared & Analyzed: 04/22/20						
Lead	505	5.0	µg/L	500		101	80-120	0.128	20	
<b>Matrix Spike (B256738-MS1)</b>				<b>Source: 20D0713-01</b>		Prepared & Analyzed: 04/22/20				
Lead	507	5.0	µg/L	500	ND	101	75-125			

---

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

**FLAG/QUALIFIER SUMMARY**

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level

Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.

No results have been blank subtracted unless specified in the case narrative section.

**CERTIFICATIONS**

**Certified Analyses included in this Report**

Analyte	Certifications
---------	----------------

**No certified Analyses included in this Report**

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2017	100033	03/1/2022
MA	Massachusetts DEP	M-MA100	06/30/2020
CT	Connecticut Department of Public Health	PH-0567	09/30/2021
NY	New York State Department of Health	10899 NELAP	04/1/2021
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2021
RI	Rhode Island Department of Health	LAO00112	12/30/2020
NC	North Carolina Div. of Water Quality	652	12/31/2020
NJ	New Jersey DEP	MA007 NELAP	06/30/2020
FL	Florida Department of Health	E871027 NELAP	06/30/2020
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2020
ME	State of Maine	2011028	06/9/2021
VA	Commonwealth of Virginia	460217	12/14/2020
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2020
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2020
NC-DW	North Carolina Department of Health	25703	07/31/2020
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2020



JLH

20D0148

20D0713

http://www.contestlabs.com

Doc # 381 Rev 2\_06262019

Phone: 413-525-2332

Fax: 413-525-6405

Email: info@contestlabs.com

STANDARD

CHAIN OF CUSTODY RECORD

39 Spruce Street  
East Longmeadow, MA 01028

COMBINED CONTAINERS Iced

Page 1 of 4

Company Name: **ESS GROUP INC.**  
 Address: **404 WYMAN ST. SUITE 375, WALTHAM**  
 Phone: **781-419-7714**  
 Project Name: **HOPE MILL**  
 Project Location: **30 TIVATE, RI**  
 Project Number: **P312-007.03**  
 Project Manager: **CRAIG PARADIS**  
 Con-Test Quote Name/Number:  
 Invoice Recipient: **BCABRAL@ESSGROUP.COM**  
 Sampled By: **CP+MO**

**Requested Turnaround Time**  
 1-Day  10-Day   
 PFAS 10-Day (std)  Due Date:

**Discovered Matrix Samples**  
 Field Filtered   
 Lab to Filter

**RUSH-Approval Required**  
 1-Day  3-Day   
 2-Day  4-Day

**Orthophosphate Samples**  
 Field Filtered   
 Lab to Filter

**Data Delivery**  
 Format: PDF  EXCEL   
 Other:  
 CLP Like Data Pkg Required:   
 Email To: **CPARADIS@ESSGROUP.COM**  
 Fax To #:

ANALYSIS REQUESTED

TOTAL LEAD	TOTAL ARSENIC	3290 (PARTS ONLY)	SPLP LEAD (COMMENTS)	HOLD	SPLP Lead
------------	---------------	-------------------	----------------------	------	-----------

Preservation Code

Container Use Only

Total Number Of:

VIALS \_\_\_\_\_  
 GLASS \_\_\_\_\_  
 PLASTIC \_\_\_\_\_  
 BACTERIA \_\_\_\_\_  
 ENCORE \_\_\_\_\_

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

\*Contest is not responsible for missing samples from prepacked coolers

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

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

Con-Test Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	TOTAL LEAD	TOTAL ARSENIC	3290 (PARTS ONLY)	SPLP LEAD (COMMENTS)	HOLD	SPLP Lead
1	ESS-30A (0-3')	4/1/20	8:40	GRAB	S	U		1									X
2	ESS-31A (0-3')		9:30		S	U		1				X	X	X	X		X
3	ESS-31A (3-4.75')		10:15		S	U		1				X	X	X	X		X
4	ESS-31B (0-3')		9:45		S	U		1				X	X	X	X		X
5	ESS-31B (3-4.5')		10:35		S	U		1				X	X	X	X		X
6	ESS-31C (0-3')		10:30		S	U		1				X	X	X	X		X
7	ESS-31C (3-4.25')		11:05		S	U		1				X	X	X	X		X
8	ESS-31D (0-3')		11:00		S	U		1				X	X	X	X		X
9	ESS-31D (3-4.5')		12:10		S	U		1				X	X	X	X		X
10	ESS-32A (0-3')		13:10		S	U		1				X	X	X	X		X

Relinquished by: (signature) *Craig Paradis* Date/Time: **4/3/20 1020**  
 Received by: (signature) *Joe GUS* Date/Time: **4/3/20 1021**  
 Relinquished by: (signature) *Joe GUS* Date/Time: **4/3/20 1610**  
 Received by: (signature) *Bill Hill* Date/Time: **4/3/20 1610**  
 Relinquished by: (signature) \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Received by: (signature) \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Relinquished by: (signature) \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Received by: (signature) \_\_\_\_\_ Date/Time: \_\_\_\_\_

Client Comments:  
**MUST SEE RIDEM REMEDIATION REGULATION RDEC'S, EXCEPT FOR ESS-30A, HOLD ALL SPLP LEAD ANALYSIS PENDING TOTAL LEAD CONCENTRATIONS AT 20X SPLP LEAD CONCENTRATION. CALL CRAIG P. WITH QUESTIONS.**

**RI RDEC**  MA MCP Required   
 MUP Certification Form Required   
 CT RCP Required   
 RCP Certification Form Required   
 MA State DW Required   
 PWSID # \_\_\_\_\_

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

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

NEIAC and AIHA-LAP, LLC Accredited

Other  Chromatogram   
 AIHA-LAP, LLC   
**PCB ONLY**  
 Soxhlet   
 Non Soxhlet

Lab Comments: **SPLP Lead per coc. JLH 4/17/2020**

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Company Name: **ESS GROUP, INC.**  
Address: **40 WYMAN ST SUITE 325 WALTHAM, MA**  
Phone: **781-419-7714**  
Project Name: **HOPE HILL**  
Project Location: **SCITUATE, RI**  
Project Number: **P312-007.03**  
Project Manager: **C. PARADIS**  
Con-Test Quote Name/Number:  
Invoice Recipient: **BCABRAL@ESSGROUP.COM**  
Sampled By: **CP + MO**

**Requested Turnaround Time:**  
 5-Day  10-Day  Field Filtered  
 PFAS 10-Day (std)  Due Date:  Lab to Filter

**Rush Approval Required:**  
 1-Day  3-Day  Field Filtered  
 2-Day  4-Day  Lab to Filter

**Orthophosphate Samples:**  
 Field Filtered  
 Lab to Filter

**Data Delivery:**  
 Format: PDF  EXCEL   
 Other:  
 CLP Like Data Pkg Required:

Email To: **C.PARADIS@ESSGROUP.COM**  
 Fax To #:

**ICED ANALYSIS REQUESTED**

TOTAL LEAD	TOTAL ARSENIC	8270 (PAHS ONLY)	SPLP (HOLD - SEE LEAD COMMENTS)	HOLD	PESTICIDES (CARBOXYNALS ONLY)	SPLP Lead
------------	---------------	------------------	---------------------------------	------	-------------------------------	-----------

**Preservation Code**

Coupled Use Only

Total Number Of:

VIALS \_\_\_\_\_  
 GLASS \_\_\_\_\_  
 PLASTIC \_\_\_\_\_  
 BACTERIA \_\_\_\_\_  
 ENCORE \_\_\_\_\_

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

\*Contest is not responsible for missing samples from prepacked coolers

Con-Test Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE
11	ESS-33A (0-3')	4/1/20	13:45	GRAB	S	U	4X				
12	ESS-34A (0-3')		13:30				4X				
13	ESS-35A (0-3')		14:00				4X				
14	ESS-58 (0-3')		14:45				3X				
	ESS-58 (3-7.5')		15:15				1X				
	ESS-58 (8-10.5')		15:20				1X				
15	ESS-59 (0-3')		15:00				3X				
	ESS-59 (3-8')		15:45				1X				
	ESS-57A (0-3')	4/2/20	7:50	GRAB	S	U	1X				
	ESS-57A (3-5')	4/2/20	10:20	GRAB	S	U	1X				

Client Comments: **MUST MEET RIDEM REMEDIATION REGULATIONS RDECs. HOLD ALL SPLP LEAD ANALYSIS PENDING TOTAL LEAD AT CONCENTRATIONS AT/GREATER THAN 20X THE SPLP CONCENTRATION. CALL C.PARADIS WITH QUESTIONS**

Relinquished by: (signature) **Craig C. Paradis** Date/Time: **4/3/20 10:20**  
 Received by: (signature) **Joe Elia** Date/Time: **4/3/20 10:20**  
 Relinquished by: (signature) **Joe Elia** Date/Time: **4/3/20 14:10**  
 Received by: (signature) **Callan 5FB** Date/Time: **4/3/20 16:10**

**Dates of Limits Requirements:**  
 RI RDEC

**Special Requirements:**  
 MA MCP Required  
 MCP Certification Form Required  
 CT RCP Required  
 RCP Certification Form Required  
 MA State DW Required

Other: \_\_\_\_\_ PWSID # \_\_\_\_\_

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

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

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

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

**PCB ONLY**  
 Soxhlet  
 Non Soxhlet

Lab Comments:

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STLH  
con-test  
ANALYTICAL LABORATORY

Phone: 413-525-2332  
Fax: 413-525-6405  
Email: info@contestlabs.com

STANDARD CHAIN OF CUSTODY RECORD  
39 Spruce Street  
East Longmeadow, MA 01028

Address: 46 WILMAN ST. SUITE 375, WALTHAM  
Phone: 781-419-7714  
Project Location: MORE MILL  
Project Number: SCITUATE, RI  
Project Manager: C. PARADIS  
Con-Test Quote Name/Number: CP-410  
Invoice Recipient: B-CABRAL@ESSGROUP.COM  
Sampled By: CP-410

STANDARD CHAIN OF CUSTODY RECORD  
39 Spruce Street  
East Longmeadow, MA 01028

ANALYSIS REQUESTED  
ICED  
PRESERVATION CODE  
Total Number Of:  
VIALS  
GLASS  
PLASTIC  
BACTERIA  
ENCORE  
Glassware in the fridge? Y/N  
Glassware in freezer? Y/N  
Prepackaged Cooler? Y/N  
\*Contest is not responsible for missing samples from prepackaged coolers

Con-Test Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	Matrix Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE
17	ESS-57A (5-9')	4/2/20	11:00	GRAB	S	1	X			
18	ESS-57B (0-3')		8:25			1	X			
19	ESS-57B (3-5')		9:10			1	X			
20	ESS-57B (5-8')		9:35			1	X			
21	ESS-57C (0-3')		8:10			1	X			
22	ESS-57C (3-5')		11:10			1	X			
23	ESS-57C (5-8')		11:40			1	X			
24	ESS-57D (0-3')		7:50			1	X			
25	ESS-57D (3-5')		8:45			1	X			
26	ESS-57D (5-9')		9:00			1	X			

Client Comments: MUST MEET RIDEM REMEDIATION REGULATION DEC. CALL C. PARADIS WITH QUESTIONS

Relinquished by: (signature) [Signature] Date/Time: 4/3/20 10:20

Received by: (signature) [Signature] Date/Time: 4/3/20 10:20

Relinquished by: (signature) [Signature] Date/Time: 4/3/20 16:10

Received by: (signature) [Signature] Date/Time: 5/5/20 10:10

Relinquished by: (signature) [Signature] Date/Time: [ ]

Received by: (signature) [Signature] Date/Time: [ ]

Relinquished by: (signature) [Signature] Date/Time: [ ]

Received by: (signature) [Signature] Date/Time: [ ]

Project Entity: [ ] Government [ ] Federal [ ] City [ ] Municipality [ ] 21 J [ ] Brownfield [ ] WRTA [ ] School [ ] MBTA [ ] Chromatogram [ ] ALPHA-LAP, LLC [ ] Other [ ]

MA MCP Required [ ]  
MCP Certification Form Required [ ]  
CT RCP Required [ ]  
RCP Certification Form Required [ ]  
MA State DWR Required [ ]  
PWSID # [ ]

NELEC and ALPHA-LAP, LLC Accredited

MA MCP Required [ ]  
MCP Certification Form Required [ ]  
CT RCP Required [ ]  
RCP Certification Form Required [ ]  
MA State DWR Required [ ]  
PWSID # [ ]

Project Entity: [ ] Government [ ] Federal [ ] City [ ] Municipality [ ] 21 J [ ] Brownfield [ ] WRTA [ ] School [ ] MBTA [ ] Chromatogram [ ] ALPHA-LAP, LLC [ ] Other [ ]

NELEC and ALPHA-LAP, LLC Accredited

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

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

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

PCB ONLY  
Soxhlet [ ]  
Non Soxhlet [ ]

Lab Comments:

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STANDARD  
10-Day  
PFAS 10-Day (std)  
Field Filtered  
Lab to Filter

3-Day  
4-Day  
Field Filtered  
Lab to Filter

Format: PDF  
Other: EXCEL  
CLP Like Data Pkg Required:   
Email To: C.PARADIS@ESSGROUP.COM  
Fax To #:

Address: 404 WYMAN ST SUITE 375 WALTHAM  
Phone: 781-419-7714  
Project Location: HOPE HILL  
Project Number: 302007.03  
Project Manager: C. PARADIS  
Con-Test Quote Name/Number: CP-140

Con-Test Work Order #	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP GRAB	Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE
16	ESS-48 (0-4')	4/2/20	14:40	GRAB	S	0		1X			
17	ESS-48 (4-8')		15:00					1X			
	ESS-48 (8-10.5')		15:20					1X			
	ESS-50 (0-4')		13:10					1X			
	ESS-50 (4-8')		13:40					1X			
	ESS-50 (8-9.5')		14:10					1X			
	ESS-60 (0-4')		15:45					1X			
	ESS-60 (4-8')		16:00					1X			
	ESS-60 (8-9.5')		16:20					1X			

Relinquished by: (signature)	Date/Time	Relinquished by: (signature)	Date/Time
<i>Craig P...</i>	4/3/20 10:20	<i>Joe Ellis</i>	4/3/20 10:20
<i>Joe Ellis</i>	4/13/20 16:16	<i>Joe Ellis</i>	4/13/20 16:10
<i>Joe Ellis</i>		<i>Joe Ellis</i>	
<i>Joe Ellis</i>		<i>Joe Ellis</i>	
<i>Joe Ellis</i>		<i>Joe Ellis</i>	
<i>Joe Ellis</i>		<i>Joe Ellis</i>	
<i>Joe Ellis</i>		<i>Joe Ellis</i>	
<i>Joe Ellis</i>		<i>Joe Ellis</i>	
<i>Joe Ellis</i>		<i>Joe Ellis</i>	

Client Comments: MUST MEET RIDEM REM. REGS RDEC'S. CALL CRAIG P. WITH QUESTIONS

MA MCP Required  MA MCP Form Required   
MCP Certification Form Required  CT RCP Required   
RCP Certification Form Required  MA State DW Required

Project Entity:  Government  Federal  City  
 Municipality  21 J  Brownfield

Other:  Chromatogram  AIRHA-LAP, LLC

Preservation Codes:  
1 = Ice  
H = HCL  
M = Methanol  
N = Nitric Acid  
S = Sulfuric Acid  
B = Sodium Bisulfate  
X = Sodium Hydroxide  
T = Sodium Thiosulfate  
O = Other (please define)

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

Preservation Code:  SOXHLET  NON SOXHLET

Table of Contents

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## Rebecca Faust

---

**From:** Jessica Hoffman <jessica.hoffman@contestlabs.com> on behalf of Jessica Hoffman  
**Sent:** Friday, April 03, 2020 2:54 PM  
**To:** Rebecca Faust  
**Subject:** FW: Samples  
**Attachments:** P312-007.03\_Test Pits\_CP (78).JPG

Does below make sense for a Prelog we should have received?

Have a great day,

Jessica Hoffman  
 Project Manager  
 Con-Test Analytical Laboratory  
 40 Spruce Street., East Longmeadow, MA 01028  
 Office Phone: 413.525.2332 x56 | Email: [jessica.hoffman@contestlabs.com](mailto:jessica.hoffman@contestlabs.com)  
**My current phone number is 413-285-6707**

---

**From:** Craig Paradis <[cparadis@essgroup.com](mailto:cparadis@essgroup.com)>  
**Sent:** Friday, April 03, 2020 11:32 AM  
**To:** Jessica Hoffman <[jessica.hoffman@contestlabs.com](mailto:jessica.hoffman@contestlabs.com)>  
**Cc:** Derek Lonczak <[derek.lonczak@contestlabs.com](mailto:derek.lonczak@contestlabs.com)>  
**Subject:** Samples

Hi Jessica,

Unfortunately, I don't have scanning capability so please refer to the photo attached. I submitted four (4) COCs with the samples that were collected from my house today. On the fourth page (refer to photo) I requested analysis for ESS-48 (4-8), ESS-48 (8-10.5), ESS-50 (4-8), ESS-50 (8-9.5), ESS-60 (4-8), and ESS-60 (8-9.5). I would like to hold all analysis on these samples.

Also, on the COCs I indicated a hold on SPLP lead for all samples pending total lead concentrations at 20x greater than the SPLP lead concentration. I want to clarify this by stating that the SPLP lead analysis should be performed if the total lead concentration is equal to or greater than 0.8 mg/kg.

Please confirm the above or contact me should you have any questions.

Thank you,  
 Craig

**Craig Paradis | Hazardous Materials & Remediation Scientist**  
**Land & Waterfront Development and Remediation**  
**ESS Group, Inc.**  
 404 Wyman Street, Suite 375, Waltham, MA 02451 | p 781.419.7714 | c 508.341.8103

[E-news](#) | [LinkedIn](#) | [Twitter](#) | [www.essgroup.com](http://www.essgroup.com)

This email message and any attachments are confidential. If you are not the intended recipient, please immediately reply to the sender and delete the message from your email system. Thank you.

I Have Not Confirmed Sample Container Numbers With Lab Staff Before Relinquishing Over Samples \_\_\_\_\_



**con-test**  
ANALYTICAL LABORATORY

Doc# 277 Rev 5 2017

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

Client ESS

Received By [Signature] Date 4/3/20 Time 1610

How were the samples received? In Cooler T No Cooler \_\_\_\_\_ On Ice T No Ice \_\_\_\_\_  
Direct from Sampling \_\_\_\_\_ Ambient \_\_\_\_\_ Melted Ice \_\_\_\_\_

Were samples within Temperature? 2-6°C T By Gun # 2 Actual Temp - 5.8  
By Blank # \_\_\_\_\_ Actual Temp - \_\_\_\_\_

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

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

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

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

Did COC include all pertinent Information? Client T Analysis T Sampler Name F  
Project T ID's T Collection Dates/Times T

Are Sample labels filled out and legible? T

Are there Lab to Filters? F

Are there Rushes? F

Are there Short Holds? F

Is there enough Volume? T

Is there Headspace where applicable? n/a

Proper Media/Containers Used? T

Were trip blanks received? F

Do all samples have the proper pH? \_\_\_\_\_

Who was notified? \_\_\_\_\_

Who was notified? \_\_\_\_\_

Who was notified? \_\_\_\_\_

MS/MSD? F

Is splitting samples required? F

On COC? F

Acid n/a Base n/a

Vials	#	Containers:	#	#	#	#
Unp-		1 Liter Amb.		1 Liter Plastic		16 oz Amb.
HCL-		500 mL Amb.		500 mL Plastic		8oz Amb/Clear <u>22</u>
Meoh-		250 mL Amb.		250 mL Plastic		4oz Amb/Clear
Bisulfate-		Flashpoint		Col./Bacteria		2oz Amb/Clear
DI-		Other Glass		Other Plastic		Encore
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:
Sulfuric-		Perchlorate		Ziplock		

**Unused Media**

Vials	#	Containers:	#	#	#	#
Unp-		1 Liter Amb.		1 Liter Plastic		16 oz Amb.
HCL-		500 mL Amb.		500 mL Plastic		8oz Amb/Clear
Meoh-		250 mL Amb.		250 mL Plastic		4oz Amb/Clear
Bisulfate-		Col./Bacteria		Flashpoint		2oz Amb/Clear
DI-		Other Plastic		Other Glass		Encore
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:
Sulfuric-		Perchlorate		Ziplock		

Comments:

April 24, 2020

Craig Paradis  
ESS Group Inc.  
404 Wyman St. Suite 375  
Waltham, MA 02451

Project Location: Hope, RI  
Client Job Number:  
Project Number: P312-007  
Laboratory Work Order Number: 20D0752

Enclosed are results of analyses for samples received by the laboratory on April 17, 2020. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, reading "Jessica Hoffman", is displayed on a light blue rectangular background. The signature is written in a cursive, flowing style.

Jessica L. Hoffman  
Project Manager

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

ESS Group Inc.  
 404 Wyman St. Suite 375  
 Waltham, MA 02451  
 ATTN: Craig Paradis

REPORT DATE: 4/24/2020

PURCHASE ORDER NUMBER:

PROJECT NUMBER: P312-007

**ANALYTICAL SUMMARY**

WORK ORDER NUMBER: 20D0752

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

PROJECT LOCATION: Hope, RI

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
MW-7	20D0752-01	Ground Water		SW-846 6020B	
				SW-846 8260C-D	
MW-8	20D0752-02	Ground Water		SW-846 6020B	
				SW-846 8260C-D	
				SW-846 8270D-E	
MW-9	20D0752-03	Ground Water		SW-846 6020B	
				SW-846 8260C-D	
				SW-846 8270D-E	
MW-11	20D0752-04	Ground Water		SW-846 6020B	
				SW-846 8260C-D	
MW-12	20D0752-05	Ground Water		SW-846 6020B	
				SW-846 8260C-D	
				SW-846 8270D-E	
MW-13	20D0752-06	Ground Water		SW-846 6020B	
				SW-846 8081B	
				SW-846 8260C-D	

**CASE NARRATIVE SUMMARY**

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

REVISION: 4/24/2020 client reached out would like all 17 compounds on the PAH list reported.

For method 8270E, only benzo(a)pyrene and naphthalene was requested and reported.

**SW-846 8260C-D****Qualifications:****V-05**

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

**Analyte & Samples(s) Qualified:****Bromomethane**

20D0752-01[MW-7], 20D0752-02[MW-8], 20D0752-03[MW-9], 20D0752-04[MW-11], 20D0752-05[MW-12], 20D0752-06[MW-13], B256549-BLK1, B256549-BS1, B256549-BSD1, S047750-CCV1

**Chloromethane**

20D0752-01[MW-7], 20D0752-02[MW-8], 20D0752-03[MW-9], 20D0752-04[MW-11], 20D0752-05[MW-12], 20D0752-06[MW-13], B256549-BLK1, B256549-BS1, B256549-BSD1, S047750-CCV1

**V-20**

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

**Analyte & Samples(s) Qualified:****2-Butanone (MEK)**

B256549-BS1, B256549-BSD1, S047750-CCV1

**2-Hexanone (MBK)**

B256549-BS1, B256549-BSD1, S047750-CCV1

**Acetone**

B256549-BS1, B256549-BSD1, S047750-CCV1

**Methyl Acetate**

B256549-BS1, B256549-BSD1, S047750-CCV1

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Lisa A. Worthington  
Technical Representative

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

Project Location: Hope, RI

Sample Description:

Work Order: 20D0752

Date Received: 4/17/2020

Field Sample #: MW-7

Sample ID: 20D0752-01

Start Date/Time: 4/16/2020 10:26:00AM

Sample Matrix: Ground Water

Stop Date/Time: 4/17/2020 10:26:00AM

**Volatile Organic Compounds by GC/MS**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
Acrylonitrile	ND	5.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
Benzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
Bromodichloromethane	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
Bromoform	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
Bromomethane	ND	2.0	µg/L	1	V-05	SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
2-Butanone (MEK)	ND	20	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
tert-Butyl Alcohol (TBA)	ND	20	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
Carbon Disulfide	ND	5.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
Carbon Tetrachloride	ND	5.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
Chloroform	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
Chloromethane	ND	2.0	µg/L	1	V-05	SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
trans-1,4-Dichloro-2-butene	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
1,1-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
2,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
1,1-Dichloropropene	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
cis-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
trans-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH



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

Project Location: Hope, RI

Sample Description:

Work Order: 20D0752

Date Received: 4/17/2020

Field Sample #: MW-7

Sample ID: 20D0752-01

Start Date/Time: 4/16/2020 10:26:00AM

Sample Matrix: Ground Water

Stop Date/Time: 4/17/2020 10:26:00AM

**Volatile Organic Compounds by GC/MS**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
1,4-Dioxane	ND	50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
Hexachlorobutadiene	ND	0.60	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
Methyl Acetate	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
Methyl Cyclohexane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
Methylene Chloride	ND	5.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
Naphthalene	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
Styrene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
Tetrahydrofuran	ND	10	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
Toluene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
1,2,3-Trichlorobenzene	ND	5.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
1,3,5-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
Trichloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
Vinyl Chloride	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:29	EEH
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
1,2-Dichloroethane-d4	97.8	70-130						4/20/20 12:29	
Toluene-d8	101	70-130						4/20/20 12:29	
4-Bromofluorobenzene	100	70-130						4/20/20 12:29	

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

Project Location: Hope, RI

Sample Description:

Work Order: 20D0752

Date Received: 4/17/2020

Field Sample #: MW-7

Sample ID: 20D0752-01

Start Date/Time: 4/16/2020 10:26:00AM

Sample Matrix: Ground Water

Stop Date/Time: 4/17/2020 10:26:00AM

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	ND	0.80	µg/L	1		SW-846 6020B	4/21/20	4/21/20 18:16	MJH
Lead	ND	0.50	µg/L	1		SW-846 6020B	4/21/20	4/21/20 18:16	MJH

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

Project Location: Hope, RI

Sample Description:

Work Order: 20D0752

Date Received: 4/17/2020

Field Sample #: MW-8

Sampled: 4/17/2020 12:04

Sample ID: 20D0752-02

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
Acrylonitrile	ND	5.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
Benzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
Bromodichloromethane	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
Bromoform	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
Bromomethane	ND	2.0	µg/L	1	V-05	SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
2-Butanone (MEK)	ND	20	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
tert-Butyl Alcohol (TBA)	ND	20	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
Carbon Disulfide	ND	5.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
Carbon Tetrachloride	ND	5.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
Chloroform	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
Chloromethane	ND	2.0	µg/L	1	V-05	SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
trans-1,4-Dichloro-2-butene	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
1,1-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
2,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
1,1-Dichloropropene	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
cis-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
trans-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH

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

Project Location: Hope, RI

Sample Description:

Work Order: 20D0752

Date Received: 4/17/2020

Field Sample #: MW-8

Sampled: 4/17/2020 12:04

Sample ID: 20D0752-02

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
1,4-Dioxane	ND	50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
Hexachlorobutadiene	ND	0.60	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
Methyl Acetate	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
Methyl Cyclohexane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
Methylene Chloride	ND	5.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
Naphthalene	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
Styrene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
Tetrachloroethylene	1.8	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
Tetrahydrofuran	ND	10	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
Toluene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
1,2,3-Trichlorobenzene	ND	5.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
1,3,5-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
Trichloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
Vinyl Chloride	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 12:56	EEH
Surrogates		% Recovery	Recovery Limits		Flag/Qual				
1,2-Dichloroethane-d4		98.4	70-130					4/20/20 12:56	
Toluene-d8		100	70-130					4/20/20 12:56	
4-Bromofluorobenzene		101	70-130					4/20/20 12:56	

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

Project Location: Hope, RI

Sample Description:

Work Order: 20D0752

Date Received: 4/17/2020

Field Sample #: MW-8

Sampled: 4/17/2020 12:04

Sample ID: 20D0752-02

Sample Matrix: Ground Water

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene (SIM)	ND	0.31	µg/L	1		SW-846 8270D-E	4/21/20	4/22/20 18:31	RMW
Acenaphthylene (SIM)	ND	0.21	µg/L	1		SW-846 8270D-E	4/21/20	4/22/20 18:31	RMW
Anthracene (SIM)	ND	0.21	µg/L	1		SW-846 8270D-E	4/21/20	4/22/20 18:31	RMW
Benzo(a)anthracene (SIM)	ND	0.052	µg/L	1		SW-846 8270D-E	4/21/20	4/22/20 18:31	RMW
Benzo(a)pyrene (SIM)	ND	0.10	µg/L	1		SW-846 8270D-E	4/21/20	4/22/20 18:31	RMW
Benzo(b)fluoranthene (SIM)	ND	0.052	µg/L	1		SW-846 8270D-E	4/21/20	4/22/20 18:31	RMW
Benzo(g,h,i)perylene (SIM)	ND	0.52	µg/L	1		SW-846 8270D-E	4/21/20	4/22/20 18:31	RMW
Benzo(k)fluoranthene (SIM)	ND	0.21	µg/L	1		SW-846 8270D-E	4/21/20	4/22/20 18:31	RMW
Chrysene (SIM)	ND	0.21	µg/L	1		SW-846 8270D-E	4/21/20	4/22/20 18:31	RMW
Dibenz(a,h)anthracene (SIM)	ND	0.10	µg/L	1		SW-846 8270D-E	4/21/20	4/22/20 18:31	RMW
Fluoranthene (SIM)	ND	0.52	µg/L	1		SW-846 8270D-E	4/21/20	4/22/20 18:31	RMW
Fluorene (SIM)	ND	1.0	µg/L	1		SW-846 8270D-E	4/21/20	4/22/20 18:31	RMW
Indeno(1,2,3-cd)pyrene (SIM)	ND	0.10	µg/L	1		SW-846 8270D-E	4/21/20	4/22/20 18:31	RMW
2-Methylnaphthalene (SIM)	ND	1.0	µg/L	1		SW-846 8270D-E	4/21/20	4/22/20 18:31	RMW
Naphthalene (SIM)	ND	1.0	µg/L	1		SW-846 8270D-E	4/21/20	4/22/20 18:31	RMW
Phenanthrene (SIM)	ND	0.052	µg/L	1		SW-846 8270D-E	4/21/20	4/22/20 18:31	RMW
Pyrene (SIM)	ND	1.0	µg/L	1		SW-846 8270D-E	4/21/20	4/22/20 18:31	RMW
Surrogates		% Recovery	Recovery Limits		Flag/Qual				
Nitrobenzene-d5		69.1	30-130					4/22/20 18:31	
2-Fluorobiphenyl		60.3	30-130					4/22/20 18:31	
p-Terphenyl-d14		60.9	30-130					4/22/20 18:31	

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

Project Location: Hope, RI

Sample Description:

Work Order: 20D0752

Date Received: 4/17/2020

Field Sample #: MW-8

Sampled: 4/17/2020 12:04

Sample ID: 20D0752-02

Sample Matrix: Ground Water

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	ND	0.80	µg/L	1		SW-846 6020B	4/21/20	4/21/20 18:19	MJH
Lead	ND	0.50	µg/L	1		SW-846 6020B	4/21/20	4/21/20 18:19	MJH

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

Project Location: Hope, RI

Sample Description:

Work Order: 20D0752

Date Received: 4/17/2020

Field Sample #: MW-9

Sampled: 4/16/2020 14:56

Sample ID: 20D0752-03

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
Acrylonitrile	ND	5.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
Benzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
Bromodichloromethane	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
Bromoform	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
Bromomethane	ND	2.0	µg/L	1	V-05	SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
2-Butanone (MEK)	ND	20	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
tert-Butyl Alcohol (TBA)	ND	20	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
Carbon Disulfide	ND	5.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
Carbon Tetrachloride	ND	5.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
Chloroform	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
Chloromethane	ND	2.0	µg/L	1	V-05	SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
trans-1,4-Dichloro-2-butene	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
1,1-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
2,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
1,1-Dichloropropene	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
cis-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
trans-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH

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

Project Location: Hope, RI

Sample Description:

Work Order: 20D0752

Date Received: 4/17/2020

Field Sample #: MW-9

Sampled: 4/16/2020 14:56

Sample ID: 20D0752-03

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
1,4-Dioxane	ND	50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
Hexachlorobutadiene	ND	0.60	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
Methyl Acetate	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
Methyl Cyclohexane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
Methylene Chloride	ND	5.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
Naphthalene	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
Styrene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
Tetrahydrofuran	ND	10	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
Toluene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
1,2,3-Trichlorobenzene	ND	5.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
1,3,5-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
Trichloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
Vinyl Chloride	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:24	EEH
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
1,2-Dichloroethane-d4	98.2	70-130						4/20/20 13:24	
Toluene-d8	98.6	70-130						4/20/20 13:24	
4-Bromofluorobenzene	101	70-130						4/20/20 13:24	



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

Project Location: Hope, RI

Sample Description:

Work Order: 20D0752

Date Received: 4/17/2020

Field Sample #: MW-9

Sampled: 4/16/2020 14:56

Sample ID: 20D0752-03

Sample Matrix: Ground Water

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene (SIM)	ND	0.29	µg/L	1		SW-846 8270D-E	4/21/20	4/22/20 18:59	RMW
Acenaphthylene (SIM)	ND	0.20	µg/L	1		SW-846 8270D-E	4/21/20	4/22/20 18:59	RMW
Anthracene (SIM)	ND	0.20	µg/L	1		SW-846 8270D-E	4/21/20	4/22/20 18:59	RMW
Benzo(a)anthracene (SIM)	ND	0.049	µg/L	1		SW-846 8270D-E	4/21/20	4/22/20 18:59	RMW
Benzo(a)pyrene (SIM)	ND	0.098	µg/L	1		SW-846 8270D-E	4/21/20	4/22/20 18:59	RMW
Benzo(b)fluoranthene (SIM)	ND	0.049	µg/L	1		SW-846 8270D-E	4/21/20	4/22/20 18:59	RMW
Benzo(g,h,i)perylene (SIM)	ND	0.49	µg/L	1		SW-846 8270D-E	4/21/20	4/22/20 18:59	RMW
Benzo(k)fluoranthene (SIM)	ND	0.20	µg/L	1		SW-846 8270D-E	4/21/20	4/22/20 18:59	RMW
Chrysene (SIM)	ND	0.20	µg/L	1		SW-846 8270D-E	4/21/20	4/22/20 18:59	RMW
Dibenz(a,h)anthracene (SIM)	ND	0.098	µg/L	1		SW-846 8270D-E	4/21/20	4/22/20 18:59	RMW
Fluoranthene (SIM)	ND	0.49	µg/L	1		SW-846 8270D-E	4/21/20	4/22/20 18:59	RMW
Fluorene (SIM)	ND	0.98	µg/L	1		SW-846 8270D-E	4/21/20	4/22/20 18:59	RMW
Indeno(1,2,3-cd)pyrene (SIM)	ND	0.098	µg/L	1		SW-846 8270D-E	4/21/20	4/22/20 18:59	RMW
2-Methylnaphthalene (SIM)	ND	0.98	µg/L	1		SW-846 8270D-E	4/21/20	4/22/20 18:59	RMW
Naphthalene (SIM)	ND	0.98	µg/L	1		SW-846 8270D-E	4/21/20	4/22/20 18:59	RMW
Phenanthrene (SIM)	ND	0.049	µg/L	1		SW-846 8270D-E	4/21/20	4/22/20 18:59	RMW
Pyrene (SIM)	ND	0.98	µg/L	1		SW-846 8270D-E	4/21/20	4/22/20 18:59	RMW
Surrogates		% Recovery	Recovery Limits		Flag/Qual				
Nitrobenzene-d5		70.6	30-130					4/22/20 18:59	
2-Fluorobiphenyl		60.7	30-130					4/22/20 18:59	
p-Terphenyl-d14		60.0	30-130					4/22/20 18:59	

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

Project Location: Hope, RI

Sample Description:

Work Order: 20D0752

Date Received: 4/17/2020

Field Sample #: MW-9

Sampled: 4/16/2020 14:56

Sample ID: 20D0752-03

Sample Matrix: Ground Water

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	ND	0.80	µg/L	1		SW-846 6020B	4/21/20	4/21/20 18:22	MJH
Lead	0.52	0.50	µg/L	1		SW-846 6020B	4/21/20	4/21/20 18:22	MJH

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

Project Location: Hope, RI

Sample Description:

Work Order: 20D0752

Date Received: 4/17/2020

Field Sample #: MW-11

Sampled: 4/17/2020 12:31

Sample ID: 20D0752-04

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
Acrylonitrile	ND	5.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
Benzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
Bromodichloromethane	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
Bromoform	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
Bromomethane	ND	2.0	µg/L	1	V-05	SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
2-Butanone (MEK)	ND	20	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
tert-Butyl Alcohol (TBA)	ND	20	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
Carbon Disulfide	ND	5.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
Carbon Tetrachloride	ND	5.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
Chloroform	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
Chloromethane	ND	2.0	µg/L	1	V-05	SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
trans-1,4-Dichloro-2-butene	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
1,1-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
2,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
1,1-Dichloropropene	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
cis-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
trans-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH

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

Project Location: Hope, RI

Sample Description:

Work Order: 20D0752

Date Received: 4/17/2020

Field Sample #: MW-11

Sampled: 4/17/2020 12:31

Sample ID: 20D0752-04

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
1,4-Dioxane	ND	50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
Hexachlorobutadiene	ND	0.60	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
Methyl Acetate	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
Methyl Cyclohexane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
Methylene Chloride	ND	5.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
Naphthalene	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
Styrene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
Tetrahydrofuran	ND	10	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
Toluene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
1,2,3-Trichlorobenzene	ND	5.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
1,3,5-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
Trichloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
1,2,4-Trimethylbenzene	1.5	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
Vinyl Chloride	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
o-Xylene	2.7	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 13:51	EEH
Surrogates		% Recovery	Recovery Limits		Flag/Qual				
1,2-Dichloroethane-d4		99.4	70-130					4/20/20 13:51	
Toluene-d8		101	70-130					4/20/20 13:51	
4-Bromofluorobenzene		101	70-130					4/20/20 13:51	

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

Project Location: Hope, RI

Sample Description:

Work Order: 20D0752

Date Received: 4/17/2020

Field Sample #: MW-11

Sampled: 4/17/2020 12:31

Sample ID: 20D0752-04

Sample Matrix: Ground Water

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	ND	0.80	µg/L	1		SW-846 6020B	4/21/20	4/21/20 18:26	MJH
Lead	ND	0.50	µg/L	1		SW-846 6020B	4/21/20	4/21/20 18:26	MJH

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

Project Location: Hope, RI

Sample Description:

Work Order: 20D0752

Date Received: 4/17/2020

Field Sample #: MW-12

Sampled: 4/16/2020 11:04

Sample ID: 20D0752-05

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
Acrylonitrile	ND	5.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
Benzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
Bromodichloromethane	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
Bromoform	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
Bromomethane	ND	2.0	µg/L	1	V-05	SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
2-Butanone (MEK)	ND	20	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
tert-Butyl Alcohol (TBA)	ND	20	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
Carbon Disulfide	ND	5.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
Carbon Tetrachloride	ND	5.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
Chloroform	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
Chloromethane	ND	2.0	µg/L	1	V-05	SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
trans-1,4-Dichloro-2-butene	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
1,1-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
2,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
1,1-Dichloropropene	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
cis-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
trans-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH

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

Project Location: Hope, RI

Sample Description:

Work Order: 20D0752

Date Received: 4/17/2020

Field Sample #: MW-12

Sampled: 4/16/2020 11:04

Sample ID: 20D0752-05

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
1,4-Dioxane	ND	50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
Hexachlorobutadiene	ND	0.60	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
Methyl Acetate	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
Methyl Cyclohexane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
Methylene Chloride	ND	5.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
Naphthalene	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
Styrene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
Tetrahydrofuran	ND	10	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
Toluene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
1,2,3-Trichlorobenzene	ND	5.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
1,3,5-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
Trichloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
Vinyl Chloride	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:19	EEH
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
1,2-Dichloroethane-d4	99.4	70-130						4/20/20 14:19	
Toluene-d8	102	70-130						4/20/20 14:19	
4-Bromofluorobenzene	100	70-130						4/20/20 14:19	

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

Project Location: Hope, RI

Sample Description:

Work Order: 20D0752

Date Received: 4/17/2020

Field Sample #: MW-12

Sampled: 4/16/2020 11:04

Sample ID: 20D0752-05

Sample Matrix: Ground Water

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene (SIM)	ND	0.30	µg/L	1		SW-846 8270D-E	4/21/20	4/22/20 19:28	RMW
Acenaphthylene (SIM)	ND	0.20	µg/L	1		SW-846 8270D-E	4/21/20	4/22/20 19:28	RMW
Anthracene (SIM)	ND	0.20	µg/L	1		SW-846 8270D-E	4/21/20	4/22/20 19:28	RMW
Benzo(a)anthracene (SIM)	ND	0.050	µg/L	1		SW-846 8270D-E	4/21/20	4/22/20 19:28	RMW
Benzo(a)pyrene (SIM)	ND	0.099	µg/L	1		SW-846 8270D-E	4/21/20	4/22/20 19:28	RMW
Benzo(b)fluoranthene (SIM)	ND	0.050	µg/L	1		SW-846 8270D-E	4/21/20	4/22/20 19:28	RMW
Benzo(g,h,i)perylene (SIM)	ND	0.50	µg/L	1		SW-846 8270D-E	4/21/20	4/22/20 19:28	RMW
Benzo(k)fluoranthene (SIM)	ND	0.20	µg/L	1		SW-846 8270D-E	4/21/20	4/22/20 19:28	RMW
Chrysene (SIM)	ND	0.20	µg/L	1		SW-846 8270D-E	4/21/20	4/22/20 19:28	RMW
Dibenz(a,h)anthracene (SIM)	ND	0.099	µg/L	1		SW-846 8270D-E	4/21/20	4/22/20 19:28	RMW
Fluoranthene (SIM)	ND	0.50	µg/L	1		SW-846 8270D-E	4/21/20	4/22/20 19:28	RMW
Fluorene (SIM)	ND	0.99	µg/L	1		SW-846 8270D-E	4/21/20	4/22/20 19:28	RMW
Indeno(1,2,3-cd)pyrene (SIM)	ND	0.099	µg/L	1		SW-846 8270D-E	4/21/20	4/22/20 19:28	RMW
2-Methylnaphthalene (SIM)	ND	0.99	µg/L	1		SW-846 8270D-E	4/21/20	4/22/20 19:28	RMW
Naphthalene (SIM)	ND	0.99	µg/L	1		SW-846 8270D-E	4/21/20	4/22/20 19:28	RMW
Phenanthrene (SIM)	ND	0.050	µg/L	1		SW-846 8270D-E	4/21/20	4/22/20 19:28	RMW
Pyrene (SIM)	ND	0.99	µg/L	1		SW-846 8270D-E	4/21/20	4/22/20 19:28	RMW
Surrogates		% Recovery	Recovery Limits		Flag/Qual				
Nitrobenzene-d5		67.1	30-130					4/22/20 19:28	
2-Fluorobiphenyl		59.9	30-130					4/22/20 19:28	
p-Terphenyl-d14		62.2	30-130					4/22/20 19:28	



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

Project Location: Hope, RI

Sample Description:

Work Order: 20D0752

Date Received: 4/17/2020

Field Sample #: MW-12

Sampled: 4/16/2020 11:04

Sample ID: 20D0752-05

Sample Matrix: Ground Water

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	ND	0.80	µg/L	1		SW-846 6020B	4/21/20	4/21/20 18:29	MJH
Lead	ND	0.50	µg/L	1		SW-846 6020B	4/21/20	4/21/20 18:29	MJH

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

Project Location: Hope, RI

Sample Description:

Work Order: 20D0752

Date Received: 4/17/2020

Field Sample #: MW-13

Sampled: 4/16/2020 12:41

Sample ID: 20D0752-06

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
Acrylonitrile	ND	5.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
Benzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
Bromodichloromethane	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
Bromoform	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
Bromomethane	ND	2.0	µg/L	1	V-05	SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
2-Butanone (MEK)	ND	20	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
tert-Butyl Alcohol (TBA)	ND	20	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
Carbon Disulfide	ND	5.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
Carbon Tetrachloride	ND	5.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
Chloroform	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
Chloromethane	ND	2.0	µg/L	1	V-05	SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
trans-1,4-Dichloro-2-butene	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
1,1-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
2,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
1,1-Dichloropropene	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
cis-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
trans-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH

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

Project Location: Hope, RI

Sample Description:

Work Order: 20D0752

Date Received: 4/17/2020

Field Sample #: MW-13

Sampled: 4/16/2020 12:41

Sample ID: 20D0752-06

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
1,4-Dioxane	ND	50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
Hexachlorobutadiene	ND	0.60	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
Methyl Acetate	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
Methyl Cyclohexane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
Methylene Chloride	ND	5.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
Naphthalene	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
Styrene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
Tetrahydrofuran	ND	10	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
Toluene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
1,2,3-Trichlorobenzene	ND	5.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
1,3,5-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
Trichloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
Vinyl Chloride	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C-D	4/20/20	4/20/20 14:47	EEH
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
1,2-Dichloroethane-d4	98.0	70-130						4/20/20 14:47	
Toluene-d8	100	70-130						4/20/20 14:47	
4-Bromofluorobenzene	101	70-130						4/20/20 14:47	

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

Project Location: Hope, RI

Sample Description:

Work Order: 20D0752

Date Received: 4/17/2020

Field Sample #: MW-13

Sampled: 4/16/2020 12:41

Sample ID: 20D0752-06

Sample Matrix: Ground Water

**Organochloride Pesticides by GC/ECD**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Chlordane [1]	ND	0.20	µg/L	1		SW-846 8081B	4/20/20	4/22/20 2:55	TG
Surrogates	% Recovery		Recovery Limits		Flag/Qual				
Decachlorobiphenyl [1]	79.7		30-150				4/22/20	2:55	
Decachlorobiphenyl [2]	83.4		30-150				4/22/20	2:55	
Tetrachloro-m-xylene [1]	75.9		30-150				4/22/20	2:55	
Tetrachloro-m-xylene [2]	72.0		30-150				4/22/20	2:55	

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

Project Location: Hope, RI

Sample Description:

Work Order: 20D0752

Date Received: 4/17/2020

Field Sample #: MW-13

Sampled: 4/16/2020 12:41

Sample ID: 20D0752-06

Sample Matrix: Ground Water

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	ND	0.80	µg/L	1		SW-846 6020B	4/21/20	4/21/20 18:32	MJH
Lead	ND	0.50	µg/L	1		SW-846 6020B	4/21/20	4/21/20 18:32	MJH

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**Sample Extraction Data**

**Prep Method: SW-846 3005A    Analytical Method: SW-846 6020B**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
20D0752-01 [MW-7]	B256648	50.0	50.0	04/21/20
20D0752-02 [MW-8]	B256648	50.0	50.0	04/21/20
20D0752-03 [MW-9]	B256648	50.0	50.0	04/21/20
20D0752-04 [MW-11]	B256648	50.0	50.0	04/21/20
20D0752-05 [MW-12]	B256648	50.0	50.0	04/21/20
20D0752-06 [MW-13]	B256648	50.0	50.0	04/21/20

**Prep Method: SW-846 3510C    Analytical Method: SW-846 8081B**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
20D0752-06 [MW-13]	B256592	1020	10.0	04/20/20

**Prep Method: SW-846 5030B    Analytical Method: SW-846 8260C-D**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
20D0752-01 [MW-7]	B256549	5	5.00	04/20/20
20D0752-02 [MW-8]	B256549	5	5.00	04/20/20
20D0752-03 [MW-9]	B256549	5	5.00	04/20/20
20D0752-04 [MW-11]	B256549	5	5.00	04/20/20
20D0752-05 [MW-12]	B256549	5	5.00	04/20/20
20D0752-06 [MW-13]	B256549	5	5.00	04/20/20

**Prep Method: SW-846 3510C    Analytical Method: SW-846 8270D-E**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
20D0752-02 [MW-8]	B256680	970	1.00	04/21/20
20D0752-03 [MW-9]	B256680	1020	1.00	04/21/20
20D0752-05 [MW-12]	B256680	1010	1.00	04/21/20

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**QUALITY CONTROL**

**Volatile Organic Compounds by GC/MS - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B256549 - SW-846 5030B**

**Blank (B256549-BLK1)**

Prepared & Analyzed: 04/20/20

Acetone	ND	50	µg/L							
Acrylonitrile	ND	5.0	µg/L							
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L							
Benzene	ND	1.0	µg/L							
Bromobenzene	ND	1.0	µg/L							
Bromochloromethane	ND	1.0	µg/L							
Bromodichloromethane	ND	0.50	µg/L							
Bromoform	ND	1.0	µg/L							
Bromomethane	ND	2.0	µg/L							V-05
2-Butanone (MEK)	ND	20	µg/L							
tert-Butyl Alcohol (TBA)	ND	20	µg/L							
n-Butylbenzene	ND	1.0	µg/L							
sec-Butylbenzene	ND	1.0	µg/L							
tert-Butylbenzene	ND	1.0	µg/L							
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L							
Carbon Disulfide	ND	5.0	µg/L							
Carbon Tetrachloride	ND	5.0	µg/L							
Chlorobenzene	ND	1.0	µg/L							
Chlorodibromomethane	ND	0.50	µg/L							
Chloroethane	ND	2.0	µg/L							
Chloroform	ND	2.0	µg/L							
Chloromethane	ND	2.0	µg/L							V-05
2-Chlorotoluene	ND	1.0	µg/L							
4-Chlorotoluene	ND	1.0	µg/L							
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L							
1,2-Dibromoethane (EDB)	ND	0.50	µg/L							
Dibromomethane	ND	1.0	µg/L							
1,2-Dichlorobenzene	ND	1.0	µg/L							
1,3-Dichlorobenzene	ND	1.0	µg/L							
1,4-Dichlorobenzene	ND	1.0	µg/L							
trans-1,4-Dichloro-2-butene	ND	2.0	µg/L							
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L							
1,1-Dichloroethane	ND	1.0	µg/L							
1,2-Dichloroethane	ND	1.0	µg/L							
1,1-Dichloroethylene	ND	1.0	µg/L							
cis-1,2-Dichloroethylene	ND	1.0	µg/L							
trans-1,2-Dichloroethylene	ND	1.0	µg/L							
1,2-Dichloropropane	ND	1.0	µg/L							
1,3-Dichloropropane	ND	0.50	µg/L							
2,2-Dichloropropane	ND	1.0	µg/L							
1,1-Dichloropropene	ND	2.0	µg/L							
cis-1,3-Dichloropropene	ND	0.50	µg/L							
trans-1,3-Dichloropropene	ND	0.50	µg/L							
Diethyl Ether	ND	2.0	µg/L							
Diisopropyl Ether (DIPE)	ND	0.50	µg/L							
1,4-Dioxane	ND	50	µg/L							
Ethylbenzene	ND	1.0	µg/L							
Hexachlorobutadiene	ND	0.60	µg/L							
2-Hexanone (MBK)	ND	10	µg/L							
Isopropylbenzene (Cumene)	ND	1.0	µg/L							
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L							
Methyl Acetate	ND	1.0	µg/L							

QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B256549 - SW-846 5030B

Blank (B256549-BLK1)

Prepared & Analyzed: 04/20/20

Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L							
Methyl Cyclohexane	ND	1.0	µg/L							
Methylene Chloride	ND	5.0	µg/L							
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L							
Naphthalene	ND	2.0	µg/L							
n-Propylbenzene	ND	1.0	µg/L							
Styrene	ND	1.0	µg/L							
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L							
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L							
Tetrachloroethylene	ND	1.0	µg/L							
Tetrahydrofuran	ND	10	µg/L							
Toluene	ND	1.0	µg/L							
1,2,3-Trichlorobenzene	ND	5.0	µg/L							
1,2,4-Trichlorobenzene	ND	1.0	µg/L							
1,3,5-Trichlorobenzene	ND	1.0	µg/L							
1,1,1-Trichloroethane	ND	1.0	µg/L							
1,1,2-Trichloroethane	ND	1.0	µg/L							
Trichloroethylene	ND	1.0	µg/L							
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L							
1,2,3-Trichloropropane	ND	2.0	µg/L							
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	µg/L							
1,2,4-Trimethylbenzene	ND	1.0	µg/L							
1,3,5-Trimethylbenzene	ND	1.0	µg/L							
Vinyl Chloride	ND	2.0	µg/L							
m+p Xylene	ND	2.0	µg/L							
o-Xylene	ND	1.0	µg/L							
Surrogate: 1,2-Dichloroethane-d4	24.7		µg/L	25.0		98.9	70-130			
Surrogate: Toluene-d8	25.1		µg/L	25.0		100	70-130			
Surrogate: 4-Bromofluorobenzene	25.4		µg/L	25.0		101	70-130			

LCS (B256549-BS1)

Prepared & Analyzed: 04/20/20

Acetone	121	50	µg/L	100		121	70-160		V-20	†
Acrylonitrile	12.0	5.0	µg/L	10.0		120	70-130			
tert-Amyl Methyl Ether (TAME)	9.71	0.50	µg/L	10.0		97.1	70-130			
Benzene	9.91	1.0	µg/L	10.0		99.1	70-130			
Bromobenzene	9.48	1.0	µg/L	10.0		94.8	70-130			
Bromochloromethane	9.88	1.0	µg/L	10.0		98.8	70-130			
Bromodichloromethane	9.78	0.50	µg/L	10.0		97.8	70-130			
Bromoform	10.4	1.0	µg/L	10.0		104	70-130			
Bromomethane	5.69	2.0	µg/L	10.0		56.9	40-160		V-05	†
2-Butanone (MEK)	122	20	µg/L	100		122	40-160		V-20	†
tert-Butyl Alcohol (TBA)	113	20	µg/L	100		113	40-160			†
n-Butylbenzene	9.85	1.0	µg/L	10.0		98.5	70-130			
sec-Butylbenzene	9.89	1.0	µg/L	10.0		98.9	70-130			
tert-Butylbenzene	9.74	1.0	µg/L	10.0		97.4	70-130			
tert-Butyl Ethyl Ether (TBEE)	9.97	0.50	µg/L	10.0		99.7	70-130			
Carbon Disulfide	97.3	5.0	µg/L	100		97.3	70-130			
Carbon Tetrachloride	10.3	5.0	µg/L	10.0		103	70-130			
Chlorobenzene	9.59	1.0	µg/L	10.0		95.9	70-130			
Chlorodibromomethane	10.1	0.50	µg/L	10.0		101	70-130			
Chloroethane	11.8	2.0	µg/L	10.0		118	70-130			
Chloroform	9.50	2.0	µg/L	10.0		95.0	70-130			



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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B256549 - SW-846 5030B</b>										
<b>LCS (B256549-BS1)</b>										
Prepared & Analyzed: 04/20/20										
Chloromethane	7.67	2.0	µg/L	10.0		76.7	40-160			V-05 †
2-Chlorotoluene	9.62	1.0	µg/L	10.0		96.2	70-130			
4-Chlorotoluene	9.73	1.0	µg/L	10.0		97.3	70-130			
1,2-Dibromo-3-chloropropane (DBCP)	10.3	5.0	µg/L	10.0		103	70-130			
1,2-Dibromoethane (EDB)	10.1	0.50	µg/L	10.0		101	70-130			
Dibromomethane	9.73	1.0	µg/L	10.0		97.3	70-130			
1,2-Dichlorobenzene	9.65	1.0	µg/L	10.0		96.5	70-130			
1,3-Dichlorobenzene	9.49	1.0	µg/L	10.0		94.9	70-130			
1,4-Dichlorobenzene	9.40	1.0	µg/L	10.0		94.0	70-130			
trans-1,4-Dichloro-2-butene	10.3	2.0	µg/L	10.0		103	70-130			
Dichlorodifluoromethane (Freon 12)	9.97	2.0	µg/L	10.0		99.7	40-160			†
1,1-Dichloroethane	10.1	1.0	µg/L	10.0		101	70-130			
1,2-Dichloroethane	8.97	1.0	µg/L	10.0		89.7	70-130			
1,1-Dichloroethylene	10.4	1.0	µg/L	10.0		104	70-130			
cis-1,2-Dichloroethylene	9.93	1.0	µg/L	10.0		99.3	70-130			
trans-1,2-Dichloroethylene	9.78	1.0	µg/L	10.0		97.8	70-130			
1,2-Dichloropropane	10.2	1.0	µg/L	10.0		102	70-130			
1,3-Dichloropropane	9.96	0.50	µg/L	10.0		99.6	70-130			
2,2-Dichloropropane	10.2	1.0	µg/L	10.0		102	40-130			†
1,1-Dichloropropene	10.4	2.0	µg/L	10.0		104	70-130			
cis-1,3-Dichloropropene	10.2	0.50	µg/L	10.0		102	70-130			
trans-1,3-Dichloropropene	9.99	0.50	µg/L	10.0		99.9	70-130			
Diethyl Ether	10.4	2.0	µg/L	10.0		104	70-130			
Diisopropyl Ether (DIPE)	9.59	0.50	µg/L	10.0		95.9	70-130			
1,4-Dioxane	112	50	µg/L	100		112	40-130			†
Ethylbenzene	9.65	1.0	µg/L	10.0		96.5	70-130			
Hexachlorobutadiene	9.60	0.60	µg/L	10.0		96.0	70-130			
2-Hexanone (MBK)	116	10	µg/L	100		116	70-160			V-20 †
Isopropylbenzene (Cumene)	9.94	1.0	µg/L	10.0		99.4	70-130			
p-Isopropyltoluene (p-Cymene)	9.59	1.0	µg/L	10.0		95.9	70-130			
Methyl Acetate	10.6	1.0	µg/L	10.0		106	70-130			V-20
Methyl tert-Butyl Ether (MTBE)	10.1	1.0	µg/L	10.0		101	70-130			
Methyl Cyclohexane	9.72	1.0	µg/L	10.0		97.2	70-130			
Methylene Chloride	10.4	5.0	µg/L	10.0		104	70-130			
4-Methyl-2-pentanone (MIBK)	114	10	µg/L	100		114	70-160			†
Naphthalene	9.36	2.0	µg/L	10.0		93.6	40-130			†
n-Propylbenzene	10.0	1.0	µg/L	10.0		100	70-130			
Styrene	9.70	1.0	µg/L	10.0		97.0	70-130			
1,1,1,2-Tetrachloroethane	9.79	1.0	µg/L	10.0		97.9	70-130			
1,1,1,2,2-Tetrachloroethane	10.3	0.50	µg/L	10.0		103	70-130			
Tetrachloroethylene	10.1	1.0	µg/L	10.0		101	70-130			
Tetrahydrofuran	10.9	10	µg/L	10.0		109	70-130			
Toluene	9.83	1.0	µg/L	10.0		98.3	70-130			
1,2,3-Trichlorobenzene	9.02	5.0	µg/L	10.0		90.2	70-130			
1,2,4-Trichlorobenzene	9.22	1.0	µg/L	10.0		92.2	70-130			
1,3,5-Trichlorobenzene	9.38	1.0	µg/L	10.0		93.8	70-130			
1,1,1-Trichloroethane	10.2	1.0	µg/L	10.0		102	70-130			
1,1,2-Trichloroethane	10.1	1.0	µg/L	10.0		101	70-130			
Trichloroethylene	9.97	1.0	µg/L	10.0		99.7	70-130			
Trichlorofluoromethane (Freon 11)	10.6	2.0	µg/L	10.0		106	70-130			
1,2,3-Trichloropropane	10.7	2.0	µg/L	10.0		107	70-130			

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**QUALITY CONTROL**

**Volatile Organic Compounds by GC/MS - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B256549 - SW-846 5030B**

**LCS (B256549-BS1)**

Prepared & Analyzed: 04/20/20

1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	10.8	1.0	µg/L	10.0		108	70-130			
1,2,4-Trimethylbenzene	9.44	1.0	µg/L	10.0		94.4	70-130			
1,3,5-Trimethylbenzene	9.93	1.0	µg/L	10.0		99.3	70-130			
Vinyl Chloride	10.5	2.0	µg/L	10.0		105	40-160			†
m+p Xylene	19.5	2.0	µg/L	20.0		97.7	70-130			
o-Xylene	9.77	1.0	µg/L	10.0		97.7	70-130			
Surrogate: 1,2-Dichloroethane-d4	24.8		µg/L	25.0		99.2	70-130			
Surrogate: Toluene-d8	25.4		µg/L	25.0		102	70-130			
Surrogate: 4-Bromofluorobenzene	25.1		µg/L	25.0		100	70-130			

**LCS Dup (B256549-BSD1)**

Prepared & Analyzed: 04/20/20

Acetone	128	50	µg/L	100		128	70-160	5.63	25	V-20	†
Acrylonitrile	12.9	5.0	µg/L	10.0		129	70-130	6.99	25		
tert-Amyl Methyl Ether (TAME)	9.78	0.50	µg/L	10.0		97.8	70-130	0.718	25		
Benzene	9.59	1.0	µg/L	10.0		95.9	70-130	3.28	25		
Bromobenzene	9.54	1.0	µg/L	10.0		95.4	70-130	0.631	25		
Bromochloromethane	9.55	1.0	µg/L	10.0		95.5	70-130	3.40	25		
Bromodichloromethane	9.30	0.50	µg/L	10.0		93.0	70-130	5.03	25		
Bromoform	10.4	1.0	µg/L	10.0		104	70-130	0.577	25		
Bromomethane	7.18	2.0	µg/L	10.0		71.8	40-160	23.2	25	V-05	†
2-Butanone (MEK)	132	20	µg/L	100		132	40-160	8.24	25	V-20	†
tert-Butyl Alcohol (TBA)	125	20	µg/L	100		125	40-160	10.7	25		†
n-Butylbenzene	9.81	1.0	µg/L	10.0		98.1	70-130	0.407	25		
sec-Butylbenzene	9.65	1.0	µg/L	10.0		96.5	70-130	2.46	25		
tert-Butylbenzene	9.62	1.0	µg/L	10.0		96.2	70-130	1.24	25		
tert-Butyl Ethyl Ether (TBEE)	9.90	0.50	µg/L	10.0		99.0	70-130	0.705	25		
Carbon Disulfide	93.2	5.0	µg/L	100		93.2	70-130	4.27	25		
Carbon Tetrachloride	10.0	5.0	µg/L	10.0		100	70-130	2.07	25		
Chlorobenzene	9.66	1.0	µg/L	10.0		96.6	70-130	0.727	25		
Chlorodibromomethane	9.92	0.50	µg/L	10.0		99.2	70-130	1.60	25		
Chloroethane	11.3	2.0	µg/L	10.0		113	70-130	4.76	25		
Chloroform	9.54	2.0	µg/L	10.0		95.4	70-130	0.420	25		
Chloromethane	6.10	2.0	µg/L	10.0		61.0	40-160	22.8	25	V-05	†
2-Chlorotoluene	9.70	1.0	µg/L	10.0		97.0	70-130	0.828	25		
4-Chlorotoluene	9.73	1.0	µg/L	10.0		97.3	70-130	0.00	25		
1,2-Dibromo-3-chloropropane (DBCP)	11.4	5.0	µg/L	10.0		114	70-130	10.1	25		
1,2-Dibromoethane (EDB)	10.0	0.50	µg/L	10.0		100	70-130	0.797	25		
Dibromomethane	9.78	1.0	µg/L	10.0		97.8	70-130	0.513	25		
1,2-Dichlorobenzene	9.44	1.0	µg/L	10.0		94.4	70-130	2.20	25		
1,3-Dichlorobenzene	9.52	1.0	µg/L	10.0		95.2	70-130	0.316	25		
1,4-Dichlorobenzene	9.47	1.0	µg/L	10.0		94.7	70-130	0.742	25		
trans-1,4-Dichloro-2-butene	11.0	2.0	µg/L	10.0		110	70-130	6.86	25		
Dichlorodifluoromethane (Freon 12)	9.70	2.0	µg/L	10.0		97.0	40-160	2.75	25		†
1,1-Dichloroethane	9.96	1.0	µg/L	10.0		99.6	70-130	1.49	25		
1,2-Dichloroethane	8.77	1.0	µg/L	10.0		87.7	70-130	2.25	25		
1,1-Dichloroethylene	10.1	1.0	µg/L	10.0		101	70-130	2.64	25		
cis-1,2-Dichloroethylene	9.83	1.0	µg/L	10.0		98.3	70-130	1.01	25		
trans-1,2-Dichloroethylene	9.16	1.0	µg/L	10.0		91.6	70-130	6.55	25		
1,2-Dichloropropane	9.77	1.0	µg/L	10.0		97.7	70-130	3.82	25		
1,3-Dichloropropane	9.78	0.50	µg/L	10.0		97.8	70-130	1.82	25		
2,2-Dichloropropane	10.1	1.0	µg/L	10.0		101	40-130	1.77	25		†
1,1-Dichloropropene	10.2	2.0	µg/L	10.0		102	70-130	2.04	25		

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B256549 - SW-846 5030B</b>										
<b>LCS Dup (B256549-BSD1)</b>										
Prepared & Analyzed: 04/20/20										
cis-1,3-Dichloropropene	9.92	0.50	µg/L	10.0		99.2	70-130	2.88	25	
trans-1,3-Dichloropropene	9.54	0.50	µg/L	10.0		95.4	70-130	4.61	25	
Diethyl Ether	10.1	2.0	µg/L	10.0		101	70-130	3.51	25	
Diisopropyl Ether (DIPE)	9.98	0.50	µg/L	10.0		99.8	70-130	3.99	25	
1,4-Dioxane	127	50	µg/L	100		127	40-130	12.6	50	† ‡
Ethylbenzene	9.66	1.0	µg/L	10.0		96.6	70-130	0.104	25	
Hexachlorobutadiene	9.86	0.60	µg/L	10.0		98.6	70-130	2.67	25	
2-Hexanone (MBK)	126	10	µg/L	100		126	70-160	8.21	25	V-20 †
Isopropylbenzene (Cumene)	9.87	1.0	µg/L	10.0		98.7	70-130	0.707	25	
p-Isopropyltoluene (p-Cymene)	9.59	1.0	µg/L	10.0		95.9	70-130	0.00	25	
Methyl Acetate	11.3	1.0	µg/L	10.0		113	70-130	5.66	25	V-20
Methyl tert-Butyl Ether (MTBE)	10.0	1.0	µg/L	10.0		100	70-130	1.19	25	
Methyl Cyclohexane	9.57	1.0	µg/L	10.0		95.7	70-130	1.56	25	
Methylene Chloride	10.0	5.0	µg/L	10.0		100	70-130	3.92	25	
4-Methyl-2-pentanone (MIBK)	121	10	µg/L	100		121	70-160	5.59	25	†
Naphthalene	9.92	2.0	µg/L	10.0		99.2	40-130	5.81	25	†
n-Propylbenzene	9.89	1.0	µg/L	10.0		98.9	70-130	1.11	25	
Styrene	9.80	1.0	µg/L	10.0		98.0	70-130	1.03	25	
1,1,1,2-Tetrachloroethane	9.64	1.0	µg/L	10.0		96.4	70-130	1.54	25	
1,1,2,2-Tetrachloroethane	10.5	0.50	µg/L	10.0		105	70-130	1.64	25	
Tetrachloroethylene	9.83	1.0	µg/L	10.0		98.3	70-130	2.41	25	
Tetrahydrofuran	12.5	10	µg/L	10.0		125	70-130	13.9	25	
Toluene	9.70	1.0	µg/L	10.0		97.0	70-130	1.33	25	
1,2,3-Trichlorobenzene	9.12	5.0	µg/L	10.0		91.2	70-130	1.10	25	
1,2,4-Trichlorobenzene	9.34	1.0	µg/L	10.0		93.4	70-130	1.29	25	
1,3,5-Trichlorobenzene	9.12	1.0	µg/L	10.0		91.2	70-130	2.81	25	
1,1,1-Trichloroethane	10.0	1.0	µg/L	10.0		100	70-130	1.68	25	
1,1,2-Trichloroethane	10.1	1.0	µg/L	10.0		101	70-130	0.198	25	
Trichloroethylene	9.66	1.0	µg/L	10.0		96.6	70-130	3.16	25	
Trichlorofluoromethane (Freon 11)	10.2	2.0	µg/L	10.0		102	70-130	3.28	25	
1,2,3-Trichloropropane	11.3	2.0	µg/L	10.0		113	70-130	5.46	25	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	10.4	1.0	µg/L	10.0		104	70-130	4.43	25	
1,2,4-Trimethylbenzene	9.62	1.0	µg/L	10.0		96.2	70-130	1.89	25	
1,3,5-Trimethylbenzene	9.93	1.0	µg/L	10.0		99.3	70-130	0.00	25	
Vinyl Chloride	10.0	2.0	µg/L	10.0		100	40-160	4.40	25	†
m+p Xylene	19.3	2.0	µg/L	20.0		96.6	70-130	1.08	25	
o-Xylene	9.59	1.0	µg/L	10.0		95.9	70-130	1.86	25	
Surrogate: 1,2-Dichloroethane-d4	25.1		µg/L	25.0		100	70-130			
Surrogate: Toluene-d8	25.0		µg/L	25.0		99.9	70-130			
Surrogate: 4-Bromofluorobenzene	25.3		µg/L	25.0		101	70-130			

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**QUALITY CONTROL**

**Semivolatile Organic Compounds by GC/MS - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B256680 - SW-846 3510C</b>										
<b>Blank (B256680-BLK1)</b>										
Prepared: 04/21/20 Analyzed: 04/22/20										
Acenaphthene (SIM)	ND	0.30	µg/L							
Acenaphthylene (SIM)	ND	0.20	µg/L							
Anthracene (SIM)	ND	0.20	µg/L							
Benzo(a)anthracene (SIM)	ND	0.050	µg/L							
Benzo(a)pyrene (SIM)	ND	0.10	µg/L							
Benzo(b)fluoranthene (SIM)	ND	0.050	µg/L							
Benzo(g,h,i)perylene (SIM)	ND	0.50	µg/L							
Benzo(k)fluoranthene (SIM)	ND	0.20	µg/L							
Chrysene (SIM)	ND	0.20	µg/L							
Dibenz(a,h)anthracene (SIM)	ND	0.10	µg/L							
Fluoranthene (SIM)	ND	0.50	µg/L							
Fluorene (SIM)	ND	1.0	µg/L							
Indeno(1,2,3-cd)pyrene (SIM)	ND	0.10	µg/L							
2-Methylnaphthalene (SIM)	ND	1.0	µg/L							
Naphthalene (SIM)	ND	1.0	µg/L							
Phenanthrene (SIM)	ND	0.050	µg/L							
Pyrene (SIM)	ND	1.0	µg/L							
Surrogate: Nitrobenzene-d5	84.0		µg/L	100		84.0	30-130			
Surrogate: 2-Fluorobiphenyl	72.3		µg/L	100		72.3	30-130			
Surrogate: p-Terphenyl-d14	82.0		µg/L	100		82.0	30-130			
<b>LCS (B256680-BS1)</b>										
Prepared: 04/21/20 Analyzed: 04/22/20										
Acenaphthene (SIM)	37.6	6.0	µg/L	50.0		75.2	40-140			
Acenaphthylene (SIM)	40.5	4.0	µg/L	50.0		81.1	40-140			
Anthracene (SIM)	47.1	4.0	µg/L	50.0		94.3	40-140			
Benzo(a)anthracene (SIM)	43.4	1.0	µg/L	50.0		86.9	40-140			
Benzo(a)pyrene (SIM)	41.4	2.0	µg/L	50.0		82.7	40-140			
Benzo(b)fluoranthene (SIM)	46.1	1.0	µg/L	50.0		92.2	40-140			
Benzo(g,h,i)perylene (SIM)	41.6	10	µg/L	50.0		83.2	40-140			
Benzo(k)fluoranthene (SIM)	48.3	4.0	µg/L	50.0		96.5	40-140			
Chrysene (SIM)	39.6	4.0	µg/L	50.0		79.2	40-140			
Dibenz(a,h)anthracene (SIM)	47.5	2.0	µg/L	50.0		95.0	40-140			
Fluoranthene (SIM)	41.3	10	µg/L	50.0		82.5	40-140			
Fluorene (SIM)	39.6	20	µg/L	50.0		79.1	40-140			
Indeno(1,2,3-cd)pyrene (SIM)	48.6	2.0	µg/L	50.0		97.1	40-140			
2-Methylnaphthalene (SIM)	37.2	20	µg/L	50.0		74.4	40-140			
Naphthalene (SIM)	32.5	20	µg/L	50.0		64.9	40-140			
Phenanthrene (SIM)	40.0	1.0	µg/L	50.0		79.9	40-140			
Pyrene (SIM)	36.4	20	µg/L	50.0		72.7	40-140			
Surrogate: Nitrobenzene-d5	69.4		µg/L	100		69.4	30-130			
Surrogate: 2-Fluorobiphenyl	62.8		µg/L	100		62.8	30-130			
Surrogate: p-Terphenyl-d14	53.4		µg/L	100		53.4	30-130			

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**QUALITY CONTROL**

**Semivolatile Organic Compounds by GC/MS - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B256680 - SW-846 3510C</b>										
<b>LCS Dup (B256680-BSD1)</b>										
					Prepared: 04/21/20 Analyzed: 04/22/20					
Acenaphthene (SIM)	37.6	6.0	µg/L	50.0		75.2	40-140	0.106	20	
Acenaphthylene (SIM)	40.7	4.0	µg/L	50.0		81.4	40-140	0.443	20	
Anthracene (SIM)	46.7	4.0	µg/L	50.0		93.3	40-140	1.02	20	
Benzo(a)anthracene (SIM)	43.0	1.0	µg/L	50.0		86.0	40-140	0.972	20	
Benzo(a)pyrene (SIM)	41.0	2.0	µg/L	50.0		82.0	40-140	0.874	20	
Benzo(b)fluoranthene (SIM)	46.0	1.0	µg/L	50.0		92.0	40-140	0.304	20	
Benzo(g,h,i)perylene (SIM)	40.1	10	µg/L	50.0		80.2	40-140	3.72	20	
Benzo(k)fluoranthene (SIM)	48.5	4.0	µg/L	50.0		96.9	40-140	0.414	20	
Chrysene (SIM)	39.2	4.0	µg/L	50.0		78.3	40-140	1.17	20	
Dibenz(a,h)anthracene (SIM)	46.0	2.0	µg/L	50.0		92.1	40-140	3.12	20	
Fluoranthene (SIM)	40.6	10	µg/L	50.0		81.2	40-140	1.66	20	
Fluorene (SIM)	40.6	20	µg/L	50.0		81.2	40-140	2.59	20	
Indeno(1,2,3-cd)pyrene (SIM)	46.9	2.0	µg/L	50.0		93.8	40-140	3.48	20	
2-Methylnaphthalene (SIM)	36.4	20	µg/L	50.0		72.8	40-140	2.18	20	
Naphthalene (SIM)	31.8	20	µg/L	50.0		63.5	40-140	2.18	20	
Phenanthrene (SIM)	39.6	1.0	µg/L	50.0		79.2	40-140	0.905	20	
Pyrene (SIM)	36.6	20	µg/L	50.0		73.2	40-140	0.658	20	
Surrogate: Nitrobenzene-d5	74.3		µg/L	100		74.3	30-130			
Surrogate: 2-Fluorobiphenyl	62.5		µg/L	100		62.5	30-130			
Surrogate: p-Terphenyl-d14	51.3		µg/L	100		51.3	30-130			

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**QUALITY CONTROL**

**Organochloride Pesticides by GC/ECD - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B256592 - SW-846 3510C</b>										
<b>Blank (B256592-BLK1)</b>										
Prepared: 04/20/20 Analyzed: 04/21/20										
Chlordane	ND	0.20	µg/L							
Chlordane [2C]	ND	0.20	µg/L							
Surrogate: Decachlorobiphenyl	1.50		µg/L	2.00		75.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	1.52		µg/L	2.00		75.8	30-150			
Surrogate: Tetrachloro-m-xylene	1.40		µg/L	2.00		70.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	1.34		µg/L	2.00		66.9	30-150			
<b>LCS (B256592-BS1)</b>										
Prepared: 04/20/20 Analyzed: 04/21/20										
Chlordane	ND	0.20	µg/L				40-140			
Chlordane [2C]	ND	0.20	µg/L				40-140			
Surrogate: Decachlorobiphenyl	1.58		µg/L	2.00		78.8	30-150			
Surrogate: Decachlorobiphenyl [2C]	1.61		µg/L	2.00		80.5	30-150			
Surrogate: Tetrachloro-m-xylene	1.39		µg/L	2.00		69.7	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	1.35		µg/L	2.00		67.7	30-150			
<b>LCS (B256592-BS2)</b>										
Prepared: 04/20/20 Analyzed: 04/21/20										
Chlordane	0.77	0.20	µg/L	1.00		77.5	40-140			
Chlordane [2C]	0.71	0.20	µg/L	1.00		70.6	40-140			
Surrogate: Decachlorobiphenyl	1.66		µg/L	2.00		83.1	30-150			
Surrogate: Decachlorobiphenyl [2C]	1.71		µg/L	2.00		85.4	30-150			
Surrogate: Tetrachloro-m-xylene	1.56		µg/L	2.00		77.9	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	1.43		µg/L	2.00		71.7	30-150			
<b>LCS Dup (B256592-BSD1)</b>										
Prepared: 04/20/20 Analyzed: 04/21/20										
Chlordane	ND	0.20	µg/L				40-140	NC	20	
Chlordane [2C]	ND	0.20	µg/L				40-140	NC	20	
Surrogate: Decachlorobiphenyl	1.52		µg/L	2.00		75.9	30-150			
Surrogate: Decachlorobiphenyl [2C]	1.56		µg/L	2.00		77.9	30-150			
Surrogate: Tetrachloro-m-xylene	1.45		µg/L	2.00		72.3	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	1.33		µg/L	2.00		66.3	30-150			
<b>LCS Dup (B256592-BSD2)</b>										
Prepared: 04/20/20 Analyzed: 04/21/20										
Chlordane	0.78	0.20	µg/L	1.00		77.6	40-140	0.205	20	
Chlordane [2C]	0.70	0.20	µg/L	1.00		69.6	40-140	1.50	20	
Surrogate: Decachlorobiphenyl	1.12		µg/L	2.00		56.1	30-150			
Surrogate: Decachlorobiphenyl [2C]	1.11		µg/L	2.00		55.4	30-150			
Surrogate: Tetrachloro-m-xylene	1.54		µg/L	2.00		77.2	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	1.38		µg/L	2.00		69.1	30-150			

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**QUALITY CONTROL**

**Metals Analyses (Total) - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B256648 - SW-846 3005A</b>										
<b>Blank (B256648-BLK1)</b>										
Prepared & Analyzed: 04/21/20										
Arsenic	ND	0.80	µg/L							
Lead	ND	0.50	µg/L							
<b>LCS (B256648-BS1)</b>										
Prepared & Analyzed: 04/21/20										
Arsenic	553	8.0	µg/L	500		111	80-120			
Lead	591	5.0	µg/L	500		118	80-120			
<b>LCS Dup (B256648-BSD1)</b>										
Prepared & Analyzed: 04/21/20										
Arsenic	522	8.0	µg/L	500		104	80-120	5.74	20	
Lead	528	5.0	µg/L	500		106	80-120	11.3	20	

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## BREAKDOWN REPORT

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**Lab Sample ID:** S047814-PEM1 **Analyzed:** 04/21/2020

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**Column Number:** 1

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Analyte	% Breakdown
4,4'-DDT [1]	1.44
Endrin [1]	1.81

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**Column Number:** 2

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Analyte	% Breakdown
4,4'-DDT [2]	1.29
Endrin [2]	2.02

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## BREAKDOWN REPORT

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**Lab Sample ID:** S047814-PEM2 **Analyzed:** 04/22/2020

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**Column Number:** 1

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Analyte	% Breakdown
4,4'-DDT [1]	0.93
Endrin [1]	1.68

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**Column Number:** 2

---

Analyte	% Breakdown
4,4'-DDT [2]	0.90
Endrin [2]	1.86

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**IDENTIFICATION SUMMARY  
FOR SINGLE COMPONENT ANALYTES**

LCS

*SW-846 8081B*Lab Sample ID: B256592-BS2 Date(s) Analyzed: 04/21/2020 04/21/2020Instrument ID (1): ECD6 Instrument ID (2): ECD6

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Chlordane	1	0.000	-0.030	0.030	0.77	
	2	0.000	-0.030	0.030	0.71	9.4

**IDENTIFICATION SUMMARY  
FOR SINGLE COMPONENT ANALYTES**

LCS Dup

*SW-846 8081B*

Lab Sample ID:                     B256592-BSD2                                          Date(s) Analyzed:           04/21/2020                     04/21/2020          

Instrument ID (1):                     ECD6                                          Instrument ID (2):                     ECD6                    

GC Column (1):                      ID:                      (mm)                      GC Column (2):                      ID:                      (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Chlordane	1	0.000	-0.030	0.030	0.78	
	2	0.000	-0.030	0.030	0.70	10.8

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**FLAG/QUALIFIER SUMMARY**

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
V-05	Continuing calibration verification (CCV) did not meet method specifications and was biased on the low side for this compound.
V-20	Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

## CERTIFICATIONS

## Certified Analyses included in this Report

Analyte	Certifications
<b>SW-846 6020B in Water</b>	
Arsenic	CT,NH,NY,ME,VA,NC
Lead	CT,NH,NY,ME,VA,NC
<b>SW-846 8081B in Water</b>	
Chlordane	CT,NH,NY,ME,NC,VA
Chlordane [2C]	CT,NH,NY,ME,NC,VA
<b>SW-846 8260C-D in Water</b>	
Acetone	CT,ME,NH,VA,NY
Acrylonitrile	CT,ME,NH,VA,NY
tert-Amyl Methyl Ether (TAME)	ME,NH,VA,NY
Benzene	CT,ME,NH,VA,NY
Bromobenzene	ME,NY
Bromochloromethane	ME,NH,VA,NY
Bromodichloromethane	CT,ME,NH,VA,NY
Bromoform	CT,ME,NH,VA,NY
Bromomethane	CT,ME,NH,VA,NY
2-Butanone (MEK)	CT,ME,NH,VA,NY
tert-Butyl Alcohol (TBA)	ME,NH,VA,NY
n-Butylbenzene	ME,VA,NY
sec-Butylbenzene	ME,VA,NY
tert-Butylbenzene	ME,VA,NY
tert-Butyl Ethyl Ether (TBEE)	ME,NH,VA,NY
Carbon Disulfide	CT,ME,NH,VA,NY
Carbon Tetrachloride	CT,ME,NH,VA,NY
Chlorobenzene	CT,ME,NH,VA,NY
Chlorodibromomethane	CT,ME,NH,VA,NY
Chloroethane	CT,ME,NH,VA,NY
Chloroform	CT,ME,NH,VA,NY
Chloromethane	CT,ME,NH,VA,NY
2-Chlorotoluene	ME,NH,VA,NY
4-Chlorotoluene	ME,NH,VA,NY
1,2-Dibromo-3-chloropropane (DBCP)	ME,NY
1,2-Dibromoethane (EDB)	ME,NY
Dibromomethane	ME,NH,VA,NY
1,2-Dichlorobenzene	CT,ME,NH,VA,NY
1,3-Dichlorobenzene	CT,ME,NH,VA,NY
1,4-Dichlorobenzene	CT,ME,NH,VA,NY
trans-1,4-Dichloro-2-butene	ME,NH,VA,NY
Dichlorodifluoromethane (Freon 12)	ME,NH,VA,NY
1,1-Dichloroethane	CT,ME,NH,VA,NY
1,2-Dichloroethane	CT,ME,NH,VA,NY
1,1-Dichloroethylene	CT,ME,NH,VA,NY
cis-1,2-Dichloroethylene	ME,NY
trans-1,2-Dichloroethylene	CT,ME,NH,VA,NY
1,2-Dichloropropane	CT,ME,NH,VA,NY
1,3-Dichloropropane	ME,VA,NY
2,2-Dichloropropane	ME,NH,VA,NY

**CERTIFICATIONS**

**Certified Analyses included in this Report**

Analyte	Certifications
<i>SW-846 8260C-D in Water</i>	
1,1-Dichloropropene	ME,NH,VA,NY
cis-1,3-Dichloropropene	CT,ME,NH,VA,NY
trans-1,3-Dichloropropene	CT,ME,NH,VA,NY
Diethyl Ether	ME,NY
Diisopropyl Ether (DIPE)	ME,NH,VA,NY
1,4-Dioxane	ME,NY
Ethylbenzene	CT,ME,NH,VA,NY
Hexachlorobutadiene	CT,ME,NH,VA,NY
2-Hexanone (MBK)	CT,ME,NH,VA,NY
Isopropylbenzene (Cumene)	ME,VA,NY
p-Isopropyltoluene (p-Cymene)	CT,ME,NH,VA,NY
Methyl Acetate	ME,NY
Methyl tert-Butyl Ether (MTBE)	CT,ME,NH,VA,NY
Methyl Cyclohexane	NY
Methylene Chloride	CT,ME,NH,VA,NY
4-Methyl-2-pentanone (MIBK)	CT,ME,NH,VA,NY
Naphthalene	ME,NH,VA,NY
n-Propylbenzene	CT,ME,NH,VA,NY
Styrene	CT,ME,NH,VA,NY
1,1,1,2-Tetrachloroethane	CT,ME,NH,VA,NY
1,1,2,2-Tetrachloroethane	CT,ME,NH,VA,NY
Tetrachloroethylene	CT,ME,NH,VA,NY
Toluene	CT,ME,NH,VA,NY
1,2,3-Trichlorobenzene	ME,NH,VA,NY
1,2,4-Trichlorobenzene	CT,ME,NH,VA,NY
1,3,5-Trichlorobenzene	ME
1,1,1-Trichloroethane	CT,ME,NH,VA,NY
1,1,2-Trichloroethane	CT,ME,NH,VA,NY
Trichloroethylene	CT,ME,NH,VA,NY
Trichlorofluoromethane (Freon 11)	CT,ME,NH,VA,NY
1,2,3-Trichloropropane	ME,NH,VA,NY
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	VA,NY
1,2,4-Trimethylbenzene	ME,VA,NY
1,3,5-Trimethylbenzene	ME,VA,NY
Vinyl Chloride	CT,ME,NH,VA,NY
m+p Xylene	CT,ME,NH,VA,NY
o-Xylene	CT,ME,NH,VA,NY

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

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2017	100033	03/1/2022
MA	Massachusetts DEP	M-MA100	06/30/2020
CT	Connecticut Department of Public Health	PH-0567	09/30/2021
NY	New York State Department of Health	10899 NELAP	04/1/2021
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2021
RI	Rhode Island Department of Health	LAO00112	12/30/2020
NC	North Carolina Div. of Water Quality	652	12/31/2020
NJ	New Jersey DEP	MA007 NELAP	06/30/2020
FL	Florida Department of Health	E871027 NELAP	06/30/2020
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2020
ME	State of Maine	2011028	06/9/2021
VA	Commonwealth of Virginia	460217	12/14/2020
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2020
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2020
NC-DW	North Carolina Department of Health	25703	07/31/2020
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2020

2050752



Phone: 413-525-2332  
 Fax: 413-525-6405  
 Email: info@contestlabs.com

Address: 404 Wyman Street, Waltham, MA  
 Phone: 781-419-7714  
 Project Location: Hope, RI

Project Number: P317-007

Project Manager: CRAIG PARADIS

Con-Test Quote Name/Number: PARADIS

Invoice Recipient: DCABRAL@ESSGROUP.COM

Sampled By: W. Phillips & M. O'Brien

39 Spruce Street  
 East Longmeadow, MA 01028

CHAIN OF CUSTODY RECORD

Requested Turnaround Time:  Day  10-Day  Field Filtered Lab to Filter

Due Date:  1-Day  3-Day  4-Day  Field Filtered Lab to Filter

Request Approval Required:  1-Day  3-Day  4-Day  Field Filtered Lab to Filter

Format:  PDF  EXCEL

CLP Like Data Pkg Required:

Email To: Cparadis@essgroup.com

Fax To #:

ANALYSIS REQUESTED

Matrix Code	Vials	Glass	Plastic	Bacteria	Encore
GW	3	2	1		
GW	3	2	1		
GW	3	2	1		
GW	3	2	1		
GW	3	2	1		
GW	3	2	1		

Client Comments: State Standards for Lab RLs = RIDEM GA Groundwater Objectives

Con-Test Work Order #	Beginning Date/Time	Ending Date/Time	COMP/GRAB	Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE
1	4/17/20	1026	Grab	GW	U	3	2	1		
2	4/17/20	1204	Grab	GW	U	3	2	1		
3	4/16/20	1456	Grab	GW	U	3	2	1		
4	4/17/20	1231	Grab	GW	U	3	2	1		
5	4/16/20	1104	Grab	GW	U	3	2	1		
6	4/16/20	1241	Grab	GW	U	3	2	1		

Concentration	VOCs	Total PCBs	PAHs	Chlordane
1	X	X	X	X
2	X	X	X	X
3	X	X	X	X
4	X	X	X	X
5	X	X	X	X
6	X	X	X	X

Received by: (signature)	Date/Time
<i>Murray Davis</i>	4/17/20 1358
<i>Wendy...</i>	4/17/20 1358
<i>Daniel...</i>	4/17/20 4:45
<i>...</i>	4/17/20 4:45
<i>...</i>	4-17-20 1838
<i>John...</i>	4/17/20 1838

1 Preservation Code:  G (Green) Use Only

Total Number Of:

VIALS \_\_\_\_\_

GLASS \_\_\_\_\_

PLASTIC \_\_\_\_\_

BACTERIA \_\_\_\_\_

ENCORE \_\_\_\_\_

Glassware in the fridge? Y/N \_\_\_\_\_

Glassware in freezer? Y/N \_\_\_\_\_

Prepackaged Cooler? Y/N \_\_\_\_\_

\*Contest is not responsible for missing samples from prepacked coolers

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

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

PCB ONLY  
 Soxhlet  
 Non Soxhlet

MA MCP Required

MCP Certification Form Required

CT RCP Required

RCP Certification Form Required

MA State DW Required

PWSID # \_\_\_\_\_

Project Entity: Rhode Island

Government  Municipality  MWRA  WRTA

Federal  21 J  School

City  Brownfield  MBTA

Received by: (signature) \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments: \_\_\_\_\_

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

I Have Not Confirmed Sample Container Numbers With Lab Staff Before Relinquishing Over Samples \_\_\_\_\_



**con-test**<sup>®</sup>  
ANALYTICAL LABORATORY

Doc# 277 Rev 5 2017

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

Client FSS  
 Received By [Signature] Date 4/17/20 Time 1835  
 How were the samples received? In Cooler T No Cooler \_\_\_\_\_ On Ice T No Ice \_\_\_\_\_  
 Direct from Sampling \_\_\_\_\_ Ambient \_\_\_\_\_ Melted Ice \_\_\_\_\_  
 Were samples within Temperature? 2-6°C T By Gun # 5 Actual Temp - 4.5, 3.2  
 By Blank # \_\_\_\_\_ Actual Temp - \_\_\_\_\_  
 Was Custody Seal Intact? n/a Were Samples Tampered with? n/a  
 Was COC Relinquished? T Does Chain Agree With Samples? T  
 Are there broken/leaking/loose caps on any samples? F  
 Is COC in ink/ Legible? T Were samples received within holding time? T  
 Did COC include all pertinent Information? Client T Analysis T Sampler Name T  
 Project T ID's T Collection Dates/Times T  
 Are Sample labels filled out and legible? T  
 Are there Lab to Filters? F Who was notified? \_\_\_\_\_  
 Are there Rushes? F Who was notified? \_\_\_\_\_  
 Are there Short Holds? F Who was notified? \_\_\_\_\_  
 Is there enough Volume? T  
 Is there Headspace where applicable? T MS/MSD? F  
 Proper Media/Containers Used? T Is splitting samples required? F  
 Were trip blanks received? T On COC? F  
 Do all samples have the proper pH? Acid pH 2 Base n/a

Vials	#	Containers:	#		#		#
Unp-		1 Liter Amb.	8	1 Liter Plastic		16 oz Amb.	
HCL-	20	500 mL Amb.		500 mL Plastic		8oz Amb/Clear	
Meoh-		250 mL Amb.		250 mL Plastic	6	4oz Amb/Clear	
Bisulfate-		Flashpoint		Col./Bacteria		2oz Amb/Clear	
DI-		Other Glass		Other Plastic		Encore	
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:	
Sulfuric-		Perchlorate		Ziplock			

**Unused Media**

Vials	#	Containers:	#		#		#
Unp-		1 Liter Amb.		1 Liter Plastic		16 oz Amb.	
HCL-		500 mL Amb.		500 mL Plastic		8oz Amb/Clear	
Meoh-		250 mL Amb.		250 mL Plastic		4oz Amb/Clear	
Bisulfate-		Col./Bacteria		Flashpoint		2oz Amb/Clear	
DI-		Other Plastic		Other Glass		Encore	
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:	
Sulfuric-		Perchlorate		Ziplock			

**Comments:**

Trip Blanks received, not on COC.



June 10, 2020

Craig Paradis  
ESS Group Inc.  
404 Wyman St. Suite 375  
Waltham, MA 02451

Project Location: Hope, RI  
Client Job Number:  
Project Number: P312-009  
Laboratory Work Order Number: 20F0161

Enclosed are results of analyses for samples received by the laboratory on June 3, 2020. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jessica L. Hoffman  
Project Manager

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ESS Group Inc.  
 404 Wyman St. Suite 375  
 Waltham, MA 02451  
 ATTN: Craig Paradis

REPORT DATE: 6/10/2020

PURCHASE ORDER NUMBER:

PROJECT NUMBER: P312-009

**ANALYTICAL SUMMARY**

WORK ORDER NUMBER: 20F0161

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

PROJECT LOCATION: Hope, RI

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
ESS-61	20F0161-01	Soil		SM 2540G SW-846 8100 Modified SW-846 8260C-D	
ESS-62	20F0161-02	Soil		SM 2540G SW-846 8100 Modified SW-846 8260C-D	
ESS-65	20F0161-03	Soil		SM 2540G SW-846 8100 Modified SW-846 8260C-D	

## CASE NARRATIVE SUMMARY

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

## SW-846 8260C-D

## Qualifications:

## L-04

Laboratory fortified blank/laboratory control sample recovery and duplicate recovery are outside of control limits. Reported value for this compound is likely to be biased on the low side.

## Analyte &amp; Samples(s) Qualified:

## trans-1,4-Dichloro-2-butene

20F0161-01[ESS-61], 20F0161-02[ESS-62], 20F0161-03[ESS-65], B259272-BLK1, B259272-BS1, B259272-BSD1

## V-05

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

## Analyte &amp; Samples(s) Qualified:

## tert-Butyl Alcohol (TBA)

20F0161-01[ESS-61], 20F0161-02[ESS-62], 20F0161-03[ESS-65], B259272-BLK1, B259272-BS1, B259272-BSD1, S049047-CCV1

## trans-1,4-Dichloro-2-butene

20F0161-01[ESS-61], 20F0161-02[ESS-62], 20F0161-03[ESS-65], B259272-BLK1, B259272-BS1, B259272-BSD1, S049047-CCV1

## V-20

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

## Analyte &amp; Samples(s) Qualified:

## Methylene Chloride

B259272-BS1, B259272-BSD1, S049047-CCV1

## V-34

Initial calibration verification (ICV) did not meet method specifications and was biased on the low side for this compound. Reported result is estimated.

## Analyte &amp; Samples(s) Qualified:

## Bromomethane

20F0161-01[ESS-61], 20F0161-02[ESS-62], 20F0161-03[ESS-65], B259272-BLK1, B259272-BS1, B259272-BSD1, S049047-CCV1

## SW-846 8100 Modified

TPH (C9-C36) is quantitated against a calibration made with a diesel standard.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Lisa A. Worthington  
Technical Representative

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

Project Location: Hope, RI

Sample Description:

Work Order: 20F0161

Date Received: 6/3/2020

Field Sample #: ESS-61

Sampled: 6/3/2020 09:05

Sample ID: 20F0161-01

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.076	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
Acrylonitrile	ND	0.0045	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.00076	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
Benzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
Bromobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
Bromochloromethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
Bromodichloromethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
Bromoform	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
Bromomethane	ND	0.0076	mg/Kg dry	1	V-34	SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
2-Butanone (MEK)	ND	0.030	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
tert-Butyl Alcohol (TBA)	ND	0.030	mg/Kg dry	1	V-05	SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
n-Butylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
sec-Butylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
tert-Butylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.00076	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
Carbon Disulfide	ND	0.0045	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
Carbon Tetrachloride	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
Chlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
Chlorodibromomethane	ND	0.00076	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
Chloroethane	ND	0.015	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
Chloroform	ND	0.0030	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
Chloromethane	ND	0.0076	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
2-Chlorotoluene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
4-Chlorotoluene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
1,2-Dibromoethane (EDB)	ND	0.00076	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
Dibromomethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
1,2-Dichlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
1,3-Dichlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
1,4-Dichlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
trans-1,4-Dichloro-2-butene	ND	0.0030	mg/Kg dry	1	L-04, V-05	SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.015	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
1,1-Dichloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
1,2-Dichloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
1,1-Dichloroethylene	ND	0.0030	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
cis-1,2-Dichloroethylene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
trans-1,2-Dichloroethylene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
1,2-Dichloropropane	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
1,3-Dichloropropane	ND	0.00076	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
2,2-Dichloropropane	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
1,1-Dichloropropene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
cis-1,3-Dichloropropene	ND	0.00076	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
trans-1,3-Dichloropropene	ND	0.00076	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
Diethyl Ether	ND	0.015	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF

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

Project Location: Hope, RI

Sample Description:

Work Order: 20F0161

Date Received: 6/3/2020

Field Sample #: ESS-61

Sampled: 6/3/2020 09:05

Sample ID: 20F0161-01

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Diisopropyl Ether (DIPE)	ND	0.00076	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
1,4-Dioxane	ND	0.076	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
Ethylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
Hexachlorobutadiene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
2-Hexanone (MBK)	ND	0.015	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
Isopropylbenzene (Cumene)	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
Methyl Acetate	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0030	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
Methyl Cyclohexane	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
Methylene Chloride	ND	0.015	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.015	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
Naphthalene	ND	0.0030	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
n-Propylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
Styrene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
1,1,1,2-Tetrachloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
1,1,2,2-Tetrachloroethane	ND	0.00076	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
Tetrachloroethylene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
Tetrahydrofuran	ND	0.0076	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
Toluene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
1,2,3-Trichlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
1,2,4-Trichlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
1,3,5-Trichlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
1,1,1-Trichloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
1,1,2-Trichloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
Trichloroethylene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
Trichlorofluoromethane (Freon 11)	ND	0.0076	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
1,2,3-Trichloropropane	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.0076	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
1,2,4-Trimethylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
1,3,5-Trimethylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
Vinyl Chloride	ND	0.0076	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
m+p Xylene	ND	0.0030	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
o-Xylene	ND	0.0015	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:06	MFF
Surrogates		% Recovery	Recovery Limits		Flag/Qual				
1,2-Dichloroethane-d4		88.5	70-130					6/4/20 7:06	
Toluene-d8		97.8	70-130					6/4/20 7:06	
4-Bromofluorobenzene		96.6	70-130					6/4/20 7:06	

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

Project Location: Hope, RI

Sample Description:

Work Order: 20F0161

Date Received: 6/3/2020

Field Sample #: ESS-61

Sampled: 6/3/2020 09:05

Sample ID: 20F0161-01

Sample Matrix: Soil

**Petroleum Hydrocarbons Analyses**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
TPH (C9-C36)	ND	8.8	mg/Kg dry	1		SW-846 8100 Modified	6/3/20	6/4/20 15:49	RDD
Surrogates	% Recovery		Recovery Limits		Flag/Qual				
2-Fluorobiphenyl	51.4		40-140					6/4/20 15:49	

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Project Location: Hope, RI

Sample Description:

Work Order: 20F0161

Date Received: 6/3/2020

Field Sample #: ESS-61

Sampled: 6/3/2020 09:05

Sample ID: 20F0161-01

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	95.1		% Wt	1		SM 2540G	6/6/20	6/7/20 10:39	CBM



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

Project Location: Hope, RI

Sample Description:

Work Order: 20F0161

Date Received: 6/3/2020

Field Sample #: ESS-62

Sampled: 6/3/2020 10:55

Sample ID: 20F0161-02

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.070	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
Acrylonitrile	ND	0.0042	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.00070	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
Benzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
Bromobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
Bromochloromethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
Bromodichloromethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
Bromoform	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
Bromomethane	ND	0.0070	mg/Kg dry	1	V-34	SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
2-Butanone (MEK)	ND	0.028	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
tert-Butyl Alcohol (TBA)	ND	0.028	mg/Kg dry	1	V-05	SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
n-Butylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
sec-Butylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
tert-Butylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.00070	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
Carbon Disulfide	ND	0.0042	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
Carbon Tetrachloride	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
Chlorobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
Chlorodibromomethane	ND	0.00070	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
Chloroethane	ND	0.014	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
Chloroform	ND	0.0028	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
Chloromethane	ND	0.0070	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
2-Chlorotoluene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
4-Chlorotoluene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
1,2-Dibromoethane (EDB)	ND	0.00070	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
Dibromomethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
1,2-Dichlorobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
1,3-Dichlorobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
1,4-Dichlorobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
trans-1,4-Dichloro-2-butene	ND	0.0028	mg/Kg dry	1	L-04, V-05	SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.014	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
1,1-Dichloroethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
1,2-Dichloroethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
1,1-Dichloroethylene	ND	0.0028	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
cis-1,2-Dichloroethylene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
trans-1,2-Dichloroethylene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
1,2-Dichloropropane	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
1,3-Dichloropropane	ND	0.00070	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
2,2-Dichloropropane	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
1,1-Dichloropropene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
cis-1,3-Dichloropropene	ND	0.00070	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
trans-1,3-Dichloropropene	ND	0.00070	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
Diethyl Ether	ND	0.014	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF

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

Project Location: Hope, RI

Sample Description:

Work Order: 20F0161

Date Received: 6/3/2020

Field Sample #: ESS-62

Sampled: 6/3/2020 10:55

Sample ID: 20F0161-02

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Diisopropyl Ether (DIPE)	ND	0.00070	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
1,4-Dioxane	ND	0.070	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
Ethylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
Hexachlorobutadiene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
2-Hexanone (MBK)	ND	0.014	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
Isopropylbenzene (Cumene)	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
Methyl Acetate	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0028	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
Methyl Cyclohexane	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
Methylene Chloride	ND	0.014	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.014	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
Naphthalene	ND	0.0028	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
n-Propylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
Styrene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
1,1,1,2-Tetrachloroethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
1,1,2,2-Tetrachloroethane	ND	0.00070	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
Tetrachloroethylene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
Tetrahydrofuran	ND	0.0070	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
Toluene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
1,2,3-Trichlorobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
1,2,4-Trichlorobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
1,3,5-Trichlorobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
1,1,1-Trichloroethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
1,1,2-Trichloroethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
Trichloroethylene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
Trichlorofluoromethane (Freon 11)	ND	0.0070	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
1,2,3-Trichloropropane	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.0070	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
1,2,4-Trimethylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
1,3,5-Trimethylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
Vinyl Chloride	ND	0.0070	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
m+p Xylene	ND	0.0028	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
o-Xylene	ND	0.0014	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:31	MFF
Surrogates		% Recovery	Recovery Limits		Flag/Qual				
1,2-Dichloroethane-d4		92.3	70-130					6/4/20 7:31	
Toluene-d8		95.7	70-130					6/4/20 7:31	
4-Bromofluorobenzene		96.3	70-130					6/4/20 7:31	

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

Project Location: Hope, RI

Sample Description:

Work Order: 20F0161

Date Received: 6/3/2020

Field Sample #: ESS-62

Sampled: 6/3/2020 10:55

Sample ID: 20F0161-02

Sample Matrix: Soil

**Petroleum Hydrocarbons Analyses**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
TPH (C9-C36)	12	9.3	mg/Kg dry	1		SW-846 8100 Modified	6/3/20	6/5/20 18:22	RDD
Surrogates	% Recovery		Recovery Limits		Flag/Qual				
2-Fluorobiphenyl	72.3		40-140					6/5/20 18:22	

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Project Location: Hope, RI

Sample Description:

Work Order: 20F0161

Date Received: 6/3/2020

Field Sample #: ESS-62

Sampled: 6/3/2020 10:55

Sample ID: 20F0161-02

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	89.2		% Wt	1		SM 2540G	6/6/20	6/7/20 10:40	CBM

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

Project Location: Hope, RI

Sample Description:

Work Order: 20F0161

Date Received: 6/3/2020

Field Sample #: ESS-65

Sampled: 6/3/2020 13:15

Sample ID: 20F0161-03

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.093	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
Acrylonitrile	ND	0.0056	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.00093	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
Benzene	ND	0.0019	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
Bromobenzene	ND	0.0019	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
Bromochloromethane	ND	0.0019	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
Bromodichloromethane	ND	0.0019	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
Bromoform	ND	0.0019	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
Bromomethane	ND	0.0093	mg/Kg dry	1	V-34	SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
2-Butanone (MEK)	ND	0.037	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
tert-Butyl Alcohol (TBA)	ND	0.037	mg/Kg dry	1	V-05	SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
n-Butylbenzene	ND	0.0019	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
sec-Butylbenzene	ND	0.0019	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
tert-Butylbenzene	ND	0.0019	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.00093	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
Carbon Disulfide	ND	0.0056	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
Carbon Tetrachloride	ND	0.0019	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
Chlorobenzene	ND	0.0019	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
Chlorodibromomethane	ND	0.00093	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
Chloroethane	ND	0.019	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
Chloroform	ND	0.0037	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
Chloromethane	ND	0.0093	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
2-Chlorotoluene	ND	0.0019	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
4-Chlorotoluene	ND	0.0019	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0019	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
1,2-Dibromoethane (EDB)	ND	0.00093	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
Dibromomethane	ND	0.0019	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
1,2-Dichlorobenzene	ND	0.0019	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
1,3-Dichlorobenzene	ND	0.0019	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
1,4-Dichlorobenzene	ND	0.0019	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
trans-1,4-Dichloro-2-butene	ND	0.0037	mg/Kg dry	1	L-04, V-05	SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.019	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
1,1-Dichloroethane	ND	0.0019	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
1,2-Dichloroethane	ND	0.0019	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
1,1-Dichloroethylene	ND	0.0037	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
cis-1,2-Dichloroethylene	ND	0.0019	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
trans-1,2-Dichloroethylene	ND	0.0019	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
1,2-Dichloropropane	ND	0.0019	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
1,3-Dichloropropane	ND	0.00093	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
2,2-Dichloropropane	ND	0.0019	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
1,1-Dichloropropene	ND	0.0019	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
cis-1,3-Dichloropropene	ND	0.00093	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
trans-1,3-Dichloropropene	ND	0.00093	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
Diethyl Ether	ND	0.019	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF

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

Project Location: Hope, RI

Sample Description:

Work Order: 20F0161

Date Received: 6/3/2020

Field Sample #: ESS-65

Sampled: 6/3/2020 13:15

Sample ID: 20F0161-03

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Diisopropyl Ether (DIPE)	ND	0.00093	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
1,4-Dioxane	ND	0.093	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
Ethylbenzene	ND	0.0019	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
Hexachlorobutadiene	ND	0.0019	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
2-Hexanone (MBK)	ND	0.019	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
Isopropylbenzene (Cumene)	ND	0.0019	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0019	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
Methyl Acetate	ND	0.0019	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0037	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
Methyl Cyclohexane	ND	0.0019	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
Methylene Chloride	ND	0.019	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.019	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
Naphthalene	ND	0.0037	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
n-Propylbenzene	ND	0.0019	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
Styrene	ND	0.0019	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
1,1,1,2-Tetrachloroethane	ND	0.0019	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
1,1,2,2-Tetrachloroethane	ND	0.00093	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
Tetrachloroethylene	ND	0.0019	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
Tetrahydrofuran	ND	0.0093	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
Toluene	ND	0.0019	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
1,2,3-Trichlorobenzene	ND	0.0019	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
1,2,4-Trichlorobenzene	ND	0.0019	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
1,3,5-Trichlorobenzene	ND	0.0019	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
1,1,1-Trichloroethane	ND	0.0019	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
1,1,2-Trichloroethane	ND	0.0019	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
Trichloroethylene	ND	0.0019	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
Trichlorofluoromethane (Freon 11)	ND	0.0093	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
1,2,3-Trichloropropane	ND	0.0019	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.0093	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
1,2,4-Trimethylbenzene	ND	0.0019	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
1,3,5-Trimethylbenzene	ND	0.0019	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
Vinyl Chloride	ND	0.0093	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
m+p Xylene	ND	0.0037	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
o-Xylene	ND	0.0019	mg/Kg dry	1		SW-846 8260C-D	6/4/20	6/4/20 7:56	MFF
Surrogates		% Recovery	Recovery Limits		Flag/Qual				
1,2-Dichloroethane-d4		93.4	70-130				6/4/20	7:56	
Toluene-d8		98.3	70-130				6/4/20	7:56	
4-Bromofluorobenzene		101	70-130				6/4/20	7:56	

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

Project Location: Hope, RI

Sample Description:

Work Order: 20F0161

Date Received: 6/3/2020

Field Sample #: ESS-65

Sampled: 6/3/2020 13:15

Sample ID: 20F0161-03

Sample Matrix: Soil

**Petroleum Hydrocarbons Analyses**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
TPH (C9-C36)	54	9.1	mg/Kg dry	1		SW-846 8100 Modified	6/3/20	6/5/20 18:43	RDD
<b>Surrogates</b>		<b>% Recovery</b>	<b>Recovery Limits</b>		<b>Flag/Qual</b>				
2-Fluorobiphenyl		70.2	40-140					6/5/20 18:43	

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Project Location: Hope, RI

Sample Description:

Work Order: 20F0161

Date Received: 6/3/2020

Field Sample #: ESS-65

Sampled: 6/3/2020 13:15

Sample ID: 20F0161-03

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	91.9		% Wt	1		SM 2540G	6/6/20	6/7/20 10:40	CBM



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**Sample Extraction Data**

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

Lab Number [Field ID]	Batch	Date
20F0161-01 [ESS-61]	B259433	06/06/20
20F0161-02 [ESS-62]	B259433	06/06/20
20F0161-03 [ESS-65]	B259433	06/06/20

**Prep Method: SW-846 3546    Analytical Method: SW-846 8100 Modified**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
20F0161-01 [ESS-61]	B259225	30.0	1.00	06/03/20
20F0161-02 [ESS-62]	B259225	30.0	1.00	06/03/20
20F0161-03 [ESS-65]	B259225	30.0	1.00	06/03/20

**Prep Method: SW-846 5035    Analytical Method: SW-846 8260C-D**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
20F0161-01 [ESS-61]	B259272	6.96	10.0	06/04/20
20F0161-02 [ESS-62]	B259272	8.05	10.0	06/04/20
20F0161-03 [ESS-65]	B259272	5.86	10.0	06/04/20

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

**QUALITY CONTROL**

**Volatile Organic Compounds by GC/MS - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B259272 - SW-846 5035**

**Blank (B259272-BLK1)**

Prepared & Analyzed: 06/04/20

Acetone	ND	0.10	mg/Kg wet							
Acrylonitrile	ND	0.0060	mg/Kg wet							
tert-Amyl Methyl Ether (TAME)	ND	0.0010	mg/Kg wet							
Benzene	ND	0.0020	mg/Kg wet							
Bromobenzene	ND	0.0020	mg/Kg wet							
Bromochloromethane	ND	0.0020	mg/Kg wet							
Bromodichloromethane	ND	0.0020	mg/Kg wet							
Bromoform	ND	0.0020	mg/Kg wet							
Bromomethane	ND	0.010	mg/Kg wet							V-34
2-Butanone (MEK)	ND	0.040	mg/Kg wet							
tert-Butyl Alcohol (TBA)	ND	0.040	mg/Kg wet							V-05
n-Butylbenzene	ND	0.0020	mg/Kg wet							
sec-Butylbenzene	ND	0.0020	mg/Kg wet							
tert-Butylbenzene	ND	0.0020	mg/Kg wet							
tert-Butyl Ethyl Ether (TBEE)	ND	0.0010	mg/Kg wet							
Carbon Disulfide	ND	0.0060	mg/Kg wet							
Carbon Tetrachloride	ND	0.0020	mg/Kg wet							
Chlorobenzene	ND	0.0020	mg/Kg wet							
Chlorodibromomethane	ND	0.0010	mg/Kg wet							
Chloroethane	ND	0.020	mg/Kg wet							
Chloroform	ND	0.0040	mg/Kg wet							
Chloromethane	ND	0.010	mg/Kg wet							
2-Chlorotoluene	ND	0.0020	mg/Kg wet							
4-Chlorotoluene	ND	0.0020	mg/Kg wet							
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0020	mg/Kg wet							
1,2-Dibromoethane (EDB)	ND	0.0010	mg/Kg wet							
Dibromomethane	ND	0.0020	mg/Kg wet							
1,2-Dichlorobenzene	ND	0.0020	mg/Kg wet							
1,3-Dichlorobenzene	ND	0.0020	mg/Kg wet							
1,4-Dichlorobenzene	ND	0.0020	mg/Kg wet							
trans-1,4-Dichloro-2-butene	ND	0.0040	mg/Kg wet							L-04, V-05
Dichlorodifluoromethane (Freon 12)	ND	0.020	mg/Kg wet							
1,1-Dichloroethane	ND	0.0020	mg/Kg wet							
1,2-Dichloroethane	ND	0.0020	mg/Kg wet							
1,1-Dichloroethylene	ND	0.0040	mg/Kg wet							
cis-1,2-Dichloroethylene	ND	0.0020	mg/Kg wet							
trans-1,2-Dichloroethylene	ND	0.0020	mg/Kg wet							
1,2-Dichloropropane	ND	0.0020	mg/Kg wet							
1,3-Dichloropropane	ND	0.0010	mg/Kg wet							
2,2-Dichloropropane	ND	0.0020	mg/Kg wet							
1,1-Dichloropropene	ND	0.0020	mg/Kg wet							
cis-1,3-Dichloropropene	ND	0.0010	mg/Kg wet							
trans-1,3-Dichloropropene	ND	0.0010	mg/Kg wet							
Diethyl Ether	ND	0.020	mg/Kg wet							
Diisopropyl Ether (DIPE)	ND	0.0010	mg/Kg wet							
1,4-Dioxane	ND	0.10	mg/Kg wet							
Ethylbenzene	ND	0.0020	mg/Kg wet							
Hexachlorobutadiene	ND	0.0020	mg/Kg wet							
2-Hexanone (MBK)	ND	0.020	mg/Kg wet							
Isopropylbenzene (Cumene)	ND	0.0020	mg/Kg wet							
p-Isopropyltoluene (p-Cymene)	ND	0.0020	mg/Kg wet							
Methyl Acetate	ND	0.0020	mg/Kg wet							

QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B259272 - SW-846 5035

Blank (B259272-BLK1)

Prepared & Analyzed: 06/04/20

Methyl tert-Butyl Ether (MTBE)	ND	0.0040	mg/Kg wet							
Methyl Cyclohexane	ND	0.0020	mg/Kg wet							
Methylene Chloride	ND	0.020	mg/Kg wet							
4-Methyl-2-pentanone (MIBK)	ND	0.020	mg/Kg wet							
Naphthalene	ND	0.0040	mg/Kg wet							
n-Propylbenzene	ND	0.0020	mg/Kg wet							
Styrene	ND	0.0020	mg/Kg wet							
1,1,1,2-Tetrachloroethane	ND	0.0020	mg/Kg wet							
1,1,2,2-Tetrachloroethane	ND	0.0010	mg/Kg wet							
Tetrachloroethylene	ND	0.0020	mg/Kg wet							
Tetrahydrofuran	ND	0.010	mg/Kg wet							
Toluene	ND	0.0020	mg/Kg wet							
1,2,3-Trichlorobenzene	ND	0.0020	mg/Kg wet							
1,2,4-Trichlorobenzene	ND	0.0020	mg/Kg wet							
1,3,5-Trichlorobenzene	ND	0.0020	mg/Kg wet							
1,1,1-Trichloroethane	ND	0.0020	mg/Kg wet							
1,1,2-Trichloroethane	ND	0.0020	mg/Kg wet							
Trichloroethylene	ND	0.0020	mg/Kg wet							
Trichlorofluoromethane (Freon 11)	ND	0.010	mg/Kg wet							
1,2,3-Trichloropropane	ND	0.0020	mg/Kg wet							
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.010	mg/Kg wet							
1,2,4-Trimethylbenzene	ND	0.0020	mg/Kg wet							
1,3,5-Trimethylbenzene	ND	0.0020	mg/Kg wet							
Vinyl Chloride	ND	0.010	mg/Kg wet							
m+p Xylene	ND	0.0040	mg/Kg wet							
o-Xylene	ND	0.0020	mg/Kg wet							
Surrogate: 1,2-Dichloroethane-d4	0.0457		mg/Kg wet	0.0500		91.4	70-130			
Surrogate: Toluene-d8	0.0489		mg/Kg wet	0.0500		97.8	70-130			
Surrogate: 4-Bromofluorobenzene	0.0500		mg/Kg wet	0.0500		99.9	70-130			

LCS (B259272-BS1)

Prepared & Analyzed: 06/04/20

Acetone	0.198	0.10	mg/Kg wet	0.200		98.9	70-160			†
Acrylonitrile	0.0186	0.0060	mg/Kg wet	0.0200		92.9	70-130			
tert-Amyl Methyl Ether (TAME)	0.0197	0.0010	mg/Kg wet	0.0200		98.4	70-130			
Benzene	0.0206	0.0020	mg/Kg wet	0.0200		103	70-130			
Bromobenzene	0.0195	0.0020	mg/Kg wet	0.0200		97.4	70-130			
Bromochloromethane	0.0226	0.0020	mg/Kg wet	0.0200		113	70-130			
Bromodichloromethane	0.0180	0.0020	mg/Kg wet	0.0200		89.8	70-130			
Bromoform	0.0195	0.0020	mg/Kg wet	0.0200		97.4	70-130			
Bromomethane	0.0207	0.010	mg/Kg wet	0.0200		104	40-130		V-34	†
2-Butanone (MEK)	0.211	0.040	mg/Kg wet	0.200		106	70-160			†
tert-Butyl Alcohol (TBA)	0.131	0.040	mg/Kg wet	0.200		65.3	40-130		V-05	†
n-Butylbenzene	0.0188	0.0020	mg/Kg wet	0.0200		93.8	70-130			
sec-Butylbenzene	0.0193	0.0020	mg/Kg wet	0.0200		96.6	70-130			
tert-Butylbenzene	0.0193	0.0020	mg/Kg wet	0.0200		96.3	70-160			†
tert-Butyl Ethyl Ether (TBEE)	0.0203	0.0010	mg/Kg wet	0.0200		102	70-130			
Carbon Disulfide	0.225	0.0060	mg/Kg wet	0.200		112	70-130			
Carbon Tetrachloride	0.0165	0.0020	mg/Kg wet	0.0200		82.6	70-130			
Chlorobenzene	0.0201	0.0020	mg/Kg wet	0.0200		101	70-130			
Chlorodibromomethane	0.0191	0.0010	mg/Kg wet	0.0200		95.3	70-130			
Chloroethane	0.0204	0.020	mg/Kg wet	0.0200		102	70-130			
Chloroform	0.0188	0.0040	mg/Kg wet	0.0200		94.0	70-130			

QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B259272 - SW-846 5035</b>										
<b>LCS (B259272-BS1)</b>										
				Prepared & Analyzed: 06/04/20						
Chloromethane	0.0223	0.010	mg/Kg wet	0.0200		111	70-130			
2-Chlorotoluene	0.0195	0.0020	mg/Kg wet	0.0200		97.6	70-130			
4-Chlorotoluene	0.0195	0.0020	mg/Kg wet	0.0200		97.7	70-130			
1,2-Dibromo-3-chloropropane (DBCP)	0.0144	0.0020	mg/Kg wet	0.0200		72.1	70-130			
1,2-Dibromoethane (EDB)	0.0177	0.0010	mg/Kg wet	0.0200		88.6	70-130			
Dibromomethane	0.0180	0.0020	mg/Kg wet	0.0200		89.9	70-130			
1,2-Dichlorobenzene	0.0188	0.0020	mg/Kg wet	0.0200		93.8	70-130			
1,3-Dichlorobenzene	0.0190	0.0020	mg/Kg wet	0.0200		95.1	70-130			
1,4-Dichlorobenzene	0.0183	0.0020	mg/Kg wet	0.0200		91.4	70-130			
<b>trans-1,4-Dichloro-2-butene</b>	0.0121	0.0040	mg/Kg wet	0.0200		<b>60.7</b> *	70-130			L-04, V-05
Dichlorodifluoromethane (Freon 12)	0.0198	0.020	mg/Kg wet	0.0200		98.9	40-160			†
1,1-Dichloroethane	0.0209	0.0020	mg/Kg wet	0.0200		105	70-130			
1,2-Dichloroethane	0.0173	0.0020	mg/Kg wet	0.0200		86.7	70-130			
1,1-Dichloroethylene	0.0191	0.0040	mg/Kg wet	0.0200		95.7	70-130			
cis-1,2-Dichloroethylene	0.0199	0.0020	mg/Kg wet	0.0200		99.5	70-130			
trans-1,2-Dichloroethylene	0.0203	0.0020	mg/Kg wet	0.0200		101	70-130			
1,2-Dichloropropane	0.0210	0.0020	mg/Kg wet	0.0200		105	70-130			
1,3-Dichloropropane	0.0201	0.0010	mg/Kg wet	0.0200		101	70-130			
2,2-Dichloropropane	0.0161	0.0020	mg/Kg wet	0.0200		80.7	70-130			
1,1-Dichloropropene	0.0196	0.0020	mg/Kg wet	0.0200		98.2	70-130			
cis-1,3-Dichloropropene	0.0180	0.0010	mg/Kg wet	0.0200		89.8	70-130			
trans-1,3-Dichloropropene	0.0166	0.0010	mg/Kg wet	0.0200		83.1	70-130			
Diethyl Ether	0.0203	0.020	mg/Kg wet	0.0200		102	70-130			
Diisopropyl Ether (DIPE)	0.0226	0.0010	mg/Kg wet	0.0200		113	70-130			
1,4-Dioxane	0.200	0.10	mg/Kg wet	0.200		100	40-160			†
Ethylbenzene	0.0196	0.0020	mg/Kg wet	0.0200		98.0	70-130			
Hexachlorobutadiene	0.0179	0.0020	mg/Kg wet	0.0200		89.4	70-160			
2-Hexanone (MBK)	0.203	0.020	mg/Kg wet	0.200		101	70-160			†
Isopropylbenzene (Cumene)	0.0198	0.0020	mg/Kg wet	0.0200		98.9	70-130			
p-Isopropyltoluene (p-Cymene)	0.0195	0.0020	mg/Kg wet	0.0200		97.4	70-130			
Methyl Acetate	0.0220	0.0020	mg/Kg wet	0.0200		110	70-130			
Methyl tert-Butyl Ether (MTBE)	0.0188	0.0040	mg/Kg wet	0.0200		94.2	70-130			
Methyl Cyclohexane	0.0202	0.0020	mg/Kg wet	0.0200		101	70-130			
Methylene Chloride	0.0236	0.020	mg/Kg wet	0.0200		118	40-160			V-20 †
4-Methyl-2-pentanone (MIBK)	0.217	0.020	mg/Kg wet	0.200		109	70-160			†
Naphthalene	0.0184	0.0040	mg/Kg wet	0.0200		91.8	40-130			†
n-Propylbenzene	0.0202	0.0020	mg/Kg wet	0.0200		101	70-130			
Styrene	0.0206	0.0020	mg/Kg wet	0.0200		103	70-130			
1,1,1,2-Tetrachloroethane	0.0189	0.0020	mg/Kg wet	0.0200		94.4	70-130			
1,1,2,2-Tetrachloroethane	0.0197	0.0010	mg/Kg wet	0.0200		98.3	70-130			
Tetrachloroethylene	0.0195	0.0020	mg/Kg wet	0.0200		97.3	70-130			
Tetrahydrofuran	0.0194	0.010	mg/Kg wet	0.0200		97.2	70-130			
Toluene	0.0189	0.0020	mg/Kg wet	0.0200		94.7	70-130			
1,2,3-Trichlorobenzene	0.0180	0.0020	mg/Kg wet	0.0200		90.1	70-130			
1,2,4-Trichlorobenzene	0.0185	0.0020	mg/Kg wet	0.0200		92.6	70-130			
1,3,5-Trichlorobenzene	0.0182	0.0020	mg/Kg wet	0.0200		91.1	70-130			
1,1,1-Trichloroethane	0.0186	0.0020	mg/Kg wet	0.0200		93.2	70-130			
1,1,2-Trichloroethane	0.0202	0.0020	mg/Kg wet	0.0200		101	70-130			
Trichloroethylene	0.0189	0.0020	mg/Kg wet	0.0200		94.6	70-130			
Trichlorofluoromethane (Freon 11)	0.0177	0.010	mg/Kg wet	0.0200		88.7	70-130			
1,2,3-Trichloropropane	0.0195	0.0020	mg/Kg wet	0.0200		97.6	70-130			

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B259272 - SW-846 5035

LCS (B259272-BS1)

Prepared & Analyzed: 06/04/20

1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.0197	0.010	mg/Kg wet	0.0200		98.4	70-130			
1,2,4-Trimethylbenzene	0.0187	0.0020	mg/Kg wet	0.0200		93.3	70-130			
1,3,5-Trimethylbenzene	0.0202	0.0020	mg/Kg wet	0.0200		101	70-130			
Vinyl Chloride	0.0224	0.010	mg/Kg wet	0.0200		112	40-130			†
m+p Xylene	0.0395	0.0040	mg/Kg wet	0.0400		98.7	70-130			
o-Xylene	0.0196	0.0020	mg/Kg wet	0.0200		98.0	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0436		mg/Kg wet	0.0500		87.1	70-130			
Surrogate: Toluene-d8	0.0494		mg/Kg wet	0.0500		98.7	70-130			
Surrogate: 4-Bromofluorobenzene	0.0500		mg/Kg wet	0.0500		100	70-130			

LCS Dup (B259272-BS1)

Prepared & Analyzed: 06/04/20

Acetone	0.183	0.10	mg/Kg wet	0.200		91.3	70-160	7.96	25	†
Acrylonitrile	0.0222	0.0060	mg/Kg wet	0.0200		111	70-130	17.6	25	
tert-Amyl Methyl Ether (TAME)	0.0183	0.0010	mg/Kg wet	0.0200		91.4	70-130	7.39	25	
Benzene	0.0198	0.0020	mg/Kg wet	0.0200		98.8	70-130	4.11	25	
Bromobenzene	0.0191	0.0020	mg/Kg wet	0.0200		95.7	70-130	1.76	25	
Bromochloromethane	0.0224	0.0020	mg/Kg wet	0.0200		112	70-130	0.825	25	
Bromodichloromethane	0.0175	0.0020	mg/Kg wet	0.0200		87.6	70-130	2.52	25	
Bromoform	0.0186	0.0020	mg/Kg wet	0.0200		92.9	70-130	4.75	25	
Bromomethane	0.0204	0.010	mg/Kg wet	0.0200		102	40-130	1.77	25	V-34 †
2-Butanone (MEK)	0.200	0.040	mg/Kg wet	0.200		99.9	70-160	5.50	25	†
tert-Butyl Alcohol (TBA)	0.141	0.040	mg/Kg wet	0.200		70.4	40-130	7.57	25	V-05 †
n-Butylbenzene	0.0188	0.0020	mg/Kg wet	0.0200		94.2	70-130	0.468	25	
sec-Butylbenzene	0.0192	0.0020	mg/Kg wet	0.0200		95.8	70-130	0.822	25	
tert-Butylbenzene	0.0192	0.0020	mg/Kg wet	0.0200		96.0	70-160	0.343	25	†
tert-Butyl Ethyl Ether (TBEE)	0.0197	0.0010	mg/Kg wet	0.0200		98.5	70-130	3.02	25	
Carbon Disulfide	0.216	0.0060	mg/Kg wet	0.200		108	70-130	4.02	25	
Carbon Tetrachloride	0.0157	0.0020	mg/Kg wet	0.0200		78.7	70-130	4.77	25	
Chlorobenzene	0.0198	0.0020	mg/Kg wet	0.0200		98.8	70-130	1.99	25	
Chlorodibromomethane	0.0180	0.0010	mg/Kg wet	0.0200		90.2	70-130	5.52	25	
Chloroethane	0.0200	0.020	mg/Kg wet	0.0200		100	70-130	1.62	25	
Chloroform	0.0181	0.0040	mg/Kg wet	0.0200		90.3	70-130	4.01	25	
Chloromethane	0.0218	0.010	mg/Kg wet	0.0200		109	70-130	2.47	25	
2-Chlorotoluene	0.0190	0.0020	mg/Kg wet	0.0200		94.8	70-130	2.85	25	
4-Chlorotoluene	0.0187	0.0020	mg/Kg wet	0.0200		93.5	70-130	4.43	25	
1,2-Dibromo-3-chloropropane (DBCP)	0.0150	0.0020	mg/Kg wet	0.0200		75.1	70-130	4.17	25	
1,2-Dibromoethane (EDB)	0.0165	0.0010	mg/Kg wet	0.0200		82.4	70-130	7.23	25	
Dibromomethane	0.0170	0.0020	mg/Kg wet	0.0200		85.0	70-130	5.57	25	
1,2-Dichlorobenzene	0.0187	0.0020	mg/Kg wet	0.0200		93.4	70-130	0.417	25	
1,3-Dichlorobenzene	0.0190	0.0020	mg/Kg wet	0.0200		95.2	70-130	0.158	25	
1,4-Dichlorobenzene	0.0184	0.0020	mg/Kg wet	0.0200		91.9	70-130	0.535	25	
trans-1,4-Dichloro-2-butene	0.0117	0.0040	mg/Kg wet	0.0200		58.4 *	70-130	3.80	25	L-04, V-05
Dichlorodifluoromethane (Freon 12)	0.0190	0.020	mg/Kg wet	0.0200		94.8	40-160	4.24	25	†
1,1-Dichloroethane	0.0199	0.0020	mg/Kg wet	0.0200		99.3	70-130	5.28	25	
1,2-Dichloroethane	0.0167	0.0020	mg/Kg wet	0.0200		83.5	70-130	3.70	25	
1,1-Dichloroethylene	0.0186	0.0040	mg/Kg wet	0.0200		92.9	70-130	2.98	25	
cis-1,2-Dichloroethylene	0.0193	0.0020	mg/Kg wet	0.0200		96.4	70-130	3.13	25	
trans-1,2-Dichloroethylene	0.0193	0.0020	mg/Kg wet	0.0200		96.7	70-130	4.62	25	
1,2-Dichloropropane	0.0191	0.0020	mg/Kg wet	0.0200		95.6	70-130	9.62	25	
1,3-Dichloropropane	0.0189	0.0010	mg/Kg wet	0.0200		94.5	70-130	6.21	25	
2,2-Dichloropropane	0.0155	0.0020	mg/Kg wet	0.0200		77.7	70-130	3.73	25	
1,1-Dichloropropene	0.0188	0.0020	mg/Kg wet	0.0200		94.2	70-130	4.15	25	

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B259272 - SW-846 5035</b>										
<b>LCS Dup (B259272-BSD1)</b>										
Prepared & Analyzed: 06/04/20										
cis-1,3-Dichloropropene	0.0168	0.0010	mg/Kg wet	0.0200		83.8	70-130	6.90	25	
trans-1,3-Dichloropropene	0.0160	0.0010	mg/Kg wet	0.0200		80.2	70-130	3.55	25	
Diethyl Ether	0.0200	0.020	mg/Kg wet	0.0200		100	70-130	1.26	25	
Diisopropyl Ether (DIPE)	0.0220	0.0010	mg/Kg wet	0.0200		110	70-130	2.62	25	
1,4-Dioxane	0.191	0.10	mg/Kg wet	0.200		95.3	40-160	5.06	50	† ‡
Ethylbenzene	0.0186	0.0020	mg/Kg wet	0.0200		93.2	70-130	5.01	25	
Hexachlorobutadiene	0.0179	0.0020	mg/Kg wet	0.0200		89.3	70-160	0.123	25	
2-Hexanone (MBK)	0.193	0.020	mg/Kg wet	0.200		96.4	70-160	4.96	25	†
Isopropylbenzene (Cumene)	0.0191	0.0020	mg/Kg wet	0.0200		95.3	70-130	3.77	25	
p-Isopropyltoluene (p-Cymene)	0.0193	0.0020	mg/Kg wet	0.0200		96.6	70-130	0.845	25	
Methyl Acetate	0.0218	0.0020	mg/Kg wet	0.0200		109	70-130	0.960	25	
Methyl tert-Butyl Ether (MTBE)	0.0185	0.0040	mg/Kg wet	0.0200		92.5	70-130	1.86	25	
Methyl Cyclohexane	0.0193	0.0020	mg/Kg wet	0.0200		96.6	70-130	4.45	25	
Methylene Chloride	0.0235	0.020	mg/Kg wet	0.0200		117	40-160	0.400	25	V-20 †
4-Methyl-2-pentanone (MIBK)	0.208	0.020	mg/Kg wet	0.200		104	70-160	4.26	25	†
Naphthalene	0.0186	0.0040	mg/Kg wet	0.0200		93.1	40-130	1.49	25	†
n-Propylbenzene	0.0193	0.0020	mg/Kg wet	0.0200		96.6	70-130	4.38	25	
Styrene	0.0194	0.0020	mg/Kg wet	0.0200		96.8	70-130	6.17	25	
1,1,1,2-Tetrachloroethane	0.0183	0.0020	mg/Kg wet	0.0200		91.7	70-130	2.92	25	
1,1,2,2-Tetrachloroethane	0.0195	0.0010	mg/Kg wet	0.0200		97.5	70-130	0.889	25	
Tetrachloroethylene	0.0186	0.0020	mg/Kg wet	0.0200		92.9	70-130	4.62	25	
Tetrahydrofuran	0.0198	0.010	mg/Kg wet	0.0200		99.2	70-130	2.03	25	
Toluene	0.0183	0.0020	mg/Kg wet	0.0200		91.3	70-130	3.66	25	
1,2,3-Trichlorobenzene	0.0185	0.0020	mg/Kg wet	0.0200		92.4	70-130	2.55	25	
1,2,4-Trichlorobenzene	0.0181	0.0020	mg/Kg wet	0.0200		90.4	70-130	2.45	25	
1,3,5-Trichlorobenzene	0.0183	0.0020	mg/Kg wet	0.0200		91.6	70-130	0.471	25	
1,1,1-Trichloroethane	0.0175	0.0020	mg/Kg wet	0.0200		87.5	70-130	6.26	25	
1,1,2-Trichloroethane	0.0195	0.0020	mg/Kg wet	0.0200		97.3	70-130	3.55	25	
Trichloroethylene	0.0184	0.0020	mg/Kg wet	0.0200		92.2	70-130	2.59	25	
Trichlorofluoromethane (Freon 11)	0.0172	0.010	mg/Kg wet	0.0200		86.1	70-130	2.91	25	
1,2,3-Trichloropropane	0.0186	0.0020	mg/Kg wet	0.0200		93.0	70-130	4.83	25	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.0189	0.010	mg/Kg wet	0.0200		94.5	70-130	4.01	25	
1,2,4-Trimethylbenzene	0.0184	0.0020	mg/Kg wet	0.0200		92.0	70-130	1.42	25	
1,3,5-Trimethylbenzene	0.0198	0.0020	mg/Kg wet	0.0200		99.3	70-130	1.70	25	
Vinyl Chloride	0.0219	0.010	mg/Kg wet	0.0200		109	40-130	2.36	25	†
m+p Xylene	0.0379	0.0040	mg/Kg wet	0.0400		94.8	70-130	4.05	25	
o-Xylene	0.0188	0.0020	mg/Kg wet	0.0200		94.1	70-130	4.01	25	
Surrogate: 1,2-Dichloroethane-d4	0.0444		mg/Kg wet	0.0500		88.8	70-130			
Surrogate: Toluene-d8	0.0495		mg/Kg wet	0.0500		99.0	70-130			
Surrogate: 4-Bromofluorobenzene	0.0500		mg/Kg wet	0.0500		100	70-130			

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**QUALITY CONTROL**

**Petroleum Hydrocarbons Analyses - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B259225 - SW-846 3546</b>										
<b>Blank (B259225-BLK1)</b>										
					Prepared: 06/03/20 Analyzed: 06/04/20					
TPH (C9-C36)	ND	8.3	mg/Kg wet							
Surrogate: 2-Fluorobiphenyl	1.80		mg/Kg wet	3.33		54.1	40-140			
<b>LCS (B259225-BS1)</b>										
					Prepared: 06/03/20 Analyzed: 06/04/20					
TPH (C9-C36)	19.6	8.3	mg/Kg wet	33.3		58.9	40-140			
Surrogate: 2-Fluorobiphenyl	1.54		mg/Kg wet	3.33		46.3	40-140			
<b>LCS Dup (B259225-BSD1)</b>										
					Prepared: 06/03/20 Analyzed: 06/04/20					
TPH (C9-C36)	23.4	8.3	mg/Kg wet	33.3		70.3	40-140	17.7	30	
Surrogate: 2-Fluorobiphenyl	1.89		mg/Kg wet	3.33		56.8	40-140			

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**FLAG/QUALIFIER SUMMARY**

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
L-04	Laboratory fortified blank/laboratory control sample recovery and duplicate recovery are outside of control limits. Reported value for this compound is likely to be biased on the low side.
V-05	Continuing calibration verification (CCV) did not meet method specifications and was biased on the low side for this compound.
V-20	Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.
V-34	Initial calibration verification (ICV) did not meet method specifications and was biased on the low side for this compound. Reported result is estimated.



## CERTIFICATIONS

## Certified Analyses included in this Report

Analyte	Certifications
<i>SW-846 8260C-D in Soil</i>	
Acetone	CT,NH,NY,ME,VA
Acrylonitrile	CT,NH,NY,ME,VA
Benzene	CT,NH,NY,ME,VA
Bromobenzene	NH,NY,ME,VA
Bromochloromethane	NH,NY,ME,VA
Bromodichloromethane	CT,NH,NY,ME,VA
Bromoform	CT,NH,NY,ME,VA
Bromomethane	CT,NH,NY,ME,VA
2-Butanone (MEK)	CT,NH,NY,ME,VA
tert-Butyl Alcohol (TBA)	NY,ME
n-Butylbenzene	CT,NH,NY,ME,VA
sec-Butylbenzene	CT,NH,NY,ME,VA
tert-Butylbenzene	CT,NH,NY,ME,VA
Carbon Disulfide	CT,NH,NY,ME,VA
Carbon Tetrachloride	CT,NH,NY,ME,VA
Chlorobenzene	CT,NH,NY,ME,VA
Chlorodibromomethane	CT,NH,NY,ME,VA
Chloroethane	CT,NH,NY,ME,VA
Chloroform	CT,NH,NY,ME,VA
Chloromethane	CT,NH,NY,ME,VA
2-Chlorotoluene	CT,NH,NY,ME,VA
4-Chlorotoluene	CT,NH,NY,ME,VA
1,2-Dibromo-3-chloropropane (DBCP)	NY,ME
1,2-Dibromoethane (EDB)	NH,NY
Dibromomethane	NH,NY,ME,VA
1,2-Dichlorobenzene	CT,NH,NY,ME,VA
1,3-Dichlorobenzene	CT,NH,NY,ME,VA
1,4-Dichlorobenzene	CT,NH,NY,ME,VA
trans-1,4-Dichloro-2-butene	NY,ME
Dichlorodifluoromethane (Freon 12)	NH,NY,ME,VA
1,1-Dichloroethane	CT,NH,NY,ME,VA
1,2-Dichloroethane	CT,NH,NY,ME,VA
1,1-Dichloroethylene	CT,NH,NY,ME,VA
cis-1,2-Dichloroethylene	CT,NH,NY,ME,VA
trans-1,2-Dichloroethylene	CT,NH,NY,ME,VA
1,2-Dichloropropane	CT,NH,NY,ME,VA
1,3-Dichloropropane	NH,NY,ME,VA
2,2-Dichloropropane	NH,NY,ME,VA
1,1-Dichloropropene	NH,NY,ME,VA
cis-1,3-Dichloropropene	CT,NH,NY,ME,VA
trans-1,3-Dichloropropene	CT,NH,NY,ME,VA
Diethyl Ether	ME
1,4-Dioxane	NY,ME
Ethylbenzene	CT,NH,NY,ME,VA
Hexachlorobutadiene	NH,NY,ME,VA
2-Hexanone (MBK)	CT,NH,NY,ME,VA
Isopropylbenzene (Cumene)	CT,NH,NY,ME,VA

**CERTIFICATIONS**

**Certified Analyses included in this Report**

Analyte	Certifications
<i>SW-846 8260C-D in Soil</i>	
p-Isopropyltoluene (p-Cymene)	NH, NY
Methyl Acetate	NY, ME
Methyl tert-Butyl Ether (MTBE)	NY, ME, VA
Methyl Cyclohexane	NY
Methylene Chloride	CT, NH, NY, ME, VA
4-Methyl-2-pentanone (MIBK)	CT, NH, NY, ME, VA
Naphthalene	NH, NY, ME, VA
n-Propylbenzene	NH, NY, ME
Styrene	CT, NH, NY, ME, VA
1,1,1,2-Tetrachloroethane	CT, NH, NY, ME, VA
1,1,2,2-Tetrachloroethane	CT, NH, NY, ME, VA
Tetrachloroethylene	CT, NH, NY, ME, VA
Toluene	CT, NH, NY, ME, VA
1,2,3-Trichlorobenzene	NY, ME
1,2,4-Trichlorobenzene	NH, NY, ME, VA
1,3,5-Trichlorobenzene	ME
1,1,1-Trichloroethane	CT, NH, NY, ME, VA
1,1,2-Trichloroethane	CT, NH, NY, ME, VA
Trichloroethylene	CT, NH, NY, ME, VA
Trichlorofluoromethane (Freon 11)	CT, NH, NY, ME, VA
1,2,3-Trichloropropane	NH, NY, ME, VA
1,2,4-Trimethylbenzene	CT, NH, NY, ME, VA
1,3,5-Trimethylbenzene	CT, NH, NY, ME, VA
Vinyl Chloride	CT, NH, NY, ME, VA
m+p Xylene	CT, NH, NY, ME, VA
o-Xylene	CT, NH, NY, ME, VA

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2017	100033	03/1/2022
MA	Massachusetts DEP	M-MA100	06/30/2020
CT	Connecticut Department of Public Health	PH-0567	09/30/2021
NY	New York State Department of Health	10899 NELAP	04/1/2021
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2021
RI	Rhode Island Department of Health	LAO00112	12/30/2020
NC	North Carolina Div. of Water Quality	652	12/31/2020
NJ	New Jersey DEP	MA007 NELAP	06/30/2020
FL	Florida Department of Health	E871027 NELAP	06/30/2020
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2021
ME	State of Maine	2011028	06/9/2021
VA	Commonwealth of Virginia	460217	12/14/2020
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2020
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2020
NC-DW	North Carolina Department of Health	25703	07/31/2020
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2020

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39 Spruce Street  
East Longmeadow, MA 01028



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Address: 404 Wyman Street, Wallham, MA  
Phone: 781-414-7714  
Hope Mill

Project Location: Hope, RI  
Project Number: P312-009  
Project Manager: Craig Roubiz

Con-Test Quote Name/Number:  
Invoice Recipient: Barbra @ essgrp.com  
Sampled By: M. Phillips & M. O'Brien

Con-Test Work Order #	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE
1	ESS-61	6/3/20	0905	Grab	S	U	3	1			
2	ESS-62	6/3/20	1055	Grab	S	U	3	1			
3	ESS-65	6/3/20	1345	Grab	S	U	3	1			

Request:  PFAS 10-Day (std)  10-Day  Due Date:  
 Rush Approval Required  3-Day  4-Day  
 1-Day  2-Day  
 Format: PDF  EXCEL  
 Other:   
 CLP Like Data Pkg Required:   
 Email To: C. Phillips @ essgrp.com  
 Fax To #:

Relinquished by: (signature)	Date/Time	Relinquished by: (signature)	Date/Time
<i>[Signature]</i>	6/3/20 3:25	<i>[Signature]</i>	6/3/20 1505
<i>[Signature]</i>	6/3/20 1640	<i>[Signature]</i>	6/3/20 1805
<i>[Signature]</i>	6/3/20 1805	<i>[Signature]</i>	6/3/20 1805

Client Comments:  
 MA MCP Required   
 MA State DW Required   
 CT RCP Required   
 RCP Certification Form Required   
 MA State DW Required

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

ANALYSIS REQUESTED

Preservation Code: \_\_\_\_\_  
 Container Use Only: \_\_\_\_\_  
 Total Number Of: \_\_\_\_\_  
 VIALS: \_\_\_\_\_  
 GLASS: \_\_\_\_\_  
 PLASTIC: \_\_\_\_\_  
 BACTERIA: \_\_\_\_\_  
 ENCORE: \_\_\_\_\_

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

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

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

PCB ONLY  
 Soxhlet  
 Non Soxhlet

Chromatogram   
 AIHA-LAP, LLC

Other: \_\_\_\_\_

Government  Federal  City   
 Municipality  21 J  Brownfield   
 WRTA   
 MWRA  School  MBTA

Project Entity: Rhode Island (GA)  
 PWSID # \_\_\_\_\_

Relinquished by: (signature) \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Relinquished by: (signature) \_\_\_\_\_ Date/Time: \_\_\_\_\_

MA MCP Required   
 MA State DW Required   
 CT RCP Required   
 RCP Certification Form Required   
 MA State DW Required

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

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

I Have Not Confirmed Sample Container Numbers With Lab Staff Before Relinquishing Over Samples \_\_\_\_\_



**con-test**  
ANALYTICAL LABORATORY

Doc# 277 Rev 5 2017

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

Client FSS Group  
 Received By gdl Date 6/3/20 Time 8:05  
 How were the samples received? In Cooler T No Cooler \_\_\_\_\_ On Ice T No Ice \_\_\_\_\_  
 Direct from Sampling \_\_\_\_\_ Ambient \_\_\_\_\_ Melted Ice \_\_\_\_\_  
 Were samples within Temperature? 2-6°C T By Gun # 2 Actual Temp - 4.4  
 By Blank # \_\_\_\_\_ Actual Temp - \_\_\_\_\_  
 Was Custody Seal Intact? n/a Were Samples Tampered with? n/a  
 Was COC Relinquished? T Does Chain Agree With Samples? T  
 Are there broken/leaking/loose caps on any samples? F  
 Is COC in ink/ Legible? T Were samples received within holding time? T  
 Did COC include all pertinent information? Client T Analysis T Sampler Name T  
 Project T ID's T Collection Dates/Times T  
 Are Sample labels filled out and legible? T  
 Are there Lab to Filters? F Who was notified? \_\_\_\_\_  
 Are there Rushes? F Who was notified? \_\_\_\_\_  
 Are there Short Holds? F Who was notified? \_\_\_\_\_  
 Is there enough Volume? T  
 Is there Headspace where applicable? n/a MS/MSD? F  
 Proper Media/Containers Used? T Is splitting samples required? F  
 Were trip blanks received? F On COC? F  
 Do all samples have the proper pH? \_\_\_\_\_ Acid n/a Base n/a

Vials	#	Containers:	#	#	#
Unp-		1 Liter Amb.		1 Liter Plastic	16 oz Amb.
HCL-		500 mL Amb.		500 mL Plastic	8oz Amb/Clear
Meoh-	<u>3</u>	250 mL Amb.		250 mL Plastic	4oz Amb/Clear
Bisulfate-	<u>1</u>	Flashpoint		Col./Bacteria	2oz Amb/Clear
DI-		Other Glass		Other Plastic	Encore
Thiosulfate-		SOC Kit		Plastic Bag	Frozen:
Sulfuric-		Perchlorate		Ziplock	

**Unused Media**

Vials	#	Containers:	#	#	#
Unp-		1 Liter Amb.		1 Liter Plastic	16 oz Amb.
HCL-		500 mL Amb.		500 mL Plastic	8oz Amb/Clear
Meoh-		250 mL Amb.		250 mL Plastic	4oz Amb/Clear
Bisulfate-		Col./Bacteria		Flashpoint	2oz Amb/Clear
DI-		Other Plastic		Other Glass	Encore
Thiosulfate-		SOC Kit		Plastic Bag	Frozen:
Sulfuric-		Perchlorate		Ziplock	

Comments:

July 8, 2020

Craig Paradis  
ESS Group Inc.  
404 Wyman St. Suite 375  
Waltham, MA 02451

Project Location: Hope, RI  
Client Job Number:  
Project Number: P312-009  
Laboratory Work Order Number: 20F1461

Enclosed are results of analyses for samples received by the laboratory on June 30, 2020. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jessica L. Hoffman  
Project Manager

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

ESS Group Inc.  
404 Wyman St. Suite 375  
Waltham, MA 02451  
ATTN: Craig Paradis

REPORT DATE: 7/8/2020

PURCHASE ORDER NUMBER:

PROJECT NUMBER: P312-009

**ANALYTICAL SUMMARY**

---

WORK ORDER NUMBER: 20F1461

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

PROJECT LOCATION: Hope, RI

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
MW-14	20F1461-01	Ground Water		SW-846 8260C-D	
MW-15	20F1461-02	Ground Water		SW-846 8260C-D	
MW-16	20F1461-03	Ground Water		SW-846 8260C-D	
MW-17	20F1461-04	Ground Water		SW-846 8260C-D	

**CASE NARRATIVE SUMMARY**

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

**SW-846 8260C-D**

**Qualifications:**

**V-05**

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

**Analyte & Samples(s) Qualified:**

**Acrylonitrile**

20F1461-01[MW-14], 20F1461-02[MW-15], 20F1461-03[MW-16], 20F1461-04[MW-17], B261123-BLK1, B261123-BS1, B261123-BSD1, S049901-CCV1

**Bromomethane**

20F1461-01[MW-14], 20F1461-02[MW-15], 20F1461-03[MW-16], 20F1461-04[MW-17], B261123-BLK1, B261123-BS1, B261123-BSD1, S049901-CCV1

**Chloromethane**

20F1461-01[MW-14], 20F1461-02[MW-15], 20F1461-03[MW-16], 20F1461-04[MW-17], B261123-BLK1, B261123-BS1, B261123-BSD1, S049901-CCV1

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Lisa A. Worthington  
Technical Representative



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

Project Location: Hope, RI

Sample Description:

Work Order: 20F1461

Date Received: 6/30/2020

Field Sample #: MW-14

Sampled: 6/30/2020 11:39

Sample ID: 20F1461-01

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	50	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
Acrylonitrile	ND	5.0	µg/L	1	V-05	SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
Benzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
Bromodichloromethane	ND	0.50	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
Bromoform	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
Bromomethane	ND	2.0	µg/L	1	V-05	SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
2-Butanone (MEK)	ND	20	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
tert-Butyl Alcohol (TBA)	ND	20	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
Carbon Disulfide	ND	5.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
Carbon Tetrachloride	ND	5.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
Chloroform	ND	2.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
Chloromethane	ND	2.0	µg/L	1	V-05	SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
trans-1,4-Dichloro-2-butene	ND	2.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
1,1-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
2,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
1,1-Dichloropropene	ND	2.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
cis-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
trans-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH

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

Project Location: Hope, RI

Sample Description:

Work Order: 20F1461

Date Received: 6/30/2020

Field Sample #: MW-14

Sampled: 6/30/2020 11:39

Sample ID: 20F1461-01

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
1,4-Dioxane	ND	50	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
Hexachlorobutadiene	ND	0.60	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
Methyl Acetate	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
Methyl Cyclohexane	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
Methylene Chloride	ND	5.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
Naphthalene	ND	2.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
Styrene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
Tetrahydrofuran	ND	10	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
Toluene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
1,2,3-Trichlorobenzene	ND	5.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
1,3,5-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
Trichloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
Vinyl Chloride	ND	2.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 11:32	EEH
Surrogates		% Recovery	Recovery Limits		Flag/Qual				
1,2-Dichloroethane-d4		87.4	70-130					7/1/20 11:32	
Toluene-d8		94.9	70-130					7/1/20 11:32	
4-Bromofluorobenzene		101	70-130					7/1/20 11:32	

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

Project Location: Hope, RI

Sample Description:

Work Order: 20F1461

Date Received: 6/30/2020

Field Sample #: MW-15

Sampled: 6/30/2020 10:02

Sample ID: 20F1461-02

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	50	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
Acrylonitrile	ND	5.0	µg/L	1	V-05	SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
Benzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
Bromodichloromethane	ND	0.50	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
Bromoform	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
Bromomethane	ND	2.0	µg/L	1	V-05	SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
2-Butanone (MEK)	ND	20	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
tert-Butyl Alcohol (TBA)	ND	20	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
Carbon Disulfide	ND	5.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
Carbon Tetrachloride	ND	5.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
Chloroform	ND	2.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
Chloromethane	ND	2.0	µg/L	1	V-05	SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
trans-1,4-Dichloro-2-butene	ND	2.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
1,1-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
2,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
1,1-Dichloropropene	ND	2.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
cis-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
trans-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH

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

Project Location: Hope, RI

Sample Description:

Work Order: 20F1461

Date Received: 6/30/2020

Field Sample #: MW-15

Sampled: 6/30/2020 10:02

Sample ID: 20F1461-02

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
1,4-Dioxane	ND	50	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
Hexachlorobutadiene	ND	0.60	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
Methyl Acetate	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
Methyl Cyclohexane	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
Methylene Chloride	ND	5.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
Naphthalene	ND	2.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
Styrene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
Tetrahydrofuran	ND	10	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
Toluene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
1,2,3-Trichlorobenzene	ND	5.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
1,3,5-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
Trichloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
Vinyl Chloride	ND	2.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:00	EEH
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
1,2-Dichloroethane-d4	86.8	70-130						7/1/20 12:00	
Toluene-d8	95.6	70-130						7/1/20 12:00	
4-Bromofluorobenzene	102	70-130						7/1/20 12:00	

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

Project Location: Hope, RI

Sample Description:

Work Order: 20F1461

Date Received: 6/30/2020

Field Sample #: MW-16

Sampled: 6/30/2020 12:03

Sample ID: 20F1461-03

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	50	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
Acrylonitrile	ND	5.0	µg/L	1	V-05	SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
Benzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
Bromodichloromethane	ND	0.50	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
Bromoform	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
Bromomethane	ND	2.0	µg/L	1	V-05	SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
2-Butanone (MEK)	ND	20	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
tert-Butyl Alcohol (TBA)	ND	20	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
Carbon Disulfide	ND	5.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
Carbon Tetrachloride	ND	5.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
Chloroform	ND	2.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
Chloromethane	ND	2.0	µg/L	1	V-05	SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
trans-1,4-Dichloro-2-butene	ND	2.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
1,1-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
2,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
1,1-Dichloropropene	ND	2.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
cis-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
trans-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH

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

Project Location: Hope, RI

Sample Description:

Work Order: 20F1461

Date Received: 6/30/2020

Field Sample #: MW-16

Sampled: 6/30/2020 12:03

Sample ID: 20F1461-03

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
1,4-Dioxane	ND	50	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
Hexachlorobutadiene	ND	0.60	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
Methyl Acetate	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
Methyl Cyclohexane	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
Methylene Chloride	ND	5.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
Naphthalene	ND	2.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
Styrene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
Tetrahydrofuran	ND	10	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
Toluene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
1,2,3-Trichlorobenzene	ND	5.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
1,3,5-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
Trichloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
Vinyl Chloride	ND	2.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:27	EEH
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
1,2-Dichloroethane-d4	85.9	70-130						7/1/20 12:27	
Toluene-d8	95.4	70-130						7/1/20 12:27	
4-Bromofluorobenzene	98.8	70-130						7/1/20 12:27	



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

Project Location: Hope, RI

Sample Description:

Work Order: 20F1461

Date Received: 6/30/2020

Field Sample #: MW-17

Sampled: 6/30/2020 10:21

Sample ID: 20F1461-04

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	50	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
Acrylonitrile	ND	5.0	µg/L	1	V-05	SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
Benzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
Bromodichloromethane	ND	0.50	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
Bromoform	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
Bromomethane	ND	2.0	µg/L	1	V-05	SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
2-Butanone (MEK)	ND	20	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
tert-Butyl Alcohol (TBA)	ND	20	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
Carbon Disulfide	ND	5.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
Carbon Tetrachloride	ND	5.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
Chloroform	ND	2.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
Chloromethane	ND	2.0	µg/L	1	V-05	SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
trans-1,4-Dichloro-2-butene	ND	2.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
1,1-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
2,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
1,1-Dichloropropene	ND	2.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
cis-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
trans-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH

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

Project Location: Hope, RI

Sample Description:

Work Order: 20F1461

Date Received: 6/30/2020

Field Sample #: MW-17

Sampled: 6/30/2020 10:21

Sample ID: 20F1461-04

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
1,4-Dioxane	ND	50	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
Hexachlorobutadiene	ND	0.60	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
Methyl Acetate	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
Methyl Cyclohexane	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
Methylene Chloride	ND	5.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
Naphthalene	ND	2.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
Styrene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
Tetrahydrofuran	ND	10	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
Toluene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
1,2,3-Trichlorobenzene	ND	5.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
1,3,5-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
Trichloroethylene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
Vinyl Chloride	ND	2.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C-D	7/1/20	7/1/20 12:55	EEH
Surrogates		% Recovery	Recovery Limits		Flag/Qual				
1,2-Dichloroethane-d4		88.2	70-130					7/1/20 12:55	
Toluene-d8		97.2	70-130					7/1/20 12:55	
4-Bromofluorobenzene		101	70-130					7/1/20 12:55	



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

### Sample Extraction Data

Prep Method: SW-846 5030B    Analytical Method: SW-846 8260C-D

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
20F1461-01 [MW-14]	B261123	5	5.00	07/01/20
20F1461-02 [MW-15]	B261123	5	5.00	07/01/20
20F1461-03 [MW-16]	B261123	5	5.00	07/01/20
20F1461-04 [MW-17]	B261123	5	5.00	07/01/20

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**QUALITY CONTROL**

**Volatile Organic Compounds by GC/MS - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B261123 - SW-846 5030B**

**Blank (B261123-BLK1)**

Prepared & Analyzed: 07/01/20

Acetone	ND	50	µg/L							
Acrylonitrile	ND	5.0	µg/L							V-05
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L							
Benzene	ND	1.0	µg/L							
Bromobenzene	ND	1.0	µg/L							
Bromochloromethane	ND	1.0	µg/L							
Bromodichloromethane	ND	0.50	µg/L							
Bromoform	ND	1.0	µg/L							
Bromomethane	ND	2.0	µg/L							V-05
2-Butanone (MEK)	ND	20	µg/L							
tert-Butyl Alcohol (TBA)	ND	20	µg/L							
n-Butylbenzene	ND	1.0	µg/L							
sec-Butylbenzene	ND	1.0	µg/L							
tert-Butylbenzene	ND	1.0	µg/L							
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L							
Carbon Disulfide	ND	5.0	µg/L							
Carbon Tetrachloride	ND	5.0	µg/L							
Chlorobenzene	ND	1.0	µg/L							
Chlorodibromomethane	ND	0.50	µg/L							
Chloroethane	ND	2.0	µg/L							
Chloroform	ND	2.0	µg/L							
Chloromethane	ND	2.0	µg/L							V-05
2-Chlorotoluene	ND	1.0	µg/L							
4-Chlorotoluene	ND	1.0	µg/L							
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L							
1,2-Dibromoethane (EDB)	ND	0.50	µg/L							
Dibromomethane	ND	1.0	µg/L							
1,2-Dichlorobenzene	ND	1.0	µg/L							
1,3-Dichlorobenzene	ND	1.0	µg/L							
1,4-Dichlorobenzene	ND	1.0	µg/L							
trans-1,4-Dichloro-2-butene	ND	2.0	µg/L							
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L							
1,1-Dichloroethane	ND	1.0	µg/L							
1,2-Dichloroethane	ND	1.0	µg/L							
1,1-Dichloroethylene	ND	1.0	µg/L							
cis-1,2-Dichloroethylene	ND	1.0	µg/L							
trans-1,2-Dichloroethylene	ND	1.0	µg/L							
1,2-Dichloropropane	ND	1.0	µg/L							
1,3-Dichloropropane	ND	0.50	µg/L							
2,2-Dichloropropane	ND	1.0	µg/L							
1,1-Dichloropropene	ND	2.0	µg/L							
cis-1,3-Dichloropropene	ND	0.50	µg/L							
trans-1,3-Dichloropropene	ND	0.50	µg/L							
Diethyl Ether	ND	2.0	µg/L							
Diisopropyl Ether (DIPE)	ND	0.50	µg/L							
1,4-Dioxane	ND	50	µg/L							
Ethylbenzene	ND	1.0	µg/L							
Hexachlorobutadiene	ND	0.60	µg/L							
2-Hexanone (MBK)	ND	10	µg/L							
Isopropylbenzene (Cumene)	ND	1.0	µg/L							
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L							
Methyl Acetate	ND	1.0	µg/L							

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**QUALITY CONTROL**

**Volatile Organic Compounds by GC/MS - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B261123 - SW-846 5030B**

**Blank (B261123-BLK1)**

Prepared & Analyzed: 07/01/20

Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L							
Methyl Cyclohexane	ND	1.0	µg/L							
Methylene Chloride	ND	5.0	µg/L							
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L							
Naphthalene	ND	2.0	µg/L							
n-Propylbenzene	ND	1.0	µg/L							
Styrene	ND	1.0	µg/L							
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L							
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L							
Tetrachloroethylene	ND	1.0	µg/L							
Tetrahydrofuran	ND	10	µg/L							
Toluene	ND	1.0	µg/L							
1,2,3-Trichlorobenzene	ND	5.0	µg/L							
1,2,4-Trichlorobenzene	ND	1.0	µg/L							
1,3,5-Trichlorobenzene	ND	1.0	µg/L							
1,1,1-Trichloroethane	ND	1.0	µg/L							
1,1,2-Trichloroethane	ND	1.0	µg/L							
Trichloroethylene	ND	1.0	µg/L							
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L							
1,2,3-Trichloropropane	ND	2.0	µg/L							
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	µg/L							
1,2,4-Trimethylbenzene	ND	1.0	µg/L							
1,3,5-Trimethylbenzene	ND	1.0	µg/L							
Vinyl Chloride	ND	2.0	µg/L							
m+p Xylene	ND	2.0	µg/L							
o-Xylene	ND	1.0	µg/L							
Surrogate: 1,2-Dichloroethane-d4	21.7		µg/L	25.0		87.0	70-130			
Surrogate: Toluene-d8	23.9		µg/L	25.0		95.4	70-130			
Surrogate: 4-Bromofluorobenzene	24.8		µg/L	25.0		99.4	70-130			

**LCS (B261123-BS1)**

Prepared & Analyzed: 07/01/20

Acetone	82.0	50	µg/L	100		82.0	70-160			†
Acrylonitrile	7.87	5.0	µg/L	10.0		78.7	70-130		V-05	
tert-Amyl Methyl Ether (TAME)	8.75	0.50	µg/L	10.0		87.5	70-130			
Benzene	8.99	1.0	µg/L	10.0		89.9	70-130			
Bromobenzene	11.1	1.0	µg/L	10.0		111	70-130			
Bromochloromethane	9.16	1.0	µg/L	10.0		91.6	70-130			
Bromodichloromethane	10.4	0.50	µg/L	10.0		104	70-130			
Bromoform	12.1	1.0	µg/L	10.0		121	70-130			
Bromomethane	7.83	2.0	µg/L	10.0		78.3	40-160		V-05	†
2-Butanone (MEK)	80.5	20	µg/L	100		80.5	40-160			†
tert-Butyl Alcohol (TBA)	87.4	20	µg/L	100		87.4	40-160			†
n-Butylbenzene	9.87	1.0	µg/L	10.0		98.7	70-130			
sec-Butylbenzene	10.1	1.0	µg/L	10.0		101	70-130			
tert-Butylbenzene	10.3	1.0	µg/L	10.0		103	70-130			
tert-Butyl Ethyl Ether (TBEE)	8.39	0.50	µg/L	10.0		83.9	70-130			
Carbon Disulfide	97.0	5.0	µg/L	100		97.0	70-130			
Carbon Tetrachloride	10.0	5.0	µg/L	10.0		100	70-130			
Chlorobenzene	11.8	1.0	µg/L	10.0		118	70-130			
Chlorodibromomethane	10.8	0.50	µg/L	10.0		108	70-130			
Chloroethane	9.25	2.0	µg/L	10.0		92.5	70-130			
Chloroform	9.48	2.0	µg/L	10.0		94.8	70-130			

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**QUALITY CONTROL**

**Volatile Organic Compounds by GC/MS - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B261123 - SW-846 5030B</b>										
<b>LCS (B261123-BS1)</b>										
Prepared & Analyzed: 07/01/20										
Chloromethane	8.21	2.0	µg/L	10.0		82.1	40-160			V-05 †
2-Chlorotoluene	11.3	1.0	µg/L	10.0		113	70-130			
4-Chlorotoluene	11.4	1.0	µg/L	10.0		114	70-130			
1,2-Dibromo-3-chloropropane (DBCP)	8.95	5.0	µg/L	10.0		89.5	70-130			
1,2-Dibromoethane (EDB)	10.7	0.50	µg/L	10.0		107	70-130			
Dibromomethane	10.7	1.0	µg/L	10.0		107	70-130			
1,2-Dichlorobenzene	10.8	1.0	µg/L	10.0		108	70-130			
1,3-Dichlorobenzene	11.1	1.0	µg/L	10.0		111	70-130			
1,4-Dichlorobenzene	11.0	1.0	µg/L	10.0		110	70-130			
trans-1,4-Dichloro-2-butene	10.0	2.0	µg/L	10.0		100	70-130			
Dichlorodifluoromethane (Freon 12)	10.6	2.0	µg/L	10.0		106	40-160			†
1,1-Dichloroethane	8.88	1.0	µg/L	10.0		88.8	70-130			
1,2-Dichloroethane	9.33	1.0	µg/L	10.0		93.3	70-130			
1,1-Dichloroethylene	9.60	1.0	µg/L	10.0		96.0	70-130			
cis-1,2-Dichloroethylene	8.89	1.0	µg/L	10.0		88.9	70-130			
trans-1,2-Dichloroethylene	8.72	1.0	µg/L	10.0		87.2	70-130			
1,2-Dichloropropane	9.59	1.0	µg/L	10.0		95.9	70-130			
1,3-Dichloropropane	10.2	0.50	µg/L	10.0		102	70-130			
2,2-Dichloropropane	9.16	1.0	µg/L	10.0		91.6	40-130			†
1,1-Dichloropropene	9.22	2.0	µg/L	10.0		92.2	70-130			
cis-1,3-Dichloropropene	9.83	0.50	µg/L	10.0		98.3	70-130			
trans-1,3-Dichloropropene	9.86	0.50	µg/L	10.0		98.6	70-130			
Diethyl Ether	8.80	2.0	µg/L	10.0		88.0	70-130			
Diisopropyl Ether (DIPE)	7.99	0.50	µg/L	10.0		79.9	70-130			
1,4-Dioxane	101	50	µg/L	100		101	40-130			†
Ethylbenzene	11.2	1.0	µg/L	10.0		112	70-130			
Hexachlorobutadiene	12.3	0.60	µg/L	10.0		123	70-130			
2-Hexanone (MBK)	89.6	10	µg/L	100		89.6	70-160			†
Isopropylbenzene (Cumene)	11.4	1.0	µg/L	10.0		114	70-130			
p-Isopropyltoluene (p-Cymene)	10.4	1.0	µg/L	10.0		104	70-130			
Methyl Acetate	8.38	1.0	µg/L	10.0		83.8	70-130			
Methyl tert-Butyl Ether (MTBE)	8.60	1.0	µg/L	10.0		86.0	70-130			
Methyl Cyclohexane	9.98	1.0	µg/L	10.0		99.8	70-130			
Methylene Chloride	8.39	5.0	µg/L	10.0		83.9	70-130			
4-Methyl-2-pentanone (MIBK)	88.9	10	µg/L	100		88.9	70-160			†
Naphthalene	9.43	2.0	µg/L	10.0		94.3	40-130			†
n-Propylbenzene	11.2	1.0	µg/L	10.0		112	70-130			
Styrene	11.6	1.0	µg/L	10.0		116	70-130			
1,1,1,2-Tetrachloroethane	12.0	1.0	µg/L	10.0		120	70-130			
1,1,1,2,2-Tetrachloroethane	11.1	0.50	µg/L	10.0		111	70-130			
Tetrachloroethylene	11.9	1.0	µg/L	10.0		119	70-130			
Tetrahydrofuran	8.16	10	µg/L	10.0		81.6	70-130			
Toluene	10.2	1.0	µg/L	10.0		102	70-130			
1,2,3-Trichlorobenzene	11.3	5.0	µg/L	10.0		113	70-130			
1,2,4-Trichlorobenzene	11.1	1.0	µg/L	10.0		111	70-130			
1,3,5-Trichlorobenzene	11.2	1.0	µg/L	10.0		112	70-130			
1,1,1-Trichloroethane	9.62	1.0	µg/L	10.0		96.2	70-130			
1,1,2-Trichloroethane	10.5	1.0	µg/L	10.0		105	70-130			
Trichloroethylene	10.4	1.0	µg/L	10.0		104	70-130			
Trichlorofluoromethane (Freon 11)	10.6	2.0	µg/L	10.0		106	70-130			
1,2,3-Trichloropropane	11.1	2.0	µg/L	10.0		111	70-130			

QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B261123 - SW-846 5030B

LCS (B261123-BS1)

Prepared & Analyzed: 07/01/20

1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	10.1	1.0	µg/L	10.0		101	70-130			
1,2,4-Trimethylbenzene	10.1	1.0	µg/L	10.0		101	70-130			
1,3,5-Trimethylbenzene	11.6	1.0	µg/L	10.0		116	70-130			
Vinyl Chloride	8.16	2.0	µg/L	10.0		81.6	40-160			†
m+p Xylene	22.1	2.0	µg/L	20.0		111	70-130			
o-Xylene	11.3	1.0	µg/L	10.0		113	70-130			
Surrogate: 1,2-Dichloroethane-d4	21.7		µg/L	25.0		86.8	70-130			
Surrogate: Toluene-d8	23.9		µg/L	25.0		95.7	70-130			
Surrogate: 4-Bromofluorobenzene	25.4		µg/L	25.0		102	70-130			

LCS Dup (B261123-BSD1)

Prepared & Analyzed: 07/01/20

Acetone	75.5	50	µg/L	100		75.5	70-160	8.14	25	†
Acrylonitrile	7.50	5.0	µg/L	10.0		75.0	70-130	4.81	25	V-05
tert-Amyl Methyl Ether (TAME)	8.29	0.50	µg/L	10.0		82.9	70-130	5.40	25	
Benzene	8.62	1.0	µg/L	10.0		86.2	70-130	4.20	25	
Bromobenzene	10.4	1.0	µg/L	10.0		104	70-130	6.33	25	
Bromochloromethane	8.78	1.0	µg/L	10.0		87.8	70-130	4.24	25	
Bromodichloromethane	9.86	0.50	µg/L	10.0		98.6	70-130	4.85	25	
Bromoform	11.6	1.0	µg/L	10.0		116	70-130	4.56	25	
Bromomethane	9.33	2.0	µg/L	10.0		93.3	40-160	17.5	25	V-05 †
2-Butanone (MEK)	73.9	20	µg/L	100		73.9	40-160	8.50	25	†
tert-Butyl Alcohol (TBA)	82.3	20	µg/L	100		82.3	40-160	6.00	25	†
n-Butylbenzene	9.38	1.0	µg/L	10.0		93.8	70-130	5.09	25	
sec-Butylbenzene	9.68	1.0	µg/L	10.0		96.8	70-130	4.44	25	
tert-Butylbenzene	9.84	1.0	µg/L	10.0		98.4	70-130	4.37	25	
tert-Butyl Ethyl Ether (TBEE)	8.12	0.50	µg/L	10.0		81.2	70-130	3.27	25	
Carbon Disulfide	95.3	5.0	µg/L	100		95.3	70-130	1.79	25	
Carbon Tetrachloride	9.88	5.0	µg/L	10.0		98.8	70-130	1.21	25	
Chlorobenzene	11.5	1.0	µg/L	10.0		115	70-130	2.74	25	
Chlorodibromomethane	10.3	0.50	µg/L	10.0		103	70-130	4.26	25	
Chloroethane	8.71	2.0	µg/L	10.0		87.1	70-130	6.01	25	
Chloroform	9.16	2.0	µg/L	10.0		91.6	70-130	3.43	25	
Chloromethane	7.98	2.0	µg/L	10.0		79.8	40-160	2.84	25	V-05 †
2-Chlorotoluene	10.6	1.0	µg/L	10.0		106	70-130	6.12	25	
4-Chlorotoluene	10.9	1.0	µg/L	10.0		109	70-130	4.41	25	
1,2-Dibromo-3-chloropropane (DBCP)	8.22	5.0	µg/L	10.0		82.2	70-130	8.50	25	
1,2-Dibromoethane (EDB)	10.5	0.50	µg/L	10.0		105	70-130	2.07	25	
Dibromomethane	10.2	1.0	µg/L	10.0		102	70-130	4.87	25	
1,2-Dichlorobenzene	10.3	1.0	µg/L	10.0		103	70-130	5.21	25	
1,3-Dichlorobenzene	10.4	1.0	µg/L	10.0		104	70-130	6.87	25	
1,4-Dichlorobenzene	10.5	1.0	µg/L	10.0		105	70-130	4.54	25	
trans-1,4-Dichloro-2-butene	9.85	2.0	µg/L	10.0		98.5	70-130	1.81	25	
Dichlorodifluoromethane (Freon 12)	10.5	2.0	µg/L	10.0		105	40-160	0.379	25	†
1,1-Dichloroethane	8.63	1.0	µg/L	10.0		86.3	70-130	2.86	25	
1,2-Dichloroethane	9.13	1.0	µg/L	10.0		91.3	70-130	2.17	25	
1,1-Dichloroethylene	9.24	1.0	µg/L	10.0		92.4	70-130	3.82	25	
cis-1,2-Dichloroethylene	8.61	1.0	µg/L	10.0		86.1	70-130	3.20	25	
trans-1,2-Dichloroethylene	8.54	1.0	µg/L	10.0		85.4	70-130	2.09	25	
1,2-Dichloropropane	9.37	1.0	µg/L	10.0		93.7	70-130	2.32	25	
1,3-Dichloropropane	9.82	0.50	µg/L	10.0		98.2	70-130	4.09	25	
2,2-Dichloropropane	8.98	1.0	µg/L	10.0		89.8	40-130	1.98	25	†
1,1-Dichloropropene	9.14	2.0	µg/L	10.0		91.4	70-130	0.871	25	

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B261123 - SW-846 5030B</b>										
<b>LCS Dup (B261123-BSD1)</b>										
					Prepared & Analyzed: 07/01/20					
cis-1,3-Dichloropropene	9.55	0.50	µg/L	10.0		95.5	70-130	2.89	25	
trans-1,3-Dichloropropene	9.39	0.50	µg/L	10.0		93.9	70-130	4.88	25	
Diethyl Ether	8.40	2.0	µg/L	10.0		84.0	70-130	4.65	25	
Diisopropyl Ether (DIPE)	7.67	0.50	µg/L	10.0		76.7	70-130	4.09	25	
1,4-Dioxane	98.0	50	µg/L	100		98.0	40-130	2.75	50	† ‡
Ethylbenzene	10.7	1.0	µg/L	10.0		107	70-130	3.93	25	
Hexachlorobutadiene	11.4	0.60	µg/L	10.0		114	70-130	7.43	25	
2-Hexanone (MBK)	85.0	10	µg/L	100		85.0	70-160	5.33	25	†
Isopropylbenzene (Cumene)	11.1	1.0	µg/L	10.0		111	70-130	2.31	25	
p-Isopropyltoluene (p-Cymene)	9.98	1.0	µg/L	10.0		99.8	70-130	4.03	25	
Methyl Acetate	7.21	1.0	µg/L	10.0		72.1	70-130	15.0	25	
Methyl tert-Butyl Ether (MTBE)	8.16	1.0	µg/L	10.0		81.6	70-130	5.25	25	
Methyl Cyclohexane	9.99	1.0	µg/L	10.0		99.9	70-130	0.100	25	
Methylene Chloride	8.14	5.0	µg/L	10.0		81.4	70-130	3.02	25	
4-Methyl-2-pentanone (MIBK)	84.8	10	µg/L	100		84.8	70-160	4.79	25	†
Naphthalene	8.96	2.0	µg/L	10.0		89.6	40-130	5.11	25	†
n-Propylbenzene	10.7	1.0	µg/L	10.0		107	70-130	3.84	25	
Styrene	11.0	1.0	µg/L	10.0		110	70-130	5.04	25	
1,1,1,2-Tetrachloroethane	11.5	1.0	µg/L	10.0		115	70-130	4.18	25	
1,1,2,2-Tetrachloroethane	10.8	0.50	µg/L	10.0		108	70-130	3.29	25	
Tetrachloroethylene	11.5	1.0	µg/L	10.0		115	70-130	2.90	25	
Tetrahydrofuran	7.68	10	µg/L	10.0		76.8	70-130	6.06	25	
Toluene	10.0	1.0	µg/L	10.0		100	70-130	2.07	25	
1,2,3-Trichlorobenzene	10.6	5.0	µg/L	10.0		106	70-130	6.37	25	
1,2,4-Trichlorobenzene	10.6	1.0	µg/L	10.0		106	70-130	5.16	25	
1,3,5-Trichlorobenzene	10.6	1.0	µg/L	10.0		106	70-130	5.51	25	
1,1,1-Trichloroethane	9.39	1.0	µg/L	10.0		93.9	70-130	2.42	25	
1,1,2-Trichloroethane	10.3	1.0	µg/L	10.0		103	70-130	2.41	25	
Trichloroethylene	10.4	1.0	µg/L	10.0		104	70-130	0.0964	25	
Trichlorofluoromethane (Freon 11)	10.3	2.0	µg/L	10.0		103	70-130	3.26	25	
1,2,3-Trichloropropane	10.3	2.0	µg/L	10.0		103	70-130	6.92	25	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	10.2	1.0	µg/L	10.0		102	70-130	0.689	25	
1,2,4-Trimethylbenzene	9.56	1.0	µg/L	10.0		95.6	70-130	5.49	25	
1,3,5-Trimethylbenzene	11.0	1.0	µg/L	10.0		110	70-130	5.14	25	
Vinyl Chloride	8.06	2.0	µg/L	10.0		80.6	40-160	1.23	25	†
m+p Xylene	21.3	2.0	µg/L	20.0		106	70-130	3.78	25	
o-Xylene	10.9	1.0	µg/L	10.0		109	70-130	3.69	25	
Surrogate: 1,2-Dichloroethane-d4	21.0		µg/L	25.0		83.9	70-130			
Surrogate: Toluene-d8	24.0		µg/L	25.0		95.9	70-130			
Surrogate: 4-Bromofluorobenzene	25.6		µg/L	25.0		102	70-130			

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**FLAG/QUALIFIER SUMMARY**

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
V-05	Continuing calibration verification (CCV) did not meet method specifications and was biased on the low side for this compound.

## CERTIFICATIONS

## Certified Analyses included in this Report

Analyte	Certifications
<i>SW-846 8260C-D in Water</i>	
Acetone	CT,ME,NH,VA,NY
Acrylonitrile	CT,ME,NH,VA,NY
tert-Amyl Methyl Ether (TAME)	ME,NH,VA,NY
Benzene	CT,ME,NH,VA,NY
Bromobenzene	ME,NY
Bromochloromethane	ME,NH,VA,NY
Bromodichloromethane	CT,ME,NH,VA,NY
Bromoform	CT,ME,NH,VA,NY
Bromomethane	CT,ME,NH,VA,NY
2-Butanone (MEK)	CT,ME,NH,VA,NY
tert-Butyl Alcohol (TBA)	ME,NH,VA,NY
n-Butylbenzene	ME,VA,NY
sec-Butylbenzene	ME,VA,NY
tert-Butylbenzene	ME,VA,NY
tert-Butyl Ethyl Ether (TBEE)	ME,NH,VA,NY
Carbon Disulfide	CT,ME,NH,VA,NY
Carbon Tetrachloride	CT,ME,NH,VA,NY
Chlorobenzene	CT,ME,NH,VA,NY
Chlorodibromomethane	CT,ME,NH,VA,NY
Chloroethane	CT,ME,NH,VA,NY
Chloroform	CT,ME,NH,VA,NY
Chloromethane	CT,ME,NH,VA,NY
2-Chlorotoluene	ME,NH,VA,NY
4-Chlorotoluene	ME,NH,VA,NY
1,2-Dibromo-3-chloropropane (DBCP)	ME,NY
1,2-Dibromoethane (EDB)	ME,NY
Dibromomethane	ME,NH,VA,NY
1,2-Dichlorobenzene	CT,ME,NH,VA,NY
1,3-Dichlorobenzene	CT,ME,NH,VA,NY
1,4-Dichlorobenzene	CT,ME,NH,VA,NY
trans-1,4-Dichloro-2-butene	ME,NH,VA,NY
Dichlorodifluoromethane (Freon 12)	ME,NH,VA,NY
1,1-Dichloroethane	CT,ME,NH,VA,NY
1,2-Dichloroethane	CT,ME,NH,VA,NY
1,1-Dichloroethylene	CT,ME,NH,VA,NY
cis-1,2-Dichloroethylene	ME,NY
trans-1,2-Dichloroethylene	CT,ME,NH,VA,NY
1,2-Dichloropropane	CT,ME,NH,VA,NY
1,3-Dichloropropane	ME,VA,NY
2,2-Dichloropropane	ME,NH,VA,NY
1,1-Dichloropropene	ME,NH,VA,NY
cis-1,3-Dichloropropene	CT,ME,NH,VA,NY
trans-1,3-Dichloropropene	CT,ME,NH,VA,NY
Diethyl Ether	ME,NY
Diisopropyl Ether (DIPE)	ME,NH,VA,NY
1,4-Dioxane	ME,NY
Ethylbenzene	CT,ME,NH,VA,NY



**CERTIFICATIONS**

**Certified Analyses included in this Report**

Analyte	Certifications
<i>SW-846 8260C-D in Water</i>	
Hexachlorobutadiene	CT,ME,NH,VA,NY
2-Hexanone (MBK)	CT,ME,NH,VA,NY
Isopropylbenzene (Cumene)	ME,VA,NY
p-Isopropyltoluene (p-Cymene)	CT,ME,NH,VA,NY
Methyl Acetate	ME,NY
Methyl tert-Butyl Ether (MTBE)	CT,ME,NH,VA,NY
Methyl Cyclohexane	NY
Methylene Chloride	CT,ME,NH,VA,NY
4-Methyl-2-pentanone (MIBK)	CT,ME,NH,VA,NY
Naphthalene	ME,NH,VA,NY
n-Propylbenzene	CT,ME,NH,VA,NY
Styrene	CT,ME,NH,VA,NY
1,1,1,2-Tetrachloroethane	CT,ME,NH,VA,NY
1,1,2,2-Tetrachloroethane	CT,ME,NH,VA,NY
Tetrachloroethylene	CT,ME,NH,VA,NY
Toluene	CT,ME,NH,VA,NY
1,2,3-Trichlorobenzene	ME,NH,VA,NY
1,2,4-Trichlorobenzene	CT,ME,NH,VA,NY
1,3,5-Trichlorobenzene	ME
1,1,1-Trichloroethane	CT,ME,NH,VA,NY
1,1,2-Trichloroethane	CT,ME,NH,VA,NY
Trichloroethylene	CT,ME,NH,VA,NY
Trichlorofluoromethane (Freon 11)	CT,ME,NH,VA,NY
1,2,3-Trichloropropane	ME,NH,VA,NY
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	VA,NY
1,2,4-Trimethylbenzene	ME,VA,NY
1,3,5-Trimethylbenzene	ME,VA,NY
Vinyl Chloride	CT,ME,NH,VA,NY
m+p Xylene	CT,ME,NH,VA,NY
o-Xylene	CT,ME,NH,VA,NY

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

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2017	100033	03/1/2022
MA	Massachusetts DEP	M-MA100	06/30/2021
CT	Connecticut Department of Public Health	PH-0567	09/30/2021
NY	New York State Department of Health	10899 NELAP	04/1/2021
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2021
RI	Rhode Island Department of Health	LAO00112	12/30/2020
NC	North Carolina Div. of Water Quality	652	12/31/2020
NJ	New Jersey DEP	MA007 NELAP	06/30/2021
FL	Florida Department of Health	E871027 NELAP	06/30/2021
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2021
ME	State of Maine	2011028	06/9/2021
VA	Commonwealth of Virginia	460217	12/14/2020
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2020
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2021
NC-DW	North Carolina Department of Health	25703	07/31/2020
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2021



39 Spruce Street  
East Longmeadow, MA 01028

Fax: 413-525-6405  
Email: info@con-testlabs.com

Address: 404 Wyman Street, Waltham, MA  
Phone: 781-419-7714  
Project Location: Hope Mill  
Project Number: 7512-009  
Project Manager: Craig Pomeroy  
Con-Test Quote Name/Number:  
Invoice Recipient: becabral@essgroup.com  
Sampled By: W. Phillips & M. O'Brien

Requested Turnaround Time:  10-Day (std)  10-Day (std)  Field Filtered  Field Filtered  
 1-Day  3-Day  4-Day  Lab to Filter  Lab to Filter  
 Format: PDF  EXCEL   
 Other:   
 CLP Like Data Plg Required:   
 Email To: cpardis@essgroup  
 Fax To #:

ANALYSIS REQUESTED		Preservation Code
H		Conc. Use Only
		Total Number Of:
		VIALS 17
		GLASS
		PLASTIC
		BACTERIA
		ENCORE
		Glassware in the fridge? Y/N
		Glassware in freezer? Y/N
		Prepackaged Cooler? Y/N
		*Context is not responsible for missing samples from prepacked coolers
		1 Matrix Codes: GW = Ground Water WW = Waste Water DW = Drinking Water A = Air S = Soil SL = Sludge SOL = Solid O = Other (please define)
		2 Preservation Codes: I = Iced H = HCL M = Methanol S = Sulfuric Acid B = Sodium Bisulfate X = Sodium Hydroxide T = Sodium Thiosulfate O = Other (please define)

Ending Date/Time	Matrix Code	COMP/GRAB	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE
6/30/20	GW	Grab	3				
6/25/20	GW	Grab	3				
6/30/20	GW	Grab	3				
6/30/20	GW	Grab	3				

Beginning Date/Time	Client Sample ID / Description	Conc Code	Matrix Code	COMP/GRAB	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE
6/30/20	MW-14	V	GW	Grab	3				
6/25/20	MW-15	V	GW	Grab	3				
6/30/20	MW-16	V	GW	Grab	3				
6/30/20	MW-17	V	GW	Grab	3				

Client Comments:  
 Date/Time: 6/30/20 1400  
 Date/Time: 6/30/20 1400  
 Date/Time: 6/30/20 1355  
 Date/Time: 6/30/20 1555  
 Date/Time: 6/30/20 1705  
 Date/Time: 6/30/20 1705

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

Project Entity:  
 Government  Municipality   
 Federal  21 J   
 City  Brownfield

Other:  
 MWRA  School   
 MBTA  MBTA   
 WRTA  WRTA   
 Chromatogram   
 AIHA-LAP, LLC

Requisitioned by: (signature)  
 Received by: (signature)  
 Requisitioned by: (signature)  
 Received by: (signature)  
 Requisitioned by: (signature)  
 Received by: (signature)

Lab Comments:  
 please standards to meet for laboratory PLS =  
 R.I.D.E.M G.A G.W objective

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

I Have Not Confirmed Sample Container Numbers With Lab Staff Before Relinquishing Over Samples \_\_\_\_\_



**con-test**<sup>®</sup>  
ANALYTICAL LABORATORY

Doc# 277 Rev 5 2017

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

Client ESS Group  
 Received By BDL Date 6/30/20 Time 1:05  
 How were the samples received? In Cooler T No Cooler \_\_\_\_\_ On Ice T No Ice \_\_\_\_\_  
 Direct from Sampling \_\_\_\_\_ Ambient \_\_\_\_\_ Melted Ice \_\_\_\_\_  
 Were samples within Temperature? 2-6°C T By Gun # 2 Actual Temp - 2.0  
 By Blank # \_\_\_\_\_ Actual Temp - \_\_\_\_\_  
 Was Custody Seal Intact? T Were Samples Tampered with? na  
 Was COC Relinquished? T Does Chain Agree With Samples? T  
 Are there broken/leaking/loose caps on any samples? F  
 Is COC in ink/ Legible? T Were samples received within holding time? T  
 Did COC include all pertinent Information? Client T Analysis T Sampler Name T  
 Project T ID's T Collection Dates/Times T  
 Are Sample labels filled out and legible? T  
 Are there Lab to Filters? F Who was notified? \_\_\_\_\_  
 Are there Rushes? F Who was notified? \_\_\_\_\_  
 Are there Short Holds? F Who was notified? \_\_\_\_\_  
 Is there enough Volume? T  
 Is there Headspace where applicable? F MS/MSD? F  
 Proper Media/Containers Used? T Is splitting samples required? F  
 Were trip blanks received? F On COC? F  
 Do all samples have the proper pH? \_\_\_\_\_ Acid na Base na

Vials	#	Containers:	#	#	#
Unp-		1 Liter Amb.		1 Liter Plastic	16 oz Amb.
HCL-	<u>12</u>	500 mL Amb.		500 mL Plastic	8oz Amb/Clear
Meoh-		250 mL Amb.		250 mL Plastic	4oz Amb/Clear
Bisulfate-		Flashpoint		Col./Bacteria	2oz Amb/Clear
DI-		Other Glass		Other Plastic	Encore
Thiosulfate-		SOC Kit		Plastic Bag	Frozen:
Sulfuric-		Perchlorate		Ziplock	

**Unused Media**

Vials	#	Containers:	#	#	#
Unp-		1 Liter Amb.		1 Liter Plastic	16 oz Amb.
HCL-		500 mL Amb.		500 mL Plastic	8oz Amb/Clear
Meoh-		250 mL Amb.		250 mL Plastic	4oz Amb/Clear
Bisulfate-		Col./Bacteria		Flashpoint	2oz Amb/Clear
DI-		Other Plastic		Other Glass	Encore
Thiosulfate-		SOC Kit		Plastic Bag	Frozen:
Sulfuric-		Perchlorate		Ziplock	

Comments:

July 14, 2020

Craig Paradis  
ESS Group Inc.  
404 Wyman St. Suite 375  
Waltham, MA 02451

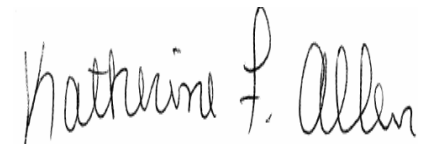
Project Location: 5 Main Street, Hope, RI  
Client Job Number:  
Project Number: P312-009  
Laboratory Work Order Number: 20G0090

Enclosed are results of analyses for samples received by the laboratory on July 2, 2020. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jessica L. Hoffman  
Project Manager



QA Officer  
Katherine Allen



Laboratory Manager  
Daren Damboragian

ESS Group Inc.  
 404 Wyman St. Suite 375  
 Waltham, MA 02451  
 ATTN: Craig Paradis

REPORT DATE: 7/14/2020

PURCHASE ORDER NUMBER:

PROJECT NUMBER: P312-009

**ANALYTICAL SUMMARY**

WORK ORDER NUMBER: 20G0090

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

PROJECT LOCATION: 5 Main Street, Hope, RI

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
SW-1	20G0090-01	Soil		SM 2540G SW-846 8100 Modified SW-846 8260C-D	
SW-2	20G0090-02	Soil		SM 2540G SW-846 8100 Modified SW-846 8260C-D	
SW-3	20G0090-03	Soil		SM 2540G SW-846 8100 Modified SW-846 8260C-D	
SW-4	20G0090-04	Soil		SM 2540G SW-846 8100 Modified SW-846 8260C-D	
BTM-1	20G0090-05	Soil		SM 2540G SW-846 8100 Modified SW-846 8260C-D	

**CASE NARRATIVE SUMMARY**

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

**SW-846 8260C-D**

**Qualifications:**

Laboratory fortified blank/laboratory control sample recovery and duplicate recoveries outside of control limits. Data validation is not affected since all results are "not detected" for associated samples in this batch and bias is on the high side.

**Analyte & Samples(s) Qualified:**

**Methyl Acetate**

B261338-BS1, B261338-BSD1

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

**Analyte & Samples(s) Qualified:**

**Naphthalene**

20G0090-01[SW-1], 20G0090-02[SW-2], 20G0090-03[SW-3], 20G0090-04[SW-4], 20G0090-05[BTM-1], B261338-BLK1, B261338-BS1, B261338-BSD1, S049998-CCV1

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

**Analyte & Samples(s) Qualified:**

**Acetone, Chloromethane, Methyl Acetate**

B261338-BS1, B261338-BSD1, S049998-CCV1

Initial calibration verification (ICV) did not meet method specifications and was biased on the low side for this compound. Reported result is estimated.

**Analyte & Samples(s) Qualified:**

**Bromomethane**

20G0090-01[SW-1], 20G0090-02[SW-2], 20G0090-03[SW-3], 20G0090-04[SW-4], 20G0090-05[BTM-1], B261338-BLK1, B261338-BS1, B261338-BSD1, S049998-CCV1

**SW-846 8100 Modified**

TPH (C9-C36) is quantitated against a calibration made with a diesel standard.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Lisa A. Worthington  
Technical Representative

Project Location: 5 Main Street, Hope, RI

Sample Description:

Work Order: 20G0090

Date Received: 7/2/2020

Field Sample #: SW-1

Sampled: 7/1/2020 16:30

Sample ID: 20G0090-01

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	0.015	0.066	0.0055	mg/Kg dry	1	J	SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
Acrylonitrile	ND	0.0039	0.00066	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.00066	0.00020	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
Benzene	ND	0.0013	0.00039	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
Bromobenzene	ND	0.0013	0.00026	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
Bromochloromethane	ND	0.0013	0.00052	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
Bromodichloromethane	ND	0.0013	0.00033	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
Bromoform	ND	0.0013	0.00046	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
Bromomethane	ND	0.0066	0.00072	mg/Kg dry	1	V-34	SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
2-Butanone (MEK)	ND	0.026	0.0036	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
tert-Butyl Alcohol (TBA)	ND	0.026	0.0030	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
n-Butylbenzene	ND	0.0013	0.00033	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
sec-Butylbenzene	ND	0.0013	0.00052	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
tert-Butylbenzene	ND	0.0013	0.00039	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.00066	0.00013	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
Carbon Disulfide	ND	0.0039	0.0035	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
Carbon Tetrachloride	ND	0.0013	0.00046	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
Chlorobenzene	ND	0.0013	0.00033	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
Chlorodibromomethane	ND	0.00066	0.00026	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
Chloroethane	ND	0.013	0.00052	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
Chloroform	ND	0.0026	0.00033	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
Chloromethane	ND	0.0066	0.00046	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
2-Chlorotoluene	ND	0.0013	0.00020	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
4-Chlorotoluene	ND	0.0013	0.00026	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0013	0.00066	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
1,2-Dibromoethane (EDB)	ND	0.00066	0.00046	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
Dibromomethane	ND	0.0013	0.00052	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
1,2-Dichlorobenzene	ND	0.0013	0.00026	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
1,3-Dichlorobenzene	ND	0.0013	0.00026	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
1,4-Dichlorobenzene	ND	0.0013	0.00052	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
trans-1,4-Dichloro-2-butene	ND	0.0026	0.00039	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.013	0.00072	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
1,1-Dichloroethane	ND	0.0013	0.00026	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
1,2-Dichloroethane	ND	0.0013	0.00033	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
1,1-Dichloroethylene	ND	0.0026	0.00046	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
cis-1,2-Dichloroethylene	ND	0.0013	0.00046	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
trans-1,2-Dichloroethylene	ND	0.0013	0.00039	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
1,2-Dichloropropane	ND	0.0013	0.00052	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
1,3-Dichloropropane	ND	0.00066	0.00033	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
2,2-Dichloropropane	ND	0.0013	0.00052	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
1,1-Dichloropropene	ND	0.0013	0.00052	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
cis-1,3-Dichloropropene	ND	0.00066	0.00026	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
trans-1,3-Dichloropropene	ND	0.00066	0.00026	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF



Project Location: 5 Main Street, Hope, RI

Sample Description:

Work Order: 20G0090

Date Received: 7/2/2020

Field Sample #: SW-1

Sampled: 7/1/2020 16:30

Sample ID: 20G0090-01

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Diethyl Ether	ND	0.013	0.00046	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
Diisopropyl Ether (DIPE)	ND	0.00066	0.00013	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
1,4-Dioxane	ND	0.066	0.0035	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
Ethylbenzene	ND	0.0013	0.00039	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
Hexachlorobutadiene	ND	0.0013	0.00046	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
2-Hexanone (MBK)	ND	0.013	0.0013	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
Isopropylbenzene (Cumene)	ND	0.0013	0.00039	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0013	0.00033	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
Methyl Acetate	ND	0.0013	0.00046	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0026	0.00020	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
Methyl Cyclohexane	ND	0.0013	0.00046	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
Methylene Chloride	0.0014	0.013	0.00066	mg/Kg dry	1	J	SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.013	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
Naphthalene	ND	0.0026	0.00026	mg/Kg dry	1	V-05	SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
n-Propylbenzene	ND	0.0013	0.00039	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
Styrene	ND	0.0013	0.00026	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
1,1,1,2-Tetrachloroethane	ND	0.0013	0.00066	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
1,1,2,2-Tetrachloroethane	ND	0.00066	0.00026	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
Tetrachloroethylene	ND	0.0013	0.00079	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
Tetrahydrofuran	ND	0.0066	0.00072	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
Toluene	ND	0.0013	0.00039	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
1,2,3-Trichlorobenzene	ND	0.0013	0.00066	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
1,2,4-Trichlorobenzene	ND	0.0013	0.00026	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
1,3,5-Trichlorobenzene	ND	0.0013	0.00020	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
1,1,1-Trichloroethane	ND	0.0013	0.00033	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
1,1,2-Trichloroethane	ND	0.0013	0.00026	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
Trichloroethylene	ND	0.0013	0.00052	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
Trichlorofluoromethane (Freon 11)	ND	0.0066	0.00046	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
1,2,3-Trichloropropane	ND	0.0013	0.00052	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.0066	0.00052	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
1,2,4-Trimethylbenzene	ND	0.0013	0.00020	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
1,3,5-Trimethylbenzene	ND	0.0013	0.00033	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
Vinyl Chloride	ND	0.0066	0.00059	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
m+p Xylene	ND	0.0026	0.00066	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
o-Xylene	ND	0.0013	0.00039	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:17	MFF
Surrogates		% Recovery	Recovery Limits			Flag/Qual				
1,2-Dichloroethane-d4		106	70-130						7/6/20 11:17	
Toluene-d8		104	70-130						7/6/20 11:17	
4-Bromofluorobenzene		100	70-130						7/6/20 11:17	

Project Location: 5 Main Street, Hope, RI

Sample Description:

Work Order: 20G0090

Date Received: 7/2/2020

Sampled: 7/1/2020 16:30

Field Sample #: SW-1

Sample ID: 20G0090-01

Sample Matrix: Soil

**Petroleum Hydrocarbons Analyses**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
TPH (C9-C36)	ND	9.2	mg/Kg dry	1		SW-846 8100 Modified	7/7/20	7/10/20 13:31	RDD
Surrogates	% Recovery		Recovery Limits		Flag/Qual				
2-Fluorobiphenyl	40.6		40-140					7/10/20 13:31	

Project Location: 5 Main Street, Hope, RI

Sample Description:

Work Order: 20G0090

Date Received: 7/2/2020

Sampled: 7/1/2020 16:30

Field Sample #: SW-1

Sample ID: 20G0090-01

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	88.9		% Wt	1		SM 2540G	7/3/20	7/6/20 7:49	JS

Project Location: 5 Main Street, Hope, RI

Sample Description:

Work Order: 20G0090

Date Received: 7/2/2020

Field Sample #: SW-2

Sampled: 7/1/2020 16:40

Sample ID: 20G0090-02

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	0.036	0.063	0.0053	mg/Kg dry	1	J	SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
Acrylonitrile	ND	0.0038	0.00063	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.00063	0.00019	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
Benzene	ND	0.0013	0.00038	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
Bromobenzene	ND	0.0013	0.00025	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
Bromochloromethane	ND	0.0013	0.00051	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
Bromodichloromethane	ND	0.0013	0.00032	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
Bromoform	ND	0.0013	0.00044	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
Bromomethane	ND	0.0063	0.00070	mg/Kg dry	1	V-34	SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
2-Butanone (MEK)	0.0048	0.025	0.0035	mg/Kg dry	1	J	SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
tert-Butyl Alcohol (TBA)	ND	0.025	0.0028	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
n-Butylbenzene	ND	0.0013	0.00032	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
sec-Butylbenzene	ND	0.0013	0.00051	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
tert-Butylbenzene	ND	0.0013	0.00038	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.00063	0.00013	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
Carbon Disulfide	ND	0.0038	0.0034	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
Carbon Tetrachloride	ND	0.0013	0.00044	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
Chlorobenzene	ND	0.0013	0.00032	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
Chlorodibromomethane	ND	0.00063	0.00025	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
Chloroethane	ND	0.013	0.00051	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
Chloroform	ND	0.0025	0.00032	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
Chloromethane	ND	0.0063	0.00044	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
2-Chlorotoluene	ND	0.0013	0.00019	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
4-Chlorotoluene	ND	0.0013	0.00025	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0013	0.00063	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
1,2-Dibromoethane (EDB)	ND	0.00063	0.00044	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
Dibromomethane	ND	0.0013	0.00051	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
1,2-Dichlorobenzene	ND	0.0013	0.00025	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
1,3-Dichlorobenzene	ND	0.0013	0.00025	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
1,4-Dichlorobenzene	ND	0.0013	0.00051	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
trans-1,4-Dichloro-2-butene	ND	0.0025	0.00038	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.013	0.00070	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
1,1-Dichloroethane	ND	0.0013	0.00025	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
1,2-Dichloroethane	ND	0.0013	0.00032	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
1,1-Dichloroethylene	ND	0.0025	0.00044	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
cis-1,2-Dichloroethylene	ND	0.0013	0.00044	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
trans-1,2-Dichloroethylene	ND	0.0013	0.00038	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
1,2-Dichloropropane	ND	0.0013	0.00051	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
1,3-Dichloropropane	ND	0.00063	0.00032	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
2,2-Dichloropropane	ND	0.0013	0.00051	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
1,1-Dichloropropene	ND	0.0013	0.00051	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
cis-1,3-Dichloropropene	ND	0.00063	0.00025	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
trans-1,3-Dichloropropene	ND	0.00063	0.00025	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF

Project Location: 5 Main Street, Hope, RI

Sample Description:

Work Order: 20G0090

Date Received: 7/2/2020

Field Sample #: SW-2

Sampled: 7/1/2020 16:40

Sample ID: 20G0090-02

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Diethyl Ether	ND	0.013	0.00044	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
Diisopropyl Ether (DIPE)	ND	0.00063	0.00013	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
1,4-Dioxane	ND	0.063	0.0034	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
Ethylbenzene	ND	0.0013	0.00038	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
Hexachlorobutadiene	ND	0.0013	0.00044	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
2-Hexanone (MBK)	ND	0.013	0.0013	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
Isopropylbenzene (Cumene)	ND	0.0013	0.00038	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0013	0.00032	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
Methyl Acetate	ND	0.0013	0.00044	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0025	0.00019	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
Methyl Cyclohexane	ND	0.0013	0.00044	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
Methylene Chloride	0.0012	0.013	0.00063	mg/Kg dry	1	J	SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.013	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
Naphthalene	ND	0.0025	0.00025	mg/Kg dry	1	V-05	SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
n-Propylbenzene	ND	0.0013	0.00038	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
Styrene	ND	0.0013	0.00025	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
1,1,1,2-Tetrachloroethane	ND	0.0013	0.00063	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
1,1,2,2-Tetrachloroethane	ND	0.00063	0.00025	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
Tetrachloroethylene	ND	0.0013	0.00076	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
Tetrahydrofuran	ND	0.0063	0.00070	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
Toluene	ND	0.0013	0.00038	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
1,2,3-Trichlorobenzene	ND	0.0013	0.00063	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
1,2,4-Trichlorobenzene	ND	0.0013	0.00025	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
1,3,5-Trichlorobenzene	ND	0.0013	0.00019	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
1,1,1-Trichloroethane	ND	0.0013	0.00032	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
1,1,2-Trichloroethane	ND	0.0013	0.00025	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
Trichloroethylene	ND	0.0013	0.00051	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
Trichlorofluoromethane (Freon 11)	ND	0.0063	0.00044	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
1,2,3-Trichloropropane	ND	0.0013	0.00051	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.0063	0.00051	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
1,2,4-Trimethylbenzene	ND	0.0013	0.00019	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
1,3,5-Trimethylbenzene	ND	0.0013	0.00032	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
Vinyl Chloride	ND	0.0063	0.00057	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
m+p Xylene	ND	0.0025	0.00063	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
o-Xylene	ND	0.0013	0.00038	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 11:44	MFF
Surrogates		% Recovery	Recovery Limits			Flag/Qual				
1,2-Dichloroethane-d4		106	70-130						7/6/20 11:44	
Toluene-d8		104	70-130						7/6/20 11:44	
4-Bromofluorobenzene		101	70-130						7/6/20 11:44	

Project Location: 5 Main Street, Hope, RI

Sample Description:

Work Order: 20G0090

Date Received: 7/2/2020

Field Sample #: SW-2

Sampled: 7/1/2020 16:40

Sample ID: 20G0090-02

Sample Matrix: Soil

**Petroleum Hydrocarbons Analyses**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
TPH (C9-C36)	43	9.7	mg/Kg dry	1		SW-846 8100 Modified	7/7/20	7/10/20 13:10	RDD
Surrogates	% Recovery		Recovery Limits		Flag/Qual				
2-Fluorobiphenyl	41.1		40-140					7/10/20 13:10	

Project Location: 5 Main Street, Hope, RI

Sample Description:

Work Order: 20G0090

Date Received: 7/2/2020

Sampled: 7/1/2020 16:40

Field Sample #: SW-2

Sample ID: 20G0090-02

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	84.2		% Wt	1		SM 2540G	7/3/20	7/6/20 7:49	JS

Project Location: 5 Main Street, Hope, RI

Sample Description:

Work Order: 20G0090

Date Received: 7/2/2020

Field Sample #: SW-3

Sampled: 7/1/2020 16:33

Sample ID: 20G0090-03

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	0.016	0.061	0.0051	mg/Kg dry	1	J	SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
Acrylonitrile	ND	0.0037	0.00061	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.00061	0.00018	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
Benzene	ND	0.0012	0.00037	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
Bromobenzene	ND	0.0012	0.00024	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
Bromochloromethane	ND	0.0012	0.00049	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
Bromodichloromethane	ND	0.0012	0.00030	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
Bromoform	ND	0.0012	0.00043	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
Bromomethane	ND	0.0061	0.00067	mg/Kg dry	1	V-34	SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
2-Butanone (MEK)	ND	0.024	0.0034	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
tert-Butyl Alcohol (TBA)	ND	0.024	0.0027	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
n-Butylbenzene	ND	0.0012	0.00030	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
sec-Butylbenzene	ND	0.0012	0.00049	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
tert-Butylbenzene	ND	0.0012	0.00037	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.00061	0.00012	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
Carbon Disulfide	ND	0.0037	0.0033	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
Carbon Tetrachloride	ND	0.0012	0.00043	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
Chlorobenzene	ND	0.0012	0.00030	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
Chlorodibromomethane	ND	0.00061	0.00024	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
Chloroethane	ND	0.012	0.00049	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
Chloroform	ND	0.0024	0.00030	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
Chloromethane	ND	0.0061	0.00043	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
2-Chlorotoluene	ND	0.0012	0.00018	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
4-Chlorotoluene	ND	0.0012	0.00024	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0012	0.00061	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
1,2-Dibromoethane (EDB)	ND	0.00061	0.00043	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
Dibromomethane	ND	0.0012	0.00049	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
1,2-Dichlorobenzene	ND	0.0012	0.00024	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
1,3-Dichlorobenzene	ND	0.0012	0.00024	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
1,4-Dichlorobenzene	ND	0.0012	0.00049	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
trans-1,4-Dichloro-2-butene	ND	0.0024	0.00037	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.012	0.00067	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
1,1-Dichloroethane	ND	0.0012	0.00024	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
1,2-Dichloroethane	ND	0.0012	0.00030	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
1,1-Dichloroethylene	ND	0.0024	0.00043	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
cis-1,2-Dichloroethylene	ND	0.0012	0.00043	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
trans-1,2-Dichloroethylene	ND	0.0012	0.00037	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
1,2-Dichloropropane	ND	0.0012	0.00049	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
1,3-Dichloropropane	ND	0.00061	0.00030	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
2,2-Dichloropropane	ND	0.0012	0.00049	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
1,1-Dichloropropene	ND	0.0012	0.00049	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
cis-1,3-Dichloropropene	ND	0.00061	0.00024	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
trans-1,3-Dichloropropene	ND	0.00061	0.00024	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF



Project Location: 5 Main Street, Hope, RI

Sample Description:

Work Order: 20G0090

Date Received: 7/2/2020

Field Sample #: SW-3

Sampled: 7/1/2020 16:33

Sample ID: 20G0090-03

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Diethyl Ether	ND	0.012	0.00043	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
Diisopropyl Ether (DIPE)	ND	0.00061	0.00012	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
1,4-Dioxane	ND	0.061	0.0032	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
Ethylbenzene	ND	0.0012	0.00037	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
Hexachlorobutadiene	ND	0.0012	0.00043	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
2-Hexanone (MBK)	ND	0.012	0.0012	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
Isopropylbenzene (Cumene)	ND	0.0012	0.00037	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0012	0.00030	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
Methyl Acetate	ND	0.0012	0.00043	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0024	0.00018	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
Methyl Cyclohexane	ND	0.0012	0.00043	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
Methylene Chloride	0.0023	0.012	0.00061	mg/Kg dry	1	J	SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.012	0.0015	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
Naphthalene	ND	0.0024	0.00024	mg/Kg dry	1	V-05	SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
n-Propylbenzene	ND	0.0012	0.00037	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
Styrene	ND	0.0012	0.00024	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
1,1,1,2-Tetrachloroethane	ND	0.0012	0.00061	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
1,1,2,2-Tetrachloroethane	ND	0.00061	0.00024	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
Tetrachloroethylene	ND	0.0012	0.00073	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
Tetrahydrofuran	ND	0.0061	0.00067	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
Toluene	ND	0.0012	0.00037	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
1,2,3-Trichlorobenzene	ND	0.0012	0.00061	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
1,2,4-Trichlorobenzene	ND	0.0012	0.00024	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
1,3,5-Trichlorobenzene	ND	0.0012	0.00018	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
1,1,1-Trichloroethane	ND	0.0012	0.00030	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
1,1,2-Trichloroethane	ND	0.0012	0.00024	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
Trichloroethylene	ND	0.0012	0.00049	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
Trichlorofluoromethane (Freon 11)	ND	0.0061	0.00043	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
1,2,3-Trichloropropane	ND	0.0012	0.00049	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.0061	0.00049	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
1,2,4-Trimethylbenzene	ND	0.0012	0.00018	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
1,3,5-Trimethylbenzene	ND	0.0012	0.00030	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
Vinyl Chloride	ND	0.0061	0.00055	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
m+p Xylene	ND	0.0024	0.00061	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
o-Xylene	ND	0.0012	0.00037	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:11	MFF
Surrogates		% Recovery	Recovery Limits			Flag/Qual				
1,2-Dichloroethane-d4		103	70-130						7/6/20 12:11	
Toluene-d8		102	70-130						7/6/20 12:11	
4-Bromofluorobenzene		104	70-130						7/6/20 12:11	

Project Location: 5 Main Street, Hope, RI

Sample Description:

Work Order: 20G0090

Date Received: 7/2/2020

Sampled: 7/1/2020 16:33

Field Sample #: SW-3

Sample ID: 20G0090-03

Sample Matrix: Soil

**Petroleum Hydrocarbons Analyses**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
TPH (C9-C36)	9.4	9.2	mg/Kg dry	1		SW-846 8100 Modified	7/7/20	7/10/20 13:51	RDD
<b>Surrogates</b>		<b>% Recovery</b>	<b>Recovery Limits</b>		<b>Flag/Qual</b>				
2-Fluorobiphenyl		45.5	40-140					7/10/20 13:51	

Project Location: 5 Main Street, Hope, RI

Sample Description:

Work Order: 20G0090

Date Received: 7/2/2020

Sampled: 7/1/2020 16:33

Field Sample #: SW-3

Sample ID: 20G0090-03

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	89.6		% Wt	1		SM 2540G	7/3/20	7/6/20 7:50	JS

Project Location: 5 Main Street, Hope, RI

Sample Description:

Work Order: 20G0090

Date Received: 7/2/2020

Field Sample #: SW-4

Sampled: 7/1/2020 16:36

Sample ID: 20G0090-04

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	0.014	0.059	0.0050	mg/Kg dry	1	J	SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
Acrylonitrile	ND	0.0036	0.00059	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.00059	0.00018	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
Benzene	ND	0.0012	0.00036	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
Bromobenzene	ND	0.0012	0.00024	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
Bromochloromethane	ND	0.0012	0.00047	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
Bromodichloromethane	ND	0.0012	0.00030	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
Bromoform	ND	0.0012	0.00041	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
Bromomethane	ND	0.0059	0.00065	mg/Kg dry	1	V-34	SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
2-Butanone (MEK)	ND	0.024	0.0033	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
tert-Butyl Alcohol (TBA)	ND	0.024	0.0027	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
n-Butylbenzene	ND	0.0012	0.00030	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
sec-Butylbenzene	ND	0.0012	0.00047	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
tert-Butylbenzene	ND	0.0012	0.00036	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.00059	0.00012	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
Carbon Disulfide	ND	0.0036	0.0032	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
Carbon Tetrachloride	ND	0.0012	0.00041	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
Chlorobenzene	ND	0.0012	0.00030	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
Chlorodibromomethane	ND	0.00059	0.00024	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
Chloroethane	ND	0.012	0.00047	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
Chloroform	ND	0.0024	0.00030	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
Chloromethane	ND	0.0059	0.00041	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
2-Chlorotoluene	ND	0.0012	0.00018	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
4-Chlorotoluene	ND	0.0012	0.00024	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0012	0.00059	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
1,2-Dibromoethane (EDB)	ND	0.00059	0.00041	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
Dibromomethane	ND	0.0012	0.00047	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
1,2-Dichlorobenzene	ND	0.0012	0.00024	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
1,3-Dichlorobenzene	ND	0.0012	0.00024	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
1,4-Dichlorobenzene	ND	0.0012	0.00047	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
trans-1,4-Dichloro-2-butene	ND	0.0024	0.00036	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.012	0.00065	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
1,1-Dichloroethane	ND	0.0012	0.00024	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
1,2-Dichloroethane	ND	0.0012	0.00030	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
1,1-Dichloroethylene	ND	0.0024	0.00041	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
cis-1,2-Dichloroethylene	ND	0.0012	0.00041	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
trans-1,2-Dichloroethylene	ND	0.0012	0.00036	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
1,2-Dichloropropane	ND	0.0012	0.00047	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
1,3-Dichloropropane	ND	0.00059	0.00030	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
2,2-Dichloropropane	ND	0.0012	0.00047	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
1,1-Dichloropropene	ND	0.0012	0.00047	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
cis-1,3-Dichloropropene	ND	0.00059	0.00024	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
trans-1,3-Dichloropropene	ND	0.00059	0.00024	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF

Project Location: 5 Main Street, Hope, RI

Sample Description:

Work Order: 20G0090

Date Received: 7/2/2020

Field Sample #: SW-4

Sampled: 7/1/2020 16:36

Sample ID: 20G0090-04

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Diethyl Ether	ND	0.012	0.00041	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
Diisopropyl Ether (DIPE)	ND	0.00059	0.00012	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
1,4-Dioxane	ND	0.059	0.0031	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
Ethylbenzene	ND	0.0012	0.00036	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
Hexachlorobutadiene	ND	0.0012	0.00041	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
2-Hexanone (MBK)	ND	0.012	0.0012	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
Isopropylbenzene (Cumene)	ND	0.0012	0.00036	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0012	0.00030	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
Methyl Acetate	ND	0.0012	0.00041	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0024	0.00018	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
Methyl Cyclohexane	ND	0.0012	0.00041	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
Methylene Chloride	0.0017	0.012	0.00059	mg/Kg dry	1	J	SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.012	0.0015	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
Naphthalene	ND	0.0024	0.00024	mg/Kg dry	1	V-05	SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
n-Propylbenzene	ND	0.0012	0.00036	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
Styrene	ND	0.0012	0.00024	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
1,1,1,2-Tetrachloroethane	ND	0.0012	0.00059	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
1,1,2,2-Tetrachloroethane	ND	0.00059	0.00024	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
Tetrachloroethylene	ND	0.0012	0.00071	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
Tetrahydrofuran	ND	0.0059	0.00065	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
Toluene	ND	0.0012	0.00036	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
1,2,3-Trichlorobenzene	ND	0.0012	0.00059	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
1,2,4-Trichlorobenzene	ND	0.0012	0.00024	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
1,3,5-Trichlorobenzene	ND	0.0012	0.00018	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
1,1,1-Trichloroethane	ND	0.0012	0.00030	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
1,1,2-Trichloroethane	ND	0.0012	0.00024	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
Trichloroethylene	ND	0.0012	0.00047	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
Trichlorofluoromethane (Freon 11)	ND	0.0059	0.00041	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
1,2,3-Trichloropropane	ND	0.0012	0.00047	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.0059	0.00047	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
1,2,4-Trimethylbenzene	ND	0.0012	0.00018	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
1,3,5-Trimethylbenzene	ND	0.0012	0.00030	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
Vinyl Chloride	ND	0.0059	0.00053	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
m+p Xylene	ND	0.0024	0.00059	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF
o-Xylene	ND	0.0012	0.00036	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 12:39	MFF

Surrogates	% Recovery	Recovery Limits	Flag/Qual
1,2-Dichloroethane-d4	102	70-130	7/6/20 12:39
Toluene-d8	101	70-130	7/6/20 12:39
4-Bromofluorobenzene	99.2	70-130	7/6/20 12:39

Project Location: 5 Main Street, Hope, RI

Sample Description:

Work Order: 20G0090

Date Received: 7/2/2020

Sampled: 7/1/2020 16:36

Field Sample #: SW-4

Sample ID: 20G0090-04

Sample Matrix: Soil

**Petroleum Hydrocarbons Analyses**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
TPH (C9-C36)	ND	9.1	mg/Kg dry	1		SW-846 8100 Modified	7/10/20	7/13/20 10:02	RDD
<b>Surrogates</b>		<b>% Recovery</b>	<b>Recovery Limits</b>		<b>Flag/Qual</b>				
2-Fluorobiphenyl		59.4	40-140					7/13/20 10:02	

Project Location: 5 Main Street, Hope, RI

Sample Description:

Work Order: 20G0090

Date Received: 7/2/2020

Sampled: 7/1/2020 16:36

Field Sample #: SW-4

Sample ID: 20G0090-04

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	89.9		% Wt	1		SM 2540G	7/3/20	7/6/20 7:50	JS

Project Location: 5 Main Street, Hope, RI

Sample Description:

Work Order: 20G0090

Date Received: 7/2/2020

Sampled: 7/1/2020 16:15

Field Sample #: BTM-1

Sample ID: 20G0090-05

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	0.013	0.069	0.0058	mg/Kg dry	1	J	SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
Acrylonitrile	ND	0.0042	0.00069	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.00069	0.00021	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
Benzene	ND	0.0014	0.00042	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
Bromobenzene	ND	0.0014	0.00028	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
Bromochloromethane	ND	0.0014	0.00055	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
Bromodichloromethane	ND	0.0014	0.00035	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
Bromoform	ND	0.0014	0.00048	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
Bromomethane	ND	0.0069	0.00076	mg/Kg dry	1	V-34	SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
2-Butanone (MEK)	ND	0.028	0.0038	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
tert-Butyl Alcohol (TBA)	ND	0.028	0.0031	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
n-Butylbenzene	ND	0.0014	0.00035	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
sec-Butylbenzene	ND	0.0014	0.00055	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
tert-Butylbenzene	ND	0.0014	0.00042	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.00069	0.00014	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
Carbon Disulfide	ND	0.0042	0.0037	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
Carbon Tetrachloride	ND	0.0014	0.00048	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
Chlorobenzene	ND	0.0014	0.00035	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
Chlorodibromomethane	ND	0.00069	0.00028	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
Chloroethane	ND	0.014	0.00055	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
Chloroform	ND	0.0028	0.00035	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
Chloromethane	ND	0.0069	0.00048	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
2-Chlorotoluene	ND	0.0014	0.00021	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
4-Chlorotoluene	ND	0.0014	0.00028	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0014	0.00069	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
1,2-Dibromoethane (EDB)	ND	0.00069	0.00048	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
Dibromomethane	ND	0.0014	0.00055	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
1,2-Dichlorobenzene	ND	0.0014	0.00028	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
1,3-Dichlorobenzene	ND	0.0014	0.00028	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
1,4-Dichlorobenzene	ND	0.0014	0.00055	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
trans-1,4-Dichloro-2-butene	ND	0.0028	0.00042	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.014	0.00076	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
1,1-Dichloroethane	ND	0.0014	0.00028	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
1,2-Dichloroethane	ND	0.0014	0.00035	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
1,1-Dichloroethylene	ND	0.0028	0.00048	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
cis-1,2-Dichloroethylene	ND	0.0014	0.00048	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
trans-1,2-Dichloroethylene	ND	0.0014	0.00042	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
1,2-Dichloropropane	ND	0.0014	0.00055	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
1,3-Dichloropropane	ND	0.00069	0.00035	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
2,2-Dichloropropane	ND	0.0014	0.00055	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
1,1-Dichloropropene	ND	0.0014	0.00055	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
cis-1,3-Dichloropropene	ND	0.00069	0.00028	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
trans-1,3-Dichloropropene	ND	0.00069	0.00028	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF



Project Location: 5 Main Street, Hope, RI

Sample Description:

Work Order: 20G0090

Date Received: 7/2/2020

Field Sample #: BTM-1

Sampled: 7/1/2020 16:15

Sample ID: 20G0090-05

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	DL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Diethyl Ether	ND	0.014	0.00048	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
Diisopropyl Ether (DIPE)	ND	0.00069	0.00014	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
1,4-Dioxane	ND	0.069	0.0037	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
Ethylbenzene	ND	0.0014	0.00042	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
Hexachlorobutadiene	ND	0.0014	0.00048	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
2-Hexanone (MBK)	ND	0.014	0.0014	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
Isopropylbenzene (Cumene)	ND	0.0014	0.00042	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0014	0.00035	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
Methyl Acetate	ND	0.0014	0.00048	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0028	0.00021	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
Methyl Cyclohexane	ND	0.0014	0.00048	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
Methylene Chloride	0.0015	0.014	0.00069	mg/Kg dry	1	J	SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.014	0.0017	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
Naphthalene	ND	0.0028	0.00028	mg/Kg dry	1	V-05	SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
n-Propylbenzene	ND	0.0014	0.00042	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
Styrene	ND	0.0014	0.00028	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
1,1,1,2-Tetrachloroethane	ND	0.0014	0.00069	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
1,1,2,2-Tetrachloroethane	ND	0.00069	0.00028	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
Tetrachloroethylene	ND	0.0014	0.00083	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
Tetrahydrofuran	ND	0.0069	0.00076	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
Toluene	ND	0.0014	0.00042	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
1,2,3-Trichlorobenzene	ND	0.0014	0.00069	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
1,2,4-Trichlorobenzene	ND	0.0014	0.00028	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
1,3,5-Trichlorobenzene	ND	0.0014	0.00021	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
1,1,1-Trichloroethane	ND	0.0014	0.00035	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
1,1,2-Trichloroethane	ND	0.0014	0.00028	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
Trichloroethylene	ND	0.0014	0.00055	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
Trichlorofluoromethane (Freon 11)	ND	0.0069	0.00048	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
1,2,3-Trichloropropane	ND	0.0014	0.00055	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.0069	0.00055	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
1,2,4-Trimethylbenzene	ND	0.0014	0.00021	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
1,3,5-Trimethylbenzene	ND	0.0014	0.00035	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
Vinyl Chloride	ND	0.0069	0.00062	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
m+p Xylene	ND	0.0028	0.00069	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
o-Xylene	ND	0.0014	0.00042	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 13:06	MFF
Surrogates		% Recovery	Recovery Limits			Flag/Qual				
1,2-Dichloroethane-d4		103	70-130						7/6/20 13:06	
Toluene-d8		101	70-130						7/6/20 13:06	
4-Bromofluorobenzene		101	70-130						7/6/20 13:06	

Project Location: 5 Main Street, Hope, RI

Sample Description:

Work Order: 20G0090

Date Received: 7/2/2020

Sampled: 7/1/2020 16:15

Field Sample #: BTM-1

Sample ID: 20G0090-05

Sample Matrix: Soil

**Petroleum Hydrocarbons Analyses**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
TPH (C9-C36)	ND	9.2	mg/Kg dry	1		SW-846 8100 Modified	7/10/20	7/13/20 10:23	RDD
Surrogates	% Recovery		Recovery Limits		Flag/Qual				
2-Fluorobiphenyl	62.1		40-140					7/13/20 10:23	

Project Location: 5 Main Street, Hope, RI

Sample Description:

Work Order: 20G0090

Date Received: 7/2/2020

Sampled: 7/1/2020 16:15

Field Sample #: BTM-1

Sample ID: 20G0090-05

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	90.4		% Wt	1		SM 2540G	7/3/20	7/6/20 7:50	JS

**Sample Extraction Data**

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

Lab Number [Field ID]	Batch	Date
20G0090-01 [SW-1]	B261288	07/03/20
20G0090-02 [SW-2]	B261288	07/03/20
20G0090-03 [SW-3]	B261288	07/03/20
20G0090-04 [SW-4]	B261288	07/03/20
20G0090-05 [BTM-1]	B261288	07/03/20

**Prep Method: SW-846 3546-SW-846 8100 Modified**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
20G0090-01 [SW-1]	B261382	30.4	1.00	07/07/20
20G0090-02 [SW-2]	B261382	30.5	1.00	07/07/20
20G0090-03 [SW-3]	B261382	30.2	1.00	07/07/20

**Prep Method: SW-846 3546-SW-846 8100 Modified**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
20G0090-04RE1 [SW-4]	B261675	30.6	1.00	07/10/20
20G0090-05RE1 [BTM-1]	B261675	30.2	1.00	07/10/20

**Prep Method: SW-846 5035-SW-846 8260C-D**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
20G0090-01 [SW-1]	B261338	8.57	10.0	07/06/20
20G0090-02 [SW-2]	B261338	9.39	10.0	07/06/20
20G0090-03 [SW-3]	B261338	9.16	10.0	07/06/20
20G0090-04 [SW-4]	B261338	9.38	10.0	07/06/20
20G0090-05 [BTM-1]	B261338	7.98	10.0	07/06/20

QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B261338 - SW-846 5035

Blank (B261338-BLK1)

Prepared & Analyzed: 07/06/20

Acetone	ND	0.10	mg/Kg wet							
Acrylonitrile	ND	0.0060	mg/Kg wet							
tert-Amyl Methyl Ether (TAME)	ND	0.0010	mg/Kg wet							
Benzene	ND	0.0020	mg/Kg wet							
Bromobenzene	ND	0.0020	mg/Kg wet							
Bromochloromethane	ND	0.0020	mg/Kg wet							
Bromodichloromethane	ND	0.0020	mg/Kg wet							
Bromoform	ND	0.0020	mg/Kg wet							
Bromomethane	ND	0.010	mg/Kg wet							V-34
2-Butanone (MEK)	ND	0.040	mg/Kg wet							
tert-Butyl Alcohol (TBA)	ND	0.040	mg/Kg wet							
n-Butylbenzene	ND	0.0020	mg/Kg wet							
sec-Butylbenzene	ND	0.0020	mg/Kg wet							
tert-Butylbenzene	ND	0.0020	mg/Kg wet							
tert-Butyl Ethyl Ether (TBEE)	ND	0.0010	mg/Kg wet							
Carbon Disulfide	ND	0.0060	mg/Kg wet							
Carbon Tetrachloride	ND	0.0020	mg/Kg wet							
Chlorobenzene	ND	0.0020	mg/Kg wet							
Chlorodibromomethane	ND	0.0010	mg/Kg wet							
Chloroethane	ND	0.020	mg/Kg wet							
Chloroform	ND	0.0040	mg/Kg wet							
Chloromethane	ND	0.010	mg/Kg wet							
2-Chlorotoluene	ND	0.0020	mg/Kg wet							
4-Chlorotoluene	ND	0.0020	mg/Kg wet							
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0020	mg/Kg wet							
1,2-Dibromoethane (EDB)	ND	0.0010	mg/Kg wet							
Dibromomethane	ND	0.0020	mg/Kg wet							
1,2-Dichlorobenzene	ND	0.0020	mg/Kg wet							
1,3-Dichlorobenzene	ND	0.0020	mg/Kg wet							
1,4-Dichlorobenzene	ND	0.0020	mg/Kg wet							
trans-1,4-Dichloro-2-butene	ND	0.0040	mg/Kg wet							
Dichlorodifluoromethane (Freon 12)	ND	0.020	mg/Kg wet							
1,1-Dichloroethane	ND	0.0020	mg/Kg wet							
1,2-Dichloroethane	ND	0.0020	mg/Kg wet							
1,1-Dichloroethylene	ND	0.0040	mg/Kg wet							
cis-1,2-Dichloroethylene	ND	0.0020	mg/Kg wet							
trans-1,2-Dichloroethylene	ND	0.0020	mg/Kg wet							
1,2-Dichloropropane	ND	0.0020	mg/Kg wet							
1,3-Dichloropropane	ND	0.0010	mg/Kg wet							
2,2-Dichloropropane	ND	0.0020	mg/Kg wet							
1,1-Dichloropropene	ND	0.0020	mg/Kg wet							
cis-1,3-Dichloropropene	ND	0.0010	mg/Kg wet							
trans-1,3-Dichloropropene	ND	0.0010	mg/Kg wet							
Diethyl Ether	ND	0.020	mg/Kg wet							
Diisopropyl Ether (DIPE)	ND	0.0010	mg/Kg wet							
1,4-Dioxane	ND	0.10	mg/Kg wet							
Ethylbenzene	ND	0.0020	mg/Kg wet							
Hexachlorobutadiene	ND	0.0020	mg/Kg wet							
2-Hexanone (MBK)	ND	0.020	mg/Kg wet							
Isopropylbenzene (Cumene)	ND	0.0020	mg/Kg wet							
p-Isopropyltoluene (p-Cymene)	ND	0.0020	mg/Kg wet							
Methyl Acetate	ND	0.0020	mg/Kg wet							

QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B261338 - SW-846 5035

Blank (B261338-BLK1)

Prepared & Analyzed: 07/06/20

Methyl tert-Butyl Ether (MTBE)	ND	0.0040	mg/Kg wet							
Methyl Cyclohexane	ND	0.0020	mg/Kg wet							
Methylene Chloride	ND	0.020	mg/Kg wet							
4-Methyl-2-pentanone (MIBK)	ND	0.020	mg/Kg wet							
Naphthalene	ND	0.0040	mg/Kg wet							V-05
n-Propylbenzene	ND	0.0020	mg/Kg wet							
Styrene	ND	0.0020	mg/Kg wet							
1,1,1,2-Tetrachloroethane	ND	0.0020	mg/Kg wet							
1,1,2,2-Tetrachloroethane	ND	0.0010	mg/Kg wet							
Tetrachloroethylene	ND	0.0020	mg/Kg wet							
Tetrahydrofuran	ND	0.010	mg/Kg wet							
Toluene	ND	0.0020	mg/Kg wet							
1,2,3-Trichlorobenzene	ND	0.0020	mg/Kg wet							
1,2,4-Trichlorobenzene	ND	0.0020	mg/Kg wet							
1,3,5-Trichlorobenzene	ND	0.0020	mg/Kg wet							
1,1,1-Trichloroethane	ND	0.0020	mg/Kg wet							
1,1,2-Trichloroethane	ND	0.0020	mg/Kg wet							
Trichloroethylene	ND	0.0020	mg/Kg wet							
Trichlorofluoromethane (Freon 11)	ND	0.010	mg/Kg wet							
1,2,3-Trichloropropane	ND	0.0020	mg/Kg wet							
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.010	mg/Kg wet							
1,2,4-Trimethylbenzene	ND	0.0020	mg/Kg wet							
1,3,5-Trimethylbenzene	ND	0.0020	mg/Kg wet							
Vinyl Chloride	ND	0.010	mg/Kg wet							
m+p Xylene	ND	0.0040	mg/Kg wet							
o-Xylene	ND	0.0020	mg/Kg wet							
Surrogate: 1,2-Dichloroethane-d4	0.0499		mg/Kg wet	0.0500		99.8	70-130			
Surrogate: Toluene-d8	0.0513		mg/Kg wet	0.0500		103	70-130			
Surrogate: 4-Bromofluorobenzene	0.0500		mg/Kg wet	0.0500		100	70-130			

LCS (B261338-BS1)

Prepared & Analyzed: 07/06/20

Acetone	0.262	0.10	mg/Kg wet	0.200		131	70-160			V-20 †
Acrylonitrile	0.0232	0.0060	mg/Kg wet	0.0200		116	70-130			
tert-Amyl Methyl Ether (TAME)	0.0215	0.0010	mg/Kg wet	0.0200		107	70-130			
Benzene	0.0188	0.0020	mg/Kg wet	0.0200		94.1	70-130			
Bromobenzene	0.0191	0.0020	mg/Kg wet	0.0200		95.5	70-130			
Bromochloromethane	0.0216	0.0020	mg/Kg wet	0.0200		108	70-130			
Bromodichloromethane	0.0197	0.0020	mg/Kg wet	0.0200		98.7	70-130			
Bromoform	0.0220	0.0020	mg/Kg wet	0.0200		110	70-130			
Bromomethane	0.0210	0.010	mg/Kg wet	0.0200		105	40-130			V-34 †
2-Butanone (MEK)	0.244	0.040	mg/Kg wet	0.200		122	70-160			†
tert-Butyl Alcohol (TBA)	0.243	0.040	mg/Kg wet	0.200		121	40-130			†
n-Butylbenzene	0.0166	0.0020	mg/Kg wet	0.0200		83.2	70-130			
sec-Butylbenzene	0.0192	0.0020	mg/Kg wet	0.0200		96.1	70-130			
tert-Butylbenzene	0.0190	0.0020	mg/Kg wet	0.0200		95.0	70-160			†
tert-Butyl Ethyl Ether (TBEE)	0.0218	0.0010	mg/Kg wet	0.0200		109	70-130			
Carbon Disulfide	0.196	0.0060	mg/Kg wet	0.200		98.2	70-130			
Carbon Tetrachloride	0.0203	0.0020	mg/Kg wet	0.0200		102	70-130			
Chlorobenzene	0.0206	0.0020	mg/Kg wet	0.0200		103	70-130			
Chlorodibromomethane	0.0217	0.0010	mg/Kg wet	0.0200		108	70-130			
Chloroethane	0.0222	0.020	mg/Kg wet	0.0200		111	70-130			
Chloroform	0.0183	0.0040	mg/Kg wet	0.0200		91.6	70-130			

QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B261338 - SW-846 5035</b>										
<b>LCS (B261338-BS1)</b>										
				Prepared & Analyzed: 07/06/20						
Chloromethane	0.0242	0.010	mg/Kg wet	0.0200		121	70-130			V-20
2-Chlorotoluene	0.0194	0.0020	mg/Kg wet	0.0200		97.1	70-130			
4-Chlorotoluene	0.0182	0.0020	mg/Kg wet	0.0200		91.2	70-130			
1,2-Dibromo-3-chloropropane (DBCP)	0.0210	0.0020	mg/Kg wet	0.0200		105	70-130			
1,2-Dibromoethane (EDB)	0.0225	0.0010	mg/Kg wet	0.0200		112	70-130			
Dibromomethane	0.0228	0.0020	mg/Kg wet	0.0200		114	70-130			
1,2-Dichlorobenzene	0.0197	0.0020	mg/Kg wet	0.0200		98.6	70-130			
1,3-Dichlorobenzene	0.0194	0.0020	mg/Kg wet	0.0200		97.1	70-130			
1,4-Dichlorobenzene	0.0192	0.0020	mg/Kg wet	0.0200		95.9	70-130			
trans-1,4-Dichloro-2-butene	0.0199	0.0040	mg/Kg wet	0.0200		99.3	70-130			
Dichlorodifluoromethane (Freon 12)	0.0214	0.020	mg/Kg wet	0.0200		107	40-160			†
1,1-Dichloroethane	0.0204	0.0020	mg/Kg wet	0.0200		102	70-130			
1,2-Dichloroethane	0.0234	0.0020	mg/Kg wet	0.0200		117	70-130			
1,1-Dichloroethylene	0.0201	0.0040	mg/Kg wet	0.0200		100	70-130			
cis-1,2-Dichloroethylene	0.0192	0.0020	mg/Kg wet	0.0200		96.1	70-130			
trans-1,2-Dichloroethylene	0.0199	0.0020	mg/Kg wet	0.0200		99.5	70-130			
1,2-Dichloropropane	0.0217	0.0020	mg/Kg wet	0.0200		109	70-130			
1,3-Dichloropropane	0.0227	0.0010	mg/Kg wet	0.0200		114	70-130			
2,2-Dichloropropane	0.0189	0.0020	mg/Kg wet	0.0200		94.6	70-130			
1,1-Dichloropropene	0.0189	0.0020	mg/Kg wet	0.0200		94.7	70-130			
cis-1,3-Dichloropropene	0.0219	0.0010	mg/Kg wet	0.0200		109	70-130			
trans-1,3-Dichloropropene	0.0217	0.0010	mg/Kg wet	0.0200		109	70-130			
Diethyl Ether	0.0205	0.020	mg/Kg wet	0.0200		103	70-130			
Diisopropyl Ether (DIPE)	0.0221	0.0010	mg/Kg wet	0.0200		110	70-130			
1,4-Dioxane	0.237	0.10	mg/Kg wet	0.200		119	40-160			†
Ethylbenzene	0.0180	0.0020	mg/Kg wet	0.0200		89.8	70-130			
Hexachlorobutadiene	0.0203	0.0020	mg/Kg wet	0.0200		102	70-160			†
2-Hexanone (MBK)	0.235	0.020	mg/Kg wet	0.200		117	70-160			†
Isopropylbenzene (Cumene)	0.0195	0.0020	mg/Kg wet	0.0200		97.6	70-130			
p-Isopropyltoluene (p-Cymene)	0.0191	0.0020	mg/Kg wet	0.0200		95.6	70-130			
<b>Methyl Acetate</b>	0.0264	0.0020	mg/Kg wet	0.0200		<b>132</b> *	70-130			L-02, V-20
Methyl tert-Butyl Ether (MTBE)	0.0216	0.0040	mg/Kg wet	0.0200		108	70-130			
Methyl Cyclohexane	0.0200	0.0020	mg/Kg wet	0.0200		100	70-130			
Methylene Chloride	0.0218	0.020	mg/Kg wet	0.0200		109	40-160			†
4-Methyl-2-pentanone (MIBK)	0.234	0.020	mg/Kg wet	0.200		117	70-160			†
Naphthalene	0.0156	0.0040	mg/Kg wet	0.0200		78.0	40-130			V-05 †
n-Propylbenzene	0.0184	0.0020	mg/Kg wet	0.0200		92.2	70-130			
Styrene	0.0200	0.0020	mg/Kg wet	0.0200		100	70-130			
1,1,1,2-Tetrachloroethane	0.0216	0.0020	mg/Kg wet	0.0200		108	70-130			
1,1,2,2-Tetrachloroethane	0.0202	0.0010	mg/Kg wet	0.0200		101	70-130			
Tetrachloroethylene	0.0210	0.0020	mg/Kg wet	0.0200		105	70-130			
Tetrahydrofuran	0.0203	0.010	mg/Kg wet	0.0200		102	70-130			
Toluene	0.0192	0.0020	mg/Kg wet	0.0200		96.2	70-130			
1,2,3-Trichlorobenzene	0.0182	0.0020	mg/Kg wet	0.0200		90.9	70-130			
1,2,4-Trichlorobenzene	0.0189	0.0020	mg/Kg wet	0.0200		94.3	70-130			
1,3,5-Trichlorobenzene	0.0197	0.0020	mg/Kg wet	0.0200		98.6	70-130			
1,1,1-Trichloroethane	0.0183	0.0020	mg/Kg wet	0.0200		91.3	70-130			
1,1,2-Trichloroethane	0.0202	0.0020	mg/Kg wet	0.0200		101	70-130			
Trichloroethylene	0.0199	0.0020	mg/Kg wet	0.0200		99.5	70-130			
Trichlorofluoromethane (Freon 11)	0.0211	0.010	mg/Kg wet	0.0200		106	70-130			
1,2,3-Trichloropropane	0.0209	0.0020	mg/Kg wet	0.0200		105	70-130			

QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B261338 - SW-846 5035

LCS (B261338-BS1)

Prepared & Analyzed: 07/06/20

1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.0202	0.010	mg/Kg wet	0.0200		101	70-130			
1,2,4-Trimethylbenzene	0.0175	0.0020	mg/Kg wet	0.0200		87.5	70-130			
1,3,5-Trimethylbenzene	0.0185	0.0020	mg/Kg wet	0.0200		92.3	70-130			
Vinyl Chloride	0.0220	0.010	mg/Kg wet	0.0200		110	40-130			†
m+p Xylene	0.0365	0.0040	mg/Kg wet	0.0400		91.2	70-130			
o-Xylene	0.0182	0.0020	mg/Kg wet	0.0200		91.1	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0483		mg/Kg wet	0.0500		96.7	70-130			
Surrogate: Toluene-d8	0.0512		mg/Kg wet	0.0500		102	70-130			
Surrogate: 4-Bromofluorobenzene	0.0502		mg/Kg wet	0.0500		100	70-130			

LCS Dup (B261338-BS1)

Prepared & Analyzed: 07/06/20

Acetone	0.253	0.10	mg/Kg wet	0.200		126	70-160	3.58	25	V-20	†
Acrylonitrile	0.0227	0.0060	mg/Kg wet	0.0200		114	70-130	2.09	25		
tert-Amyl Methyl Ether (TAME)	0.0219	0.0010	mg/Kg wet	0.0200		110	70-130	2.03	25		
Benzene	0.0186	0.0020	mg/Kg wet	0.0200		93.0	70-130	1.18	25		
Bromobenzene	0.0192	0.0020	mg/Kg wet	0.0200		95.9	70-130	0.418	25		
Bromochloromethane	0.0227	0.0020	mg/Kg wet	0.0200		113	70-130	4.79	25		
Bromodichloromethane	0.0199	0.0020	mg/Kg wet	0.0200		99.4	70-130	0.707	25		
Bromoform	0.0215	0.0020	mg/Kg wet	0.0200		107	70-130	2.48	25		
Bromomethane	0.0195	0.010	mg/Kg wet	0.0200		97.4	40-130	7.51	25	V-34	†
2-Butanone (MEK)	0.245	0.040	mg/Kg wet	0.200		123	70-160	0.392	25		†
tert-Butyl Alcohol (TBA)	0.248	0.040	mg/Kg wet	0.200		124	40-130	2.26	25		†
n-Butylbenzene	0.0162	0.0020	mg/Kg wet	0.0200		81.1	70-130	2.56	25		
sec-Butylbenzene	0.0185	0.0020	mg/Kg wet	0.0200		92.7	70-130	3.60	25		
tert-Butylbenzene	0.0181	0.0020	mg/Kg wet	0.0200		90.5	70-160	4.85	25		†
tert-Butyl Ethyl Ether (TBEE)	0.0222	0.0010	mg/Kg wet	0.0200		111	70-130	1.73	25		
Carbon Disulfide	0.191	0.0060	mg/Kg wet	0.200		95.3	70-130	3.01	25		
Carbon Tetrachloride	0.0197	0.0020	mg/Kg wet	0.0200		98.6	70-130	3.00	25		
Chlorobenzene	0.0214	0.0020	mg/Kg wet	0.0200		107	70-130	4.10	25		
Chlorodibromomethane	0.0225	0.0010	mg/Kg wet	0.0200		112	70-130	3.63	25		
Chloroethane	0.0224	0.020	mg/Kg wet	0.0200		112	70-130	0.806	25		
Chloroform	0.0184	0.0040	mg/Kg wet	0.0200		92.1	70-130	0.544	25		
Chloromethane	0.0225	0.010	mg/Kg wet	0.0200		113	70-130	7.11	25	V-20	
2-Chlorotoluene	0.0192	0.0020	mg/Kg wet	0.0200		95.9	70-130	1.24	25		
4-Chlorotoluene	0.0185	0.0020	mg/Kg wet	0.0200		92.3	70-130	1.20	25		
1,2-Dibromo-3-chloropropane (DBCP)	0.0188	0.0020	mg/Kg wet	0.0200		94.2	70-130	10.7	25		
1,2-Dibromoethane (EDB)	0.0221	0.0010	mg/Kg wet	0.0200		110	70-130	1.88	25		
Dibromomethane	0.0221	0.0020	mg/Kg wet	0.0200		111	70-130	3.11	25		
1,2-Dichlorobenzene	0.0194	0.0020	mg/Kg wet	0.0200		97.0	70-130	1.64	25		
1,3-Dichlorobenzene	0.0190	0.0020	mg/Kg wet	0.0200		95.2	70-130	1.98	25		
1,4-Dichlorobenzene	0.0183	0.0020	mg/Kg wet	0.0200		91.5	70-130	4.70	25		
trans-1,4-Dichloro-2-butene	0.0202	0.0040	mg/Kg wet	0.0200		101	70-130	1.70	25		
Dichlorodifluoromethane (Freon 12)	0.0219	0.020	mg/Kg wet	0.0200		110	40-160	2.40	25		†
1,1-Dichloroethane	0.0204	0.0020	mg/Kg wet	0.0200		102	70-130	0.196	25		
1,2-Dichloroethane	0.0231	0.0020	mg/Kg wet	0.0200		116	70-130	1.20	25		
1,1-Dichloroethylene	0.0185	0.0040	mg/Kg wet	0.0200		92.3	70-130	8.51	25		
cis-1,2-Dichloroethylene	0.0195	0.0020	mg/Kg wet	0.0200		97.4	70-130	1.34	25		
trans-1,2-Dichloroethylene	0.0203	0.0020	mg/Kg wet	0.0200		101	70-130	1.79	25		
1,2-Dichloropropane	0.0218	0.0020	mg/Kg wet	0.0200		109	70-130	0.551	25		
1,3-Dichloropropane	0.0221	0.0010	mg/Kg wet	0.0200		110	70-130	3.04	25		
2,2-Dichloropropane	0.0172	0.0020	mg/Kg wet	0.0200		85.9	70-130	9.64	25		
1,1-Dichloropropene	0.0182	0.0020	mg/Kg wet	0.0200		90.9	70-130	4.09	25		



QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B261338 - SW-846 5035</b>										
<b>LCS Dup (B261338-BSD1)</b>										
Prepared & Analyzed: 07/06/20										
cis-1,3-Dichloropropene	0.0216	0.0010	mg/Kg wet	0.0200		108	70-130	1.10	25	
trans-1,3-Dichloropropene	0.0214	0.0010	mg/Kg wet	0.0200		107	70-130	1.48	25	
Diethyl Ether	0.0202	0.020	mg/Kg wet	0.0200		101	70-130	1.47	25	
Diisopropyl Ether (DIPE)	0.0214	0.0010	mg/Kg wet	0.0200		107	70-130	3.03	25	
1,4-Dioxane	0.188	0.10	mg/Kg wet	0.200		93.9	40-160	23.3	50	† ‡
Ethylbenzene	0.0177	0.0020	mg/Kg wet	0.0200		88.7	70-130	1.23	25	
Hexachlorobutadiene	0.0207	0.0020	mg/Kg wet	0.0200		104	70-160	1.95	25	
2-Hexanone (MBK)	0.234	0.020	mg/Kg wet	0.200		117	70-160	0.136	25	†
Isopropylbenzene (Cumene)	0.0198	0.0020	mg/Kg wet	0.0200		99.2	70-130	1.63	25	
p-Isopropyltoluene (p-Cymene)	0.0178	0.0020	mg/Kg wet	0.0200		88.8	70-130	7.38	25	
<b>Methyl Acetate</b>	0.0268	0.0020	mg/Kg wet	0.0200		<b>134</b> *	70-130	1.50	25	L-02, V-20
Methyl tert-Butyl Ether (MTBE)	0.0213	0.0040	mg/Kg wet	0.0200		107	70-130	1.12	25	
Methyl Cyclohexane	0.0192	0.0020	mg/Kg wet	0.0200		95.9	70-130	4.29	25	
Methylene Chloride	0.0219	0.020	mg/Kg wet	0.0200		110	40-160	0.733	25	†
4-Methyl-2-pentanone (MIBK)	0.235	0.020	mg/Kg wet	0.200		117	70-160	0.264	25	†
Naphthalene	0.0149	0.0040	mg/Kg wet	0.0200		74.3	40-130	4.86	25	V-05 †
n-Propylbenzene	0.0176	0.0020	mg/Kg wet	0.0200		88.0	70-130	4.66	25	
Styrene	0.0201	0.0020	mg/Kg wet	0.0200		101	70-130	0.698	25	
1,1,1,2-Tetrachloroethane	0.0214	0.0020	mg/Kg wet	0.0200		107	70-130	0.838	25	
1,1,2,2-Tetrachloroethane	0.0210	0.0010	mg/Kg wet	0.0200		105	70-130	3.89	25	
Tetrachloroethylene	0.0210	0.0020	mg/Kg wet	0.0200		105	70-130	0.00	25	
Tetrahydrofuran	0.0215	0.010	mg/Kg wet	0.0200		108	70-130	5.83	25	
Toluene	0.0191	0.0020	mg/Kg wet	0.0200		95.6	70-130	0.626	25	
1,2,3-Trichlorobenzene	0.0179	0.0020	mg/Kg wet	0.0200		89.3	70-130	1.78	25	
1,2,4-Trichlorobenzene	0.0180	0.0020	mg/Kg wet	0.0200		89.9	70-130	4.78	25	
1,3,5-Trichlorobenzene	0.0192	0.0020	mg/Kg wet	0.0200		95.9	70-130	2.78	25	
1,1,1-Trichloroethane	0.0179	0.0020	mg/Kg wet	0.0200		89.3	70-130	2.21	25	
1,1,2-Trichloroethane	0.0208	0.0020	mg/Kg wet	0.0200		104	70-130	3.12	25	
Trichloroethylene	0.0192	0.0020	mg/Kg wet	0.0200		96.1	70-130	3.48	25	
Trichlorofluoromethane (Freon 11)	0.0211	0.010	mg/Kg wet	0.0200		106	70-130	0.00	25	
1,2,3-Trichloropropane	0.0224	0.0020	mg/Kg wet	0.0200		112	70-130	6.74	25	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.0199	0.010	mg/Kg wet	0.0200		99.3	70-130	1.80	25	
1,2,4-Trimethylbenzene	0.0171	0.0020	mg/Kg wet	0.0200		85.5	70-130	2.31	25	
1,3,5-Trimethylbenzene	0.0181	0.0020	mg/Kg wet	0.0200		90.4	70-130	2.08	25	
Vinyl Chloride	0.0219	0.010	mg/Kg wet	0.0200		109	40-130	0.638	25	†
m+p Xylene	0.0365	0.0040	mg/Kg wet	0.0400		91.2	70-130	0.00	25	
o-Xylene	0.0182	0.0020	mg/Kg wet	0.0200		90.9	70-130	0.220	25	
Surrogate: 1,2-Dichloroethane-d4	0.0476		mg/Kg wet	0.0500		95.3	70-130			
Surrogate: Toluene-d8	0.0508		mg/Kg wet	0.0500		102	70-130			
Surrogate: 4-Bromofluorobenzene	0.0513		mg/Kg wet	0.0500		103	70-130			

**QUALITY CONTROL**

**Petroleum Hydrocarbons Analyses - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B261382 - SW-846 3546</b>										
<b>Blank (B261382-BLK1)</b>					Prepared: 07/07/20 Analyzed: 07/09/20					
TPH (C9-C36)	ND	8.3	mg/Kg wet							
Surrogate: 2-Fluorobiphenyl	1.64		mg/Kg wet	3.33		49.1	40-140			
<b>LCS (B261382-BS1)</b>					Prepared: 07/07/20 Analyzed: 07/09/20					
TPH (C9-C36)	17.8	8.3	mg/Kg wet	33.3		53.5	40-140			
Surrogate: 2-Fluorobiphenyl	1.58		mg/Kg wet	3.33		47.4	40-140			
<b>LCS Dup (B261382-BSD1)</b>					Prepared: 07/07/20 Analyzed: 07/09/20					
TPH (C9-C36)	20.2	8.3	mg/Kg wet	33.3		60.6	40-140	12.4	30	
Surrogate: 2-Fluorobiphenyl	1.86		mg/Kg wet	3.33		55.7	40-140			
<b>Batch B261675 - SW-846 3546</b>										
<b>Blank (B261675-BLK1)</b>					Prepared: 07/10/20 Analyzed: 07/13/20					
TPH (C9-C36)	ND	8.3	mg/Kg wet							
Surrogate: 2-Fluorobiphenyl	2.00		mg/Kg wet	3.31		60.5	40-140			
<b>LCS (B261675-BS1)</b>					Prepared: 07/10/20 Analyzed: 07/13/20					
TPH (C9-C36)	21.6	8.3	mg/Kg wet	33.3		64.8	40-140			
Surrogate: 2-Fluorobiphenyl	2.11		mg/Kg wet	3.33		63.2	40-140			
<b>LCS Dup (B261675-BSD1)</b>					Prepared: 07/10/20 Analyzed: 07/13/20					
TPH (C9-C36)	23.8	8.3	mg/Kg wet	33.3		71.5	40-140	9.83	30	
Surrogate: 2-Fluorobiphenyl	2.23		mg/Kg wet	3.33		66.8	40-140			

**QUALITY CONTROL**

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B261288 - % Solids</b>										
<b>Duplicate (B261288-DUP8)</b>	<b>Source: 20G0090-01</b>			Prepared: 07/03/20 Analyzed: 07/06/20						
% Solids	89.1		% Wt		88.9			0.216	20	
<b>Duplicate (B261288-DUP9)</b>	<b>Source: 20G0090-02</b>			Prepared: 07/03/20 Analyzed: 07/06/20						
% Solids	86.3		% Wt		84.2			2.48	20	

**Note: Blank Subtraction is not performed unless otherwise noted**

**FLAG/QUALIFIER SUMMARY**

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
RL	Reporting Limit
MDL	Method Detection Limit
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
LCS Dup	Duplicate Laboratory Control Sample
MS	Matrix Spike Sample
MS Dup	Duplicate Matrix Spike Sample
REC	Recovery
QC	Quality Control
ppbv	Parts per billion volume
EPA	United States Environmental Protection Agency
% REC	Percent Recovery
ND	Not Detected
N/A	Not Applicable
DL	Detection Limit
NC	Not Calculated
LFB/LCS	Lab Fortified Blank/Lab Control Sample
ORP	Oxidation-Reduction Potential
wet	Not dry weight corrected
% wt	Percent weight
Kg	Kilogram
g	Gram
mg	Milligram
µg	Microgram
ng	Nanogram
L	Liter
mL	Milliliter
µL	Microliter
m3	Cubic Meter
EPH	Extractable Petroleum Hydrocarbons
VPH	Volatile Petroleum Hydrocarbons
APH	Air Petroleum Hydrocarbons
FID	Flame Ionization Detector
PID	Photo Ionization Detector
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
J	Detected but below the Reporting Limit (lowest calibration standard); therefore, result is an estimated concentration (CLP J-Flag).
L-02	Laboratory fortified blank/laboratory control sample recovery and duplicate recoveries outside of control limits. Data validation is not affected since all results are "not detected" for associated samples in this batch and bias is on the high side.
V-05	Continuing calibration verification (CCV) did not meet method specifications and was biased on the low side for this compound.
V-20	Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.
V-34	Initial calibration verification (ICV) did not meet method specifications and was biased on the low side for this compound. Reported result is estimated.

**ANALYST**

RMW	Rachel M. Wilson
RDD	Raymond D. Duncan-Howard
MJM	Michael J. Mignogna
MFF	Mark F. Flahive
LR	Lionel Rios
JS2	Joanna Skora
JLH	Jessica L. Hoffman
EGR	Evet G Rivera
CLA	Catherine L. Amrich

INTERNAL STANDARD AREA AND RT SUMMARY

SW-846 8260C-D

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
<b>Calibration Check (S049998-CCV1 )</b>									
			Lab File ID: D20188003.D			Analyzed: 07/06/20 04:55			
Pentafluorobenzene	263461	4.043	170042	4.039	155	50 - 200	0.0040	+/-0.50	
1,4-Difluorobenzene	402159	4.778	273393	4.774	147	50 - 200	0.0040	+/-0.50	
Chlorobenzene-d5	153962	7.636	102642	7.636	150	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	167690	9.943	100328	9.943	167	50 - 200	0.0000	+/-0.50	
<b>LCS (B261338-BS1 )</b>									
			Lab File ID: D20188004.D			Analyzed: 07/06/20 05:22			
Pentafluorobenzene	257832	4.043	263461	4.043	98	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	401055	4.773	402159	4.778	100	50 - 200	-0.0050	+/-0.50	
Chlorobenzene-d5	158525	7.636	153962	7.636	103	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	165718	9.942	167690	9.943	99	50 - 200	-0.0010	+/-0.50	
<b>LCS Dup (B261338-BS1 )</b>									
			Lab File ID: D20188005.D			Analyzed: 07/06/20 05:49			
Pentafluorobenzene	262640	4.043	263461	4.043	100	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	404955	4.773	402159	4.778	101	50 - 200	-0.0050	+/-0.50	
Chlorobenzene-d5	158203	7.636	153962	7.636	103	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	167228	9.943	167690	9.943	100	50 - 200	0.0000	+/-0.50	
<b>Blank (B261338-BLK1 )</b>									
			Lab File ID: D20188006.D			Analyzed: 07/06/20 06:17			
Pentafluorobenzene	259741	4.039	263461	4.043	99	50 - 200	-0.0040	+/-0.50	
1,4-Difluorobenzene	404550	4.773	402159	4.778	101	50 - 200	-0.0050	+/-0.50	
Chlorobenzene-d5	161229	7.636	153962	7.636	105	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	163928	9.943	167690	9.943	98	50 - 200	0.0000	+/-0.50	
<b>SW-1 (20G0090-01 )</b>									
			Lab File ID: D20188017.D			Analyzed: 07/06/20 11:17			
Pentafluorobenzene	259807	4.043	263461	4.043	99	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	413266	4.778	402159	4.778	103	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5	166656	7.636	153962	7.636	108	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	175630	9.943	167690	9.943	105	50 - 200	0.0000	+/-0.50	
<b>SW-2 (20G0090-02 )</b>									
			Lab File ID: D20188018.D			Analyzed: 07/06/20 11:44			
Pentafluorobenzene	258536	4.043	263461	4.043	98	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	409949	4.773	402159	4.778	102	50 - 200	-0.0050	+/-0.50	
Chlorobenzene-d5	166439	7.636	153962	7.636	108	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	174616	9.942	167690	9.943	104	50 - 200	-0.0010	+/-0.50	
<b>SW-3 (20G0090-03 )</b>									
			Lab File ID: D20188019.D			Analyzed: 07/06/20 12:11			
Pentafluorobenzene	265175	4.043	263461	4.043	101	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	417235	4.773	402159	4.778	104	50 - 200	-0.0050	+/-0.50	
Chlorobenzene-d5	164164	7.636	153962	7.636	107	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	175204	9.942	167690	9.943	104	50 - 200	-0.0010	+/-0.50	

**INTERNAL STANDARD AREA AND RT SUMMARY**

**SW-846 8260C-D**

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
<b>SW-4 (20G0090-04 )</b>		Lab File ID: D20188020.D			Analyzed: 07/06/20 12:39				
Pentafluorobenzene	265602	4.043	263461	4.043	101	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	414679	4.774	402159	4.778	103	50 - 200	-0.0040	+/-0.50	
Chlorobenzene-d5	168643	7.636	153962	7.636	110	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	176181	9.943	167690	9.943	105	50 - 200	0.0000	+/-0.50	
<b>BTM-1 (20G0090-05 )</b>		Lab File ID: D20188021.D			Analyzed: 07/06/20 13:06				
Pentafluorobenzene	264479	4.043	263461	4.043	100	50 - 200	0.0000	+/-0.50	
1,4-Difluorobenzene	418253	4.773	402159	4.778	104	50 - 200	-0.0050	+/-0.50	
Chlorobenzene-d5	167731	7.636	153962	7.636	109	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4	174357	9.942	167690	9.943	104	50 - 200	-0.0010	+/-0.50	

CONTINUING CALIBRATION CHECK

SW-846 8260C-D

S049998-CCV1

COMPOUND	TYPE	CONC. (µg/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Acetone	A	100	125	0.0824549	0.1028088		24.7	20 *
Acrylonitrile	A	10.0	11.6	0.1265297	0.1469591		16.1	20
tert-Amyl Methyl Ether (TAME)	A	10.0	10.5	0.8295076	0.8719051		5.1	20
Benzene	A	10.0	9.78	1.461504	1.429703		-2.2	20
Bromobenzene	A	10.0	10.3	0.7418939	0.7609995		2.6	20
Bromochloromethane	A	10.0	11.2	0.1522398	0.170678		12.1	20
Bromodichloromethane	A	10.0	10.2	0.2130273	0.2177721		2.2	20
Bromoform	A	10.0	11.6	0.2674595	0.3097972		15.8	20
Bromomethane	A	10.0	10.3	0.3872575	0.3030278		3.4	20
2-Butanone (MEK)	A	100	120	0.1530717	0.1836648		20.0	20
tert-Butyl Alcohol (TBA)	A	100	117	4.424541E-02	5.159967E-02		16.6	20
n-Butylbenzene	A	10.0	8.61	1.905951	1.641046		-13.9	20
sec-Butylbenzene	A	10.0	9.92	0.394732	0.3917228		-0.8	20
tert-Butylbenzene	A	10.0	9.58	1.360005	1.302457		-4.2	20
tert-Butyl Ethyl Ether (TBEE)	A	10.0	10.9	0.9348618	1.016052		8.7	20
Carbon Disulfide	A	100	102	1.1413	1.16671		2.2	20
Carbon Tetrachloride	A	10.0	10.5	0.4122899	0.4329294		5.0	20
Chlorobenzene	A	10.0	11.2	1.088191	1.221613		12.3	20
Chlorodibromomethane	A	10.0	10.8	0.1575113	0.1705594		8.3	20
Chloroethane	A	10.0	11.8	0.2305144	0.2713381		17.7	20
Chloroform	A	10.0	9.20	0.6288865	0.5788067		-8.0	20
Chloromethane	A	10.0	12.4	0.459154	0.5692076		24.0	20 *
2-Chlorotoluene	A	10.0	10.2	1.352799	1.374456		1.6	20
4-Chlorotoluene	A	10.0	9.82	1.64766	1.618432		-1.8	20
1,2-Dibromo-3-chloropropane (DBCP)	A	10.0	10.0	9.191831E-02	9.229531E-02		0.4	20
1,2-Dibromoethane (EDB)	A	10.0	11.1	0.1380236	0.1534915		11.2	20
Dibromomethane	A	10.0	11.4	8.934966E-02	0.1014972		13.6	20
1,2-Dichlorobenzene	A	10.0	9.87	0.8635035	0.8526627		-1.3	20
1,3-Dichlorobenzene	A	10.0	9.79	0.9138303	0.8949729		-2.1	20
1,4-Dichlorobenzene	A	10.0	9.45	0.9647452	0.9115391		-5.5	20
trans-1,4-Dichloro-2-butene	A	10.0	11.0	0.1470275	0.1615334		9.9	20
Dichlorodifluoromethane (Freon 12)	A	10.0	11.2	0.2808565	0.3136517		11.7	20
1,1-Dichloroethane	A	10.0	10.4	0.589841	0.6154497		4.3	20
1,2-Dichloroethane	A	10.0	11.7	0.2551674	0.2995009		17.4	20
1,1-Dichloroethylene	A	10.0	10.0	0.4848432	0.4851496		0.06	20
cis-1,2-Dichloroethylene	A	10.0	9.96	0.5712767	0.5687635		-0.4	20
trans-1,2-Dichloroethylene	A	10.0	10.2	0.4741916	0.4813919		1.5	20
1,2-Dichloropropane	A	10.0	11.2	0.158854	0.1775044		11.7	20



CONTINUING CALIBRATION CHECK

SW-846 8260C-D

S049998-CCV1

COMPOUND	TYPE	CONC. (µg/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
1,3-Dichloropropane	A	10.0	11.3	0.2331935	0.2643805		13.4	20
2,2-Dichloropropane	A	10.0	9.30	0.546029	0.507912		-7.0	20
1,1-Dichloropropene	A	10.0	9.93	0.1588926	0.1577653		-0.7	20
cis-1,3-Dichloropropene	A	10.0	11.0	0.2649207	0.2905343		9.7	20
trans-1,3-Dichloropropene	A	10.0	11.2	0.220932	0.2474991		12.0	20
Diethyl Ether	A	10.0	9.90	0.1921903	0.1901837		-1.0	20
Diisopropyl Ether (DIPE)	A	10.0	10.8	1.083258	1.175388		8.5	20
1,4-Dioxane	A	100	101	1.651074E-03	1.767957E-03		1.2	20
Ethylbenzene	A	10.0	9.56	2.125632	2.032943		-4.4	20
Hexachlorobutadiene	A	10.0	10.7	0.3602247	0.3855686		7.0	20
2-Hexanone (MBK)	A	100	119	0.1121237	0.133856		19.4	20
Isopropylbenzene (Cumene)	A	10.0	10.8	0.4984014	0.5383406		8.0	20
p-Isopropyltoluene (p-Cymene)	A	10.0	9.78	1.778447	1.739227		-2.2	20
Methyl Acetate	A	10.0	12.5	0.2880494	0.3606682		25.2	20 *
Methyl tert-Butyl Ether (MTBE)	A	10.0	10.6	0.8500717	0.9020121		6.1	20
Methyl Cyclohexane	A	10.0	10.5	0.2789339	0.2930707		5.1	20
Methylene Chloride	A	10.0	11.0	0.4213593	0.4646191		10.3	20
4-Methyl-2-pentanone (MIBK)	A	100	119	0.1551831	0.1853342		19.4	20
Naphthalene	A	10.0	7.92	1.504426	1.191019		-20.8	20 *
n-Propylbenzene	A	10.0	9.70	2.514412	2.439582		-3.0	20
Styrene	A	10.0	10.4	1.255389	1.299126		3.5	20
1,1,1,2-Tetrachloroethane	A	10.0	11.1	0.3697467	0.4111794		11.2	20
1,1,2,2-Tetrachloroethane	A	10.0	10.8	0.5552083	0.6015315		8.3	20
Tetrachloroethylene	A	10.0	11.0	0.1645564	0.1807792		9.9	20
Tetrahydrofuran	A	10.0	10.3	4.675474E-02	4.810959E-02		2.9	20
Toluene	A	10.0	10.1	0.7035382	0.70866		0.7	20
1,2,3-Trichlorobenzene	A	10.0	9.22	0.578145	0.5331266		-7.8	20
1,2,4-Trichlorobenzene	A	10.0	9.15	0.6516025	0.5964756		-8.5	20
1,3,5-Trichlorobenzene	A	10.0	9.92	0.7316211	0.7260719		-0.8	20
1,1,1-Trichloroethane	A	10.0	9.51	0.534148	0.5077412		-4.9	20
1,1,2-Trichloroethane	A	10.0	10.5	0.1235103	0.1291952		4.6	20
Trichloroethylene	A	10.0	9.95	0.2249127	0.2238741		-0.5	20
Trichlorofluoromethane (Freon 11)	A	10.0	11.2	0.4819806	0.5382694		11.7	20
1,2,3-Trichloropropane	A	10.0	11.1	0.1381077	0.1532326		11.0	20
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	A	10.0	10.6	0.2951372	0.3121828		5.8	20
1,2,4-Trimethylbenzene	A	10.0	8.94	1.744441	1.559002		-10.6	20
1,3,5-Trimethylbenzene	A	10.0	9.76	1.660544	1.619971		-2.4	20
Vinyl Chloride	A	10.0	11.8	0.4091873	0.4832594		18.1	20

CONTINUING CALIBRATION CHECK

SW-846 8260C-D

S049998-CCV1

COMPOUND	TYPE	CONC. (µg/L)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
m+p Xylene	A	20.0	19.6	1.589432	1.558963		-1.9	20
o-Xylene	A	10.0	9.87	1.638956	1.618412		-1.3	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

**CONTINUING CALIBRATION CHECK**

**SW-846 8100 Modified**

**S050109-CCV8**

COMPOUND	TYPE	CONC. (µg/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
TPH (C9-C36)	A	1000	1130	106807.1	121139.8		13.4	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

**CONTINUING CALIBRATION CHECK**

**SW-846 8100 Modified**

**S050109-CCV9**

COMPOUND	TYPE	CONC. (µg/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
TPH (C9-C36)	A	1000	1030	106807.1	110523.2		3.5	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

**CONTINUING CALIBRATION CHECK**

**SW-846 8100 Modified**

**S050109-CCVB**

COMPOUND	TYPE	CONC. (µg/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
TPH (C9-C36)	A	1000	1020	106807.1	109469		2.5	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

**CONTINUING CALIBRATION CHECK**

**SW-846 8100 Modified**

**S050160-CCV6**

COMPOUND	TYPE	CONC. (µg/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
TPH (C9-C36)	A	1000	1200	76920.73	92266.72		20.0	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

**CONTINUING CALIBRATION CHECK**

**SW-846 8100 Modified**

**S050161-CCV1**

COMPOUND	TYPE	CONC. (µg/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
TPH (C9-C36)	A	1000	1090	76920.73	91428.34		18.9	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

**CONTINUING CALIBRATION CHECK**

**SW-846 8100 Modified**

**S050161-CCV3**

COMPOUND	TYPE	CONC. (µg/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
TPH (C9-C36)	A	1000	1160	76920.73	97399.18		26.6	20 *

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits



**CONTINUING CALIBRATION CHECK**

**SW-846 8100 Modified**

**S050161-CCV5**

COMPOUND	TYPE	CONC. (µg/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
TPH (C9-C36)	A	1000	1170	76920.73	97898.66		27.3	20 *

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

**CONTINUING CALIBRATION CHECK**

**SW-846 8100 Modified**

**S050202-CCV2**

COMPOUND	TYPE	CONC. (µg/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
TPH (C9-C36)	A	1000	934	106807.1	99805.31		-6.6	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

**CONTINUING CALIBRATION CHECK**

**SW-846 8100 Modified**

**S050202-CCV4**

COMPOUND	TYPE	CONC. (µg/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
TPH (C9-C36)	A	1000	1000	106807.1	107225.2		0.4	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

**CONTINUING CALIBRATION CHECK**

**SW-846 8100 Modified**

**S050202-CCV6**

COMPOUND	TYPE	CONC. (µg/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
TPH (C9-C36)	A	1000	1070	106807.1	114115.8		6.8	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

**CONTINUING CALIBRATION CHECK**

**SW-846 8100 Modified**

**S050202-CCV8**

COMPOUND	TYPE	CONC. (µg/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
TPH (C9-C36)	A	1000	1130	106807.1	121034.6		13.3	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

**CONTINUING CALIBRATION CHECK**

**SW-846 8100 Modified**

**S050202-CCVA**

COMPOUND	TYPE	CONC. (µg/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
TPH (C9-C36)	A	1000	1060	106807.1	113412.7		6.2	20

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

**CERTIFICATIONS**

**Certified Analyses included in this Report**

Analyte	Certifications
<i>SW-846 8260C-D in Soil</i>	
Acetone	CT,NH,NY,ME,VA
Acrylonitrile	CT,NH,NY,ME,VA
Benzene	CT,NH,NY,ME,VA
Bromobenzene	NH,NY,ME,VA
Bromochloromethane	NH,NY,ME,VA
Bromodichloromethane	CT,NH,NY,ME,VA
Bromoform	CT,NH,NY,ME,VA
Bromomethane	CT,NH,NY,ME,VA
2-Butanone (MEK)	CT,NH,NY,ME,VA
tert-Butyl Alcohol (TBA)	NY,ME
n-Butylbenzene	CT,NH,NY,ME,VA
sec-Butylbenzene	CT,NH,NY,ME,VA
tert-Butylbenzene	CT,NH,NY,ME,VA
Carbon Disulfide	CT,NH,NY,ME,VA
Carbon Tetrachloride	CT,NH,NY,ME,VA
Chlorobenzene	CT,NH,NY,ME,VA
Chlorodibromomethane	CT,NH,NY,ME,VA
Chloroethane	CT,NH,NY,ME,VA
Chloroform	CT,NH,NY,ME,VA
Chloromethane	CT,NH,NY,ME,VA
2-Chlorotoluene	CT,NH,NY,ME,VA
4-Chlorotoluene	CT,NH,NY,ME,VA
1,2-Dibromo-3-chloropropane (DBCP)	NY,ME
1,2-Dibromoethane (EDB)	NH,NY
Dibromomethane	NH,NY,ME,VA
1,2-Dichlorobenzene	CT,NH,NY,ME,VA
1,3-Dichlorobenzene	CT,NH,NY,ME,VA
1,4-Dichlorobenzene	CT,NH,NY,ME,VA
trans-1,4-Dichloro-2-butene	NY,ME
Dichlorodifluoromethane (Freon 12)	NH,NY,ME,VA
1,1-Dichloroethane	CT,NH,NY,ME,VA
1,2-Dichloroethane	CT,NH,NY,ME,VA
1,1-Dichloroethylene	CT,NH,NY,ME,VA
cis-1,2-Dichloroethylene	CT,NH,NY,ME,VA
trans-1,2-Dichloroethylene	CT,NH,NY,ME,VA
1,2-Dichloropropane	CT,NH,NY,ME,VA
1,3-Dichloropropane	NH,NY,ME,VA
2,2-Dichloropropane	NH,NY,ME,VA
1,1-Dichloropropene	NH,NY,ME,VA
cis-1,3-Dichloropropene	CT,NH,NY,ME,VA
trans-1,3-Dichloropropene	CT,NH,NY,ME,VA
Diethyl Ether	ME
1,4-Dioxane	NY,ME
Ethylbenzene	CT,NH,NY,ME,VA
Hexachlorobutadiene	NH,NY,ME,VA
2-Hexanone (MBK)	CT,NH,NY,ME,VA
Isopropylbenzene (Cumene)	CT,NH,NY,ME,VA

**CERTIFICATIONS**

**Certified Analyses included in this Report**

Analyte	Certifications
<i>SW-846 8260C-D in Soil</i>	
p-Isopropyltoluene (p-Cymene)	NH, NY
Methyl Acetate	NY, ME
Methyl tert-Butyl Ether (MTBE)	NY, ME, VA
Methyl Cyclohexane	NY
Methylene Chloride	CT, NH, NY, ME, VA
4-Methyl-2-pentanone (MIBK)	CT, NH, NY, ME, VA
Naphthalene	NH, NY, ME, VA
n-Propylbenzene	NH, NY, ME
Styrene	CT, NH, NY, ME, VA
1,1,1,2-Tetrachloroethane	CT, NH, NY, ME, VA
1,1,2,2-Tetrachloroethane	CT, NH, NY, ME, VA
Tetrachloroethylene	CT, NH, NY, ME, VA
Toluene	CT, NH, NY, ME, VA
1,2,3-Trichlorobenzene	NY, ME
1,2,4-Trichlorobenzene	NH, NY, ME, VA
1,3,5-Trichlorobenzene	ME
1,1,1-Trichloroethane	CT, NH, NY, ME, VA
1,1,2-Trichloroethane	CT, NH, NY, ME, VA
Trichloroethylene	CT, NH, NY, ME, VA
Trichlorofluoromethane (Freon 11)	CT, NH, NY, ME, VA
1,2,3-Trichloropropane	NH, NY, ME, VA
1,2,4-Trimethylbenzene	CT, NH, NY, ME, VA
1,3,5-Trimethylbenzene	CT, NH, NY, ME, VA
Vinyl Chloride	CT, NH, NY, ME, VA
m+p Xylene	CT, NH, NY, ME, VA
o-Xylene	CT, NH, NY, ME, VA

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2017	100033	03/1/2022
MA	Massachusetts DEP	M-MA100	06/30/2021
CT	Connecticut Department of Public Health	PH-0567	09/30/2021
NY	New York State Department of Health	10899 NELAP	04/1/2021
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2021
RI	Rhode Island Department of Health	LAO00112	12/30/2020
NC	North Carolina Div. of Water Quality	652	12/31/2020
NJ	New Jersey DEP	MA007 NELAP	06/30/2021
FL	Florida Department of Health	E871027 NELAP	06/30/2021
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2021
ME	State of Maine	2011028	06/9/2021
VA	Commonwealth of Virginia	460217	12/14/2020
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2020
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2021
NC-DW	North Carolina Department of Health	25703	07/31/2020
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2021





I Have Not Confirmed Sample Container Numbers With Lab Staff Before Relinquishing Over Samples \_\_\_\_\_



**con-test**  
ANALYTICAL LABORATORY

Doc# 277 Rev 5 2017

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

Client ESS Group  
 Received By PM Date 7/18/20 Time 1730

How were the samples received?  
 In Cooler T No Cooler \_\_\_\_\_ On Ice T No Ice \_\_\_\_\_  
 Direct from Sampling \_\_\_\_\_ Ambient \_\_\_\_\_ Melted Ice \_\_\_\_\_

Were samples within Temperature? 2-6°C T By Gun # 2 Actual Temp - 4.5  
 By Blank # \_\_\_\_\_ Actual Temp - \_\_\_\_\_

Was Custody Seal Intact? NA Were Samples Tamped with? NA  
 Was COC Relinquished? T Does Chain Agree With Samples? T

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

Is COC in ink/ Legible? T Were samples received within holding time? T  
 Did COC include all pertinent Information? Client T Analysis T Sampler Name T  
 Project T ID's T Collection Dates/Times T

Are Sample labels filled out and legible? T  
 Are there Lab to Filters? F Who was notified? \_\_\_\_\_  
 Are there Rushes? F Who was notified? \_\_\_\_\_  
 Are there Short Holds? F Who was notified? \_\_\_\_\_

Is there enough Volume? T  
 Is there Headspace where applicable? T MS/MSD? F  
 Proper Media/Containers Used? T Is splitting samples required? F  
 Were trip blanks received? F On COC? F  
 Do all samples have the proper pH? NA Acid \_\_\_\_\_ Base \_\_\_\_\_

Vials	#	Containers:	#	#	#
Unp-		1 Liter Amb.		1 Liter Plastic	16 oz Amb.
HCL-		500 mL Amb.		500 mL Plastic	8oz Amb/Clear
Meoh-	5	250 mL Amb.		250 mL Plastic	4oz Amb/Clear
Bisulfate-	10	Flashpoint		Col./Bacteria	2oz Amb/Clear
DI-		Other Glass		Other Plastic	Encore
Thiosulfate-		SOC Kit		Plastic Bag	Frozen:
Sulfuric-		Perchlorate		Ziplock	

**Unused Media**

Vials	#	Containers:	#	#	#
Unp-		1 Liter Amb.		1 Liter Plastic	16 oz Amb.
HCL-		500 mL Amb.		500 mL Plastic	8oz Amb/Clear
Meoh-		250 mL Amb.		250 mL Plastic	4oz Amb/Clear
Bisulfate-		Col./Bacteria		Flashpoint	2oz Amb/Clear
DI-		Other Plastic		Other Glass	Encore
Thiosulfate-		SOC Kit		Plastic Bag	Frozen:
Sulfuric-		Perchlorate		Ziplock	

Comments:

July 13, 2020

Craig Paradis  
ESS Group Inc.  
404 Wyman St. Suite 375  
Waltham, MA 02451

Project Location: 5 Main Street, Hope, RI  
Client Job Number:  
Project Number: P312-009  
Laboratory Work Order Number: 20G0088

Enclosed are results of analyses for samples received by the laboratory on July 2, 2020. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, reading "Jessica Hoffman", is displayed on a light blue rectangular background. The signature is written in a cursive, flowing style.

Jessica L. Hoffman  
Project Manager

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

ESS Group Inc.  
 404 Wyman St. Suite 375  
 Waltham, MA 02451  
 ATTN: Craig Paradis

REPORT DATE: 7/13/2020

PURCHASE ORDER NUMBER:

PROJECT NUMBER: P312-009

**ANALYTICAL SUMMARY**

WORK ORDER NUMBER: 20G0088

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

PROJECT LOCATION: 5 Main Street, Hope, RI

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
DISP-UST-1	20G0088-01	Soil		SM 2540G SW-846 1010A SW-846 1030 SW-846 6010D SW-846 7471B SW-846 8082A SW-846 8100 Modified SW-846 8260C-D SW-846 8270D-E SW-846 9014 SW-846 9030A SW-846 9045C	

**CASE NARRATIVE SUMMARY**

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

REVISION: 7/13/2020 Sample ID changed to match COC.

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332  
SW-846 8260C-D

---

**Qualifications:****L-02**

Laboratory fortified blank/laboratory control sample recovery and duplicate recoveries outside of control limits. Data validation is not affected since all results are "not detected" for associated samples in this batch and bias is on the high side.

**Analyte & Samples(s) Qualified:****Methyl Acetate**

B261338-BS1, B261338-BSD1

---

**V-05**

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

**Analyte & Samples(s) Qualified:****Naphthalene**

20G0088-01[DISP-UST-1], B261338-BLK1, B261338-BS1, B261338-BSD1, S049998-CCV1

---

**V-20**

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

**Analyte & Samples(s) Qualified:****Acetone**

B261338-BS1, B261338-BSD1, S049998-CCV1

**Chloromethane**

B261338-BS1, B261338-BSD1, S049998-CCV1

**Methyl Acetate**

B261338-BS1, B261338-BSD1, S049998-CCV1

---

**V-34**

Initial calibration verification (ICV) did not meet method specifications and was biased on the low side for this compound. Reported result is estimated.

**Analyte & Samples(s) Qualified:****Bromomethane**

20G0088-01[DISP-UST-1], B261338-BLK1, B261338-BS1, B261338-BSD1, S049998-CCV1

---

SW-846 8270D-E

---

**Qualifications:****V-04**

Initial calibration did not meet method specifications. Compound was calibrated using a response factor where %RSD is outside of method specified criteria. Reported result is estimated.

**Analyte & Samples(s) Qualified:****Benzidine**

20G0088-01[DISP-UST-1], B261385-BLK1, B261385-BS1, B261385-BSD1, S050132-CCV1

---

**V-05**

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

**Analyte & Samples(s) Qualified:****Aniline**

20G0088-01[DISP-UST-1], B261385-BLK1, B261385-BS1, B261385-BSD1, S050132-CCV1

**Benzidine**

20G0088-01[DISP-UST-1], B261385-BLK1, B261385-BS1, B261385-BSD1, S050132-CCV1

---

**V-06**

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

**Analyte & Samples(s) Qualified:****Bis(2-chloroisopropyl)ether**

B261385-BS1, B261385-BSD1, S050132-CCV1

**Di-n-octylphthalate**

B261385-BS1, B261385-BSD1, S050132-CCV1

---



**V-20**

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

**Analyte & Samples(s) Qualified:****Bis(2-chloroisopropyl)ether**

20G0088-01[DISP-UST-1], B261385-BLK1

**Di-n-octylphthalate**

20G0088-01[DISP-UST-1], B261385-BLK1

**V-34**

Initial calibration verification (ICV) did not meet method specifications and was biased on the low side for this compound. Reported result is estimated.

**Analyte & Samples(s) Qualified:****4-Chloroaniline**

20G0088-01[DISP-UST-1], B261385-BLK1, B261385-BS1, B261385-BSD1, S050132-CCV1

**Aniline**

20G0088-01[DISP-UST-1], B261385-BLK1, B261385-BS1, B261385-BSD1, S050132-CCV1

**Hexachlorocyclopentadiene**

20G0088-01[DISP-UST-1], B261385-BLK1, B261385-BS1, B261385-BSD1, S050132-CCV1

**SW-846 9045C****Qualifications:****H-03**

Sample received after recommended holding time was exceeded.

**Analyte & Samples(s) Qualified:****pH**

20G0088-01[DISP-UST-1]

**SW-846 8100 Modified**

TPH (C9-C36) is quantitated against a calibration made with a diesel standard.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Jessica L. Hoffman  
Project Manager

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

Project Location: 5 Main Street, Hope, RI

Sample Description:

Work Order: 20G0088

Date Received: 7/2/2020

Field Sample #: DISP-UST-1

Sampled: 7/1/2020 17:20

Sample ID: 20G0088-01

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.080	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
Acrylonitrile	ND	0.0048	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.00080	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
Benzene	0.0074	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
Bromobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
Bromochloromethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
Bromodichloromethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
Bromoform	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
Bromomethane	ND	0.0080	mg/Kg dry	1	V-34	SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
2-Butanone (MEK)	ND	0.032	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
tert-Butyl Alcohol (TBA)	ND	0.032	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
n-Butylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
sec-Butylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
tert-Butylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.00080	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
Carbon Disulfide	ND	0.0048	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
Carbon Tetrachloride	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
Chlorobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
Chlorodibromomethane	ND	0.00080	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
Chloroethane	ND	0.016	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
Chloroform	ND	0.0032	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
Chloromethane	ND	0.0080	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
2-Chlorotoluene	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
4-Chlorotoluene	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
1,2-Dibromoethane (EDB)	ND	0.00080	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
Dibromomethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
1,2-Dichlorobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
1,3-Dichlorobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
1,4-Dichlorobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
trans-1,4-Dichloro-2-butene	ND	0.0032	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.016	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
1,1-Dichloroethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
1,2-Dichloroethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
1,1-Dichloroethylene	ND	0.0032	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
cis-1,2-Dichloroethylene	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
trans-1,2-Dichloroethylene	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
1,2-Dichloropropane	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
1,3-Dichloropropane	ND	0.00080	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
2,2-Dichloropropane	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
1,1-Dichloropropene	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
cis-1,3-Dichloropropene	ND	0.00080	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
trans-1,3-Dichloropropene	ND	0.00080	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
Diethyl Ether	ND	0.016	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF

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

Project Location: 5 Main Street, Hope, RI

Sample Description:

Work Order: 20G0088

Date Received: 7/2/2020

Field Sample #: DISP-UST-1

Sampled: 7/1/2020 17:20

Sample ID: 20G0088-01

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Diisopropyl Ether (DIPE)	ND	0.00080	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
1,4-Dioxane	ND	0.080	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
Ethylbenzene	0.0038	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
Hexachlorobutadiene	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
2-Hexanone (MBK)	ND	0.016	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
Isopropylbenzene (Cumene)	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
Methyl Acetate	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
Methyl tert-Butyl Ether (MTBE)	0.0091	0.0032	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
Methyl Cyclohexane	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
Methylene Chloride	ND	0.016	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.016	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
Naphthalene	ND	0.0032	mg/Kg dry	1	V-05	SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
n-Propylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
Styrene	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
1,1,1,2-Tetrachloroethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
1,1,2,2-Tetrachloroethane	ND	0.00080	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
Tetrachloroethylene	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
Tetrahydrofuran	ND	0.0080	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
Toluene	0.026	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
1,2,3-Trichlorobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
1,2,4-Trichlorobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
1,3,5-Trichlorobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
1,1,1-Trichloroethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
1,1,2-Trichloroethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
Trichloroethylene	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
Trichlorofluoromethane (Freon 11)	ND	0.0080	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
1,2,3-Trichloropropane	ND	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.0080	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
1,2,4-Trimethylbenzene	0.0046	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
1,3,5-Trimethylbenzene	0.0016	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
Vinyl Chloride	ND	0.0080	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
m+p Xylene	0.017	0.0032	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
o-Xylene	0.0082	0.0016	mg/Kg dry	1		SW-846 8260C-D	7/6/20	7/6/20 10:49	MFF
Surrogates		% Recovery	Recovery Limits		Flag/Qual				
1,2-Dichloroethane-d4		109	70-130					7/6/20 10:49	
Toluene-d8		102	70-130					7/6/20 10:49	
4-Bromofluorobenzene		101	70-130					7/6/20 10:49	

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

Project Location: 5 Main Street, Hope, RI

Sample Description:

Work Order: 20G0088

Date Received: 7/2/2020

Field Sample #: DISP-UST-1

Sampled: 7/1/2020 17:20

Sample ID: 20G0088-01

Sample Matrix: Soil

Semivolatle Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
Acenaphthylene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
Acetophenone	ND	0.40	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
Aniline	ND	0.40	mg/Kg dry	1	V-05, V-34	SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
Anthracene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
Benzidine	ND	0.77	mg/Kg dry	1	V-04, V-05	SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
Benzo(a)anthracene	0.31	0.20	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
Benzo(a)pyrene	0.37	0.20	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
Benzo(b)fluoranthene	0.56	0.20	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
Benzo(g,h,i)perylene	0.29	0.20	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
Benzo(k)fluoranthene	0.22	0.20	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
Benzoic Acid	ND	1.2	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
Bis(2-chloroethoxy)methane	ND	0.40	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
Bis(2-chloroethyl)ether	ND	0.40	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
Bis(2-chloroisopropyl)ether	ND	0.40	mg/Kg dry	1	V-20	SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
Bis(2-Ethylhexyl)phthalate	ND	0.40	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
4-Bromophenylphenylether	ND	0.40	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
Butylbenzylphthalate	ND	0.40	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
Carbazole	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
4-Chloroaniline	ND	0.77	mg/Kg dry	1	V-34	SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
4-Chloro-3-methylphenol	ND	0.77	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
2-Chloronaphthalene	ND	0.40	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
2-Chlorophenol	ND	0.40	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
4-Chlorophenylphenylether	ND	0.40	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
Chrysene	0.40	0.20	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
Dibenz(a,h)anthracene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
Dibenzofuran	ND	0.40	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
Di-n-butylphthalate	ND	0.40	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
1,2-Dichlorobenzene	ND	0.40	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
1,3-Dichlorobenzene	ND	0.40	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
1,4-Dichlorobenzene	ND	0.40	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
3,3-Dichlorobenzidine	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
2,4-Dichlorophenol	ND	0.40	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
Diethylphthalate	ND	0.40	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
2,4-Dimethylphenol	ND	0.40	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
Dimethylphthalate	ND	0.40	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
4,6-Dinitro-2-methylphenol	ND	0.40	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
2,4-Dinitrophenol	ND	0.77	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
2,4-Dinitrotoluene	ND	0.40	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
2,6-Dinitrotoluene	ND	0.40	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
Di-n-octylphthalate	ND	0.40	mg/Kg dry	1	V-20	SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
1,2-Diphenylhydrazine/Azobenzene	ND	0.40	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
Fluoranthene	0.58	0.20	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
Fluorene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL

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

Project Location: 5 Main Street, Hope, RI

Sample Description:

Work Order: 20G0088

Date Received: 7/2/2020

Field Sample #: DISP-UST-1

Sampled: 7/1/2020 17:20

Sample ID: 20G0088-01

Sample Matrix: Soil

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobenzene	ND	0.40	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
Hexachlorobutadiene	ND	0.40	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
Hexachlorocyclopentadiene	ND	0.40	mg/Kg dry	1	V-34	SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
Hexachloroethane	ND	0.40	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
Indeno(1,2,3-cd)pyrene	0.33	0.20	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
Isophorone	ND	0.40	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
1-Methylnaphthalene	ND	0.20	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
2-Methylnaphthalene	0.31	0.20	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
2-Methylphenol	ND	0.40	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
3/4-Methylphenol	ND	0.40	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
Naphthalene	0.40	0.20	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
2-Nitroaniline	ND	0.40	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
3-Nitroaniline	ND	0.40	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
4-Nitroaniline	ND	0.40	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
Nitrobenzene	ND	0.40	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
2-Nitrophenol	ND	0.40	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
4-Nitrophenol	ND	0.77	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
N-Nitrosodimethylamine	ND	0.40	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
N-Nitrosodiphenylamine/Diphenylamine	ND	0.40	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
N-Nitrosodi-n-propylamine	ND	0.40	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
Pentachloronitrobenzene	ND	0.40	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
Pentachlorophenol	ND	0.40	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
Phenanthrene	0.43	0.20	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
Phenol	ND	0.40	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
Pyrene	0.63	0.20	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
Pyridine	ND	0.40	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
1,2,4,5-Tetrachlorobenzene	ND	0.40	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
1,2,4-Trichlorobenzene	ND	0.40	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
2,4,5-Trichlorophenol	ND	0.40	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL
2,4,6-Trichlorophenol	ND	0.40	mg/Kg dry	1		SW-846 8270D-E	7/7/20	7/8/20 12:18	BGL

Surrogates	% Recovery	Recovery Limits	Flag/Qual
2-Fluorophenol	64.0	30-130	7/8/20 12:18
Phenol-d6	68.0	30-130	7/8/20 12:18
Nitrobenzene-d5	66.1	30-130	7/8/20 12:18
2-Fluorobiphenyl	68.1	30-130	7/8/20 12:18
2,4,6-Tribromophenol	65.9	30-130	7/8/20 12:18
p-Terphenyl-d14	70.7	30-130	7/8/20 12:18

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

Project Location: 5 Main Street, Hope, RI

Sample Description:

Work Order: 20G0088

Date Received: 7/2/2020

Field Sample #: DISP-UST-1

Sampled: 7/1/2020 17:20

Sample ID: 20G0088-01

Sample Matrix: Soil

**Polychlorinated Biphenyls By GC/ECD**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.094	mg/Kg dry	4		SW-846 8082A	7/7/20	7/8/20 12:27	TG
Aroclor-1221 [1]	ND	0.094	mg/Kg dry	4		SW-846 8082A	7/7/20	7/8/20 12:27	TG
Aroclor-1232 [1]	ND	0.094	mg/Kg dry	4		SW-846 8082A	7/7/20	7/8/20 12:27	TG
Aroclor-1242 [1]	ND	0.094	mg/Kg dry	4		SW-846 8082A	7/7/20	7/8/20 12:27	TG
Aroclor-1248 [1]	ND	0.094	mg/Kg dry	4		SW-846 8082A	7/7/20	7/8/20 12:27	TG
Aroclor-1254 [1]	ND	0.094	mg/Kg dry	4		SW-846 8082A	7/7/20	7/8/20 12:27	TG
Aroclor-1260 [1]	ND	0.094	mg/Kg dry	4		SW-846 8082A	7/7/20	7/8/20 12:27	TG
Aroclor-1262 [1]	ND	0.094	mg/Kg dry	4		SW-846 8082A	7/7/20	7/8/20 12:27	TG
Aroclor-1268 [1]	ND	0.094	mg/Kg dry	4		SW-846 8082A	7/7/20	7/8/20 12:27	TG
Surrogates		% Recovery	Recovery Limits		Flag/Qual				
Decachlorobiphenyl [1]		92.5	30-150					7/8/20 12:27	
Decachlorobiphenyl [2]		96.0	30-150					7/8/20 12:27	
Tetrachloro-m-xylene [1]		89.1	30-150					7/8/20 12:27	
Tetrachloro-m-xylene [2]		89.2	30-150					7/8/20 12:27	

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

Project Location: 5 Main Street, Hope, RI

Sample Description:

Work Order: 20G0088

Date Received: 7/2/2020

Field Sample #: DISP-UST-1

Sampled: 7/1/2020 17:20

Sample ID: 20G0088-01

Sample Matrix: Soil

**Petroleum Hydrocarbons Analyses**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
TPH (C9-C36)	190	49	mg/Kg dry	5		SW-846 8100 Modified	7/7/20	7/10/20 13:31	RDD
<b>Surrogates</b>		<b>% Recovery</b>	<b>Recovery Limits</b>		<b>Flag/Qual</b>				
2-Fluorobiphenyl		56.0	40-140					7/10/20 13:31	

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

Project Location: 5 Main Street, Hope, RI

Sample Description:

Work Order: 20G0088

Date Received: 7/2/2020

Field Sample #: DISP-UST-1

Sampled: 7/1/2020 17:20

Sample ID: 20G0088-01

Sample Matrix: Soil

**Metals Analyses (Total)**

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	9.3	3.8	mg/Kg dry	1		SW-846 6010D	7/6/20	7/7/20 12:44	MJH
Barium	81	1.9	mg/Kg dry	1		SW-846 6010D	7/6/20	7/7/20 14:30	MJH
Cadmium	ND	0.38	mg/Kg dry	1		SW-846 6010D	7/6/20	7/7/20 14:30	MJH
Chromium	4.0	0.75	mg/Kg dry	1		SW-846 6010D	7/6/20	7/7/20 14:30	MJH
Lead	2000	0.57	mg/Kg dry	1		SW-846 6010D	7/6/20	7/7/20 14:30	MJH
Mercury	0.13	0.030	mg/Kg dry	1		SW-846 7471B	7/8/20	7/9/20 10:57	CJV
Selenium	ND	3.8	mg/Kg dry	1		SW-846 6010D	7/6/20	7/7/20 14:30	MJH
Silver	3.0	0.38	mg/Kg dry	1		SW-846 6010D	7/6/20	7/7/20 14:30	MJH



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Project Location: 5 Main Street, Hope, RI

Sample Description:

Work Order: 20G0088

Date Received: 7/2/2020

Field Sample #: DISP-UST-1

Sampled: 7/1/2020 17:20

Sample ID: 20G0088-01

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	85.1		% Wt	1		SM 2540G	7/3/20	7/6/20 7:48	JS
Flashpoint	> 212 °F		°F	1		SW-846 1010A	7/6/20	7/6/20 19:15	DJM
Ignitability	Absent		present/absent	1		SW-846 1030	7/6/20	7/6/20 14:30	AWA
pH @21.5°C	6.7		pH Units	1	H-03	SW-846 9045C	7/2/20	7/2/20 21:00	KMV
Reactive Cyanide	ND	4.0	mg/Kg	1		SW-846 9014	7/7/20	7/8/20 22:45	DJM
Reactive Sulfide	ND	20	mg/Kg	1		SW-846 9030A	7/7/20	7/8/20 22:30	DJM

**Sample Extraction Data**

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

Lab Number [Field ID]	Batch	Date
20G0088-01 [DISP-UST-1]	B261288	07/03/20

**SW-846 1010A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
20G0088-01 [DISP-UST-1]	B261375	50.0	50.0	07/06/20

**SW-846 1030**

Lab Number [Field ID]	Batch	Initial [g]	Date
20G0088-01 [DISP-UST-1]	B261361	50.0	07/06/20

**Prep Method: SW-846 3050B    Analytical Method: SW-846 6010D**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
20G0088-01 [DISP-UST-1]	B261341	1.56	50.0	07/06/20

**Prep Method: SW-846 7471    Analytical Method: SW-846 7471B**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
20G0088-01 [DISP-UST-1]	B261501	0.585	50.0	07/08/20

**Prep Method: SW-846 3546    Analytical Method: SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
20G0088-01 [DISP-UST-1]	B261434	10.0	10.0	07/07/20

**Prep Method: SW-846 3546    Analytical Method: SW-846 8100 Modified**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
20G0088-01 [DISP-UST-1]	B261382	30.2	1.00	07/07/20

**Prep Method: SW-846 5035    Analytical Method: SW-846 8260C-D**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
20G0088-01 [DISP-UST-1]	B261338	7.37	10.0	07/06/20

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

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
20G0088-01 [DISP-UST-1]	B261385	30.2	1.00	07/07/20

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

### Sample Extraction Data

#### SW-846 9014

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
20G0088-01 [DISP-UST-1]	B261408	25.1	250	07/07/20

#### SW-846 9030A

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
20G0088-01 [DISP-UST-1]	B261409	25.1	250	07/07/20

#### SW-846 9045C

Lab Number [Field ID]	Batch	Initial [g]	Date
20G0088-01 [DISP-UST-1]	B261285	20.0	07/02/20

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

**QUALITY CONTROL**

**Volatile Organic Compounds by GC/MS - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B261338 - SW-846 5035**

**Blank (B261338-BLK1)**

Prepared & Analyzed: 07/06/20

Acetone	ND	0.10	mg/Kg wet							
Acrylonitrile	ND	0.0060	mg/Kg wet							
tert-Amyl Methyl Ether (TAME)	ND	0.0010	mg/Kg wet							
Benzene	ND	0.0020	mg/Kg wet							
Bromobenzene	ND	0.0020	mg/Kg wet							
Bromochloromethane	ND	0.0020	mg/Kg wet							
Bromodichloromethane	ND	0.0020	mg/Kg wet							
Bromoform	ND	0.0020	mg/Kg wet							
Bromomethane	ND	0.010	mg/Kg wet							V-34
2-Butanone (MEK)	ND	0.040	mg/Kg wet							
tert-Butyl Alcohol (TBA)	ND	0.040	mg/Kg wet							
n-Butylbenzene	ND	0.0020	mg/Kg wet							
sec-Butylbenzene	ND	0.0020	mg/Kg wet							
tert-Butylbenzene	ND	0.0020	mg/Kg wet							
tert-Butyl Ethyl Ether (TBEE)	ND	0.0010	mg/Kg wet							
Carbon Disulfide	ND	0.0060	mg/Kg wet							
Carbon Tetrachloride	ND	0.0020	mg/Kg wet							
Chlorobenzene	ND	0.0020	mg/Kg wet							
Chlorodibromomethane	ND	0.0010	mg/Kg wet							
Chloroethane	ND	0.020	mg/Kg wet							
Chloroform	ND	0.0040	mg/Kg wet							
Chloromethane	ND	0.010	mg/Kg wet							
2-Chlorotoluene	ND	0.0020	mg/Kg wet							
4-Chlorotoluene	ND	0.0020	mg/Kg wet							
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0020	mg/Kg wet							
1,2-Dibromoethane (EDB)	ND	0.0010	mg/Kg wet							
Dibromomethane	ND	0.0020	mg/Kg wet							
1,2-Dichlorobenzene	ND	0.0020	mg/Kg wet							
1,3-Dichlorobenzene	ND	0.0020	mg/Kg wet							
1,4-Dichlorobenzene	ND	0.0020	mg/Kg wet							
trans-1,4-Dichloro-2-butene	ND	0.0040	mg/Kg wet							
Dichlorodifluoromethane (Freon 12)	ND	0.020	mg/Kg wet							
1,1-Dichloroethane	ND	0.0020	mg/Kg wet							
1,2-Dichloroethane	ND	0.0020	mg/Kg wet							
1,1-Dichloroethylene	ND	0.0040	mg/Kg wet							
cis-1,2-Dichloroethylene	ND	0.0020	mg/Kg wet							
trans-1,2-Dichloroethylene	ND	0.0020	mg/Kg wet							
1,2-Dichloropropane	ND	0.0020	mg/Kg wet							
1,3-Dichloropropane	ND	0.0010	mg/Kg wet							
2,2-Dichloropropane	ND	0.0020	mg/Kg wet							
1,1-Dichloropropene	ND	0.0020	mg/Kg wet							
cis-1,3-Dichloropropene	ND	0.0010	mg/Kg wet							
trans-1,3-Dichloropropene	ND	0.0010	mg/Kg wet							
Diethyl Ether	ND	0.020	mg/Kg wet							
Diisopropyl Ether (DIPE)	ND	0.0010	mg/Kg wet							
1,4-Dioxane	ND	0.10	mg/Kg wet							
Ethylbenzene	ND	0.0020	mg/Kg wet							
Hexachlorobutadiene	ND	0.0020	mg/Kg wet							
2-Hexanone (MBK)	ND	0.020	mg/Kg wet							
Isopropylbenzene (Cumene)	ND	0.0020	mg/Kg wet							
p-Isopropyltoluene (p-Cymene)	ND	0.0020	mg/Kg wet							
Methyl Acetate	ND	0.0020	mg/Kg wet							

QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B261338 - SW-846 5035

Blank (B261338-BLK1)

Prepared & Analyzed: 07/06/20

Methyl tert-Butyl Ether (MTBE)	ND	0.0040	mg/Kg wet							
Methyl Cyclohexane	ND	0.0020	mg/Kg wet							
Methylene Chloride	ND	0.020	mg/Kg wet							
4-Methyl-2-pentanone (MIBK)	ND	0.020	mg/Kg wet							
Naphthalene	ND	0.0040	mg/Kg wet							V-05
n-Propylbenzene	ND	0.0020	mg/Kg wet							
Styrene	ND	0.0020	mg/Kg wet							
1,1,1,2-Tetrachloroethane	ND	0.0020	mg/Kg wet							
1,1,2,2-Tetrachloroethane	ND	0.0010	mg/Kg wet							
Tetrachloroethylene	ND	0.0020	mg/Kg wet							
Tetrahydrofuran	ND	0.010	mg/Kg wet							
Toluene	ND	0.0020	mg/Kg wet							
1,2,3-Trichlorobenzene	ND	0.0020	mg/Kg wet							
1,2,4-Trichlorobenzene	ND	0.0020	mg/Kg wet							
1,3,5-Trichlorobenzene	ND	0.0020	mg/Kg wet							
1,1,1-Trichloroethane	ND	0.0020	mg/Kg wet							
1,1,2-Trichloroethane	ND	0.0020	mg/Kg wet							
Trichloroethylene	ND	0.0020	mg/Kg wet							
Trichlorofluoromethane (Freon 11)	ND	0.010	mg/Kg wet							
1,2,3-Trichloropropane	ND	0.0020	mg/Kg wet							
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.010	mg/Kg wet							
1,2,4-Trimethylbenzene	ND	0.0020	mg/Kg wet							
1,3,5-Trimethylbenzene	ND	0.0020	mg/Kg wet							
Vinyl Chloride	ND	0.010	mg/Kg wet							
m+p Xylene	ND	0.0040	mg/Kg wet							
o-Xylene	ND	0.0020	mg/Kg wet							
Surrogate: 1,2-Dichloroethane-d4	0.0499		mg/Kg wet	0.0500		99.8	70-130			
Surrogate: Toluene-d8	0.0513		mg/Kg wet	0.0500		103	70-130			
Surrogate: 4-Bromofluorobenzene	0.0500		mg/Kg wet	0.0500		100	70-130			

LCS (B261338-BS1)

Prepared & Analyzed: 07/06/20

Acetone	0.262	0.10	mg/Kg wet	0.200		131	70-160			V-20 †
Acrylonitrile	0.0232	0.0060	mg/Kg wet	0.0200		116	70-130			
tert-Amyl Methyl Ether (TAME)	0.0215	0.0010	mg/Kg wet	0.0200		107	70-130			
Benzene	0.0188	0.0020	mg/Kg wet	0.0200		94.1	70-130			
Bromobenzene	0.0191	0.0020	mg/Kg wet	0.0200		95.5	70-130			
Bromochloromethane	0.0216	0.0020	mg/Kg wet	0.0200		108	70-130			
Bromodichloromethane	0.0197	0.0020	mg/Kg wet	0.0200		98.7	70-130			
Bromoform	0.0220	0.0020	mg/Kg wet	0.0200		110	70-130			
Bromomethane	0.0210	0.010	mg/Kg wet	0.0200		105	40-130			V-34 †
2-Butanone (MEK)	0.244	0.040	mg/Kg wet	0.200		122	70-160			†
tert-Butyl Alcohol (TBA)	0.243	0.040	mg/Kg wet	0.200		121	40-130			†
n-Butylbenzene	0.0166	0.0020	mg/Kg wet	0.0200		83.2	70-130			
sec-Butylbenzene	0.0192	0.0020	mg/Kg wet	0.0200		96.1	70-130			
tert-Butylbenzene	0.0190	0.0020	mg/Kg wet	0.0200		95.0	70-160			†
tert-Butyl Ethyl Ether (TBEE)	0.0218	0.0010	mg/Kg wet	0.0200		109	70-130			
Carbon Disulfide	0.196	0.0060	mg/Kg wet	0.200		98.2	70-130			
Carbon Tetrachloride	0.0203	0.0020	mg/Kg wet	0.0200		102	70-130			
Chlorobenzene	0.0206	0.0020	mg/Kg wet	0.0200		103	70-130			
Chlorodibromomethane	0.0217	0.0010	mg/Kg wet	0.0200		108	70-130			
Chloroethane	0.0222	0.020	mg/Kg wet	0.0200		111	70-130			
Chloroform	0.0183	0.0040	mg/Kg wet	0.0200		91.6	70-130			

QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B261338 - SW-846 5035</b>										
<b>LCS (B261338-BS1)</b>										
Prepared & Analyzed: 07/06/20										
Chloromethane	0.0242	0.010	mg/Kg wet	0.0200		121	70-130			V-20
2-Chlorotoluene	0.0194	0.0020	mg/Kg wet	0.0200		97.1	70-130			
4-Chlorotoluene	0.0182	0.0020	mg/Kg wet	0.0200		91.2	70-130			
1,2-Dibromo-3-chloropropane (DBCP)	0.0210	0.0020	mg/Kg wet	0.0200		105	70-130			
1,2-Dibromoethane (EDB)	0.0225	0.0010	mg/Kg wet	0.0200		112	70-130			
Dibromomethane	0.0228	0.0020	mg/Kg wet	0.0200		114	70-130			
1,2-Dichlorobenzene	0.0197	0.0020	mg/Kg wet	0.0200		98.6	70-130			
1,3-Dichlorobenzene	0.0194	0.0020	mg/Kg wet	0.0200		97.1	70-130			
1,4-Dichlorobenzene	0.0192	0.0020	mg/Kg wet	0.0200		95.9	70-130			
trans-1,4-Dichloro-2-butene	0.0199	0.0040	mg/Kg wet	0.0200		99.3	70-130			
Dichlorodifluoromethane (Freon 12)	0.0214	0.020	mg/Kg wet	0.0200		107	40-160			†
1,1-Dichloroethane	0.0204	0.0020	mg/Kg wet	0.0200		102	70-130			
1,2-Dichloroethane	0.0234	0.0020	mg/Kg wet	0.0200		117	70-130			
1,1-Dichloroethylene	0.0201	0.0040	mg/Kg wet	0.0200		100	70-130			
cis-1,2-Dichloroethylene	0.0192	0.0020	mg/Kg wet	0.0200		96.1	70-130			
trans-1,2-Dichloroethylene	0.0199	0.0020	mg/Kg wet	0.0200		99.5	70-130			
1,2-Dichloropropane	0.0217	0.0020	mg/Kg wet	0.0200		109	70-130			
1,3-Dichloropropane	0.0227	0.0010	mg/Kg wet	0.0200		114	70-130			
2,2-Dichloropropane	0.0189	0.0020	mg/Kg wet	0.0200		94.6	70-130			
1,1-Dichloropropene	0.0189	0.0020	mg/Kg wet	0.0200		94.7	70-130			
cis-1,3-Dichloropropene	0.0219	0.0010	mg/Kg wet	0.0200		109	70-130			
trans-1,3-Dichloropropene	0.0217	0.0010	mg/Kg wet	0.0200		109	70-130			
Diethyl Ether	0.0205	0.020	mg/Kg wet	0.0200		103	70-130			
Diisopropyl Ether (DIPE)	0.0221	0.0010	mg/Kg wet	0.0200		110	70-130			
1,4-Dioxane	0.237	0.10	mg/Kg wet	0.200		119	40-160			†
Ethylbenzene	0.0180	0.0020	mg/Kg wet	0.0200		89.8	70-130			
Hexachlorobutadiene	0.0203	0.0020	mg/Kg wet	0.0200		102	70-160			
2-Hexanone (MBK)	0.235	0.020	mg/Kg wet	0.200		117	70-160			†
Isopropylbenzene (Cumene)	0.0195	0.0020	mg/Kg wet	0.0200		97.6	70-130			
p-Isopropyltoluene (p-Cymene)	0.0191	0.0020	mg/Kg wet	0.0200		95.6	70-130			
<b>Methyl Acetate</b>	0.0264	0.0020	mg/Kg wet	0.0200		<b>132</b> *	70-130			L-02, V-20
Methyl tert-Butyl Ether (MTBE)	0.0216	0.0040	mg/Kg wet	0.0200		108	70-130			
Methyl Cyclohexane	0.0200	0.0020	mg/Kg wet	0.0200		100	70-130			
Methylene Chloride	0.0218	0.020	mg/Kg wet	0.0200		109	40-160			†
4-Methyl-2-pentanone (MIBK)	0.234	0.020	mg/Kg wet	0.200		117	70-160			†
Naphthalene	0.0156	0.0040	mg/Kg wet	0.0200		78.0	40-130			V-05 †
n-Propylbenzene	0.0184	0.0020	mg/Kg wet	0.0200		92.2	70-130			
Styrene	0.0200	0.0020	mg/Kg wet	0.0200		100	70-130			
1,1,1,2-Tetrachloroethane	0.0216	0.0020	mg/Kg wet	0.0200		108	70-130			
1,1,2,2-Tetrachloroethane	0.0202	0.0010	mg/Kg wet	0.0200		101	70-130			
Tetrachloroethylene	0.0210	0.0020	mg/Kg wet	0.0200		105	70-130			
Tetrahydrofuran	0.0203	0.010	mg/Kg wet	0.0200		102	70-130			
Toluene	0.0192	0.0020	mg/Kg wet	0.0200		96.2	70-130			
1,2,3-Trichlorobenzene	0.0182	0.0020	mg/Kg wet	0.0200		90.9	70-130			
1,2,4-Trichlorobenzene	0.0189	0.0020	mg/Kg wet	0.0200		94.3	70-130			
1,3,5-Trichlorobenzene	0.0197	0.0020	mg/Kg wet	0.0200		98.6	70-130			
1,1,1-Trichloroethane	0.0183	0.0020	mg/Kg wet	0.0200		91.3	70-130			
1,1,2-Trichloroethane	0.0202	0.0020	mg/Kg wet	0.0200		101	70-130			
Trichloroethylene	0.0199	0.0020	mg/Kg wet	0.0200		99.5	70-130			
Trichlorofluoromethane (Freon 11)	0.0211	0.010	mg/Kg wet	0.0200		106	70-130			
1,2,3-Trichloropropane	0.0209	0.0020	mg/Kg wet	0.0200		105	70-130			

QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B261338 - SW-846 5035

LCS (B261338-BS1)

Prepared & Analyzed: 07/06/20

1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.0202	0.010	mg/Kg wet	0.0200		101	70-130			
1,2,4-Trimethylbenzene	0.0175	0.0020	mg/Kg wet	0.0200		87.5	70-130			
1,3,5-Trimethylbenzene	0.0185	0.0020	mg/Kg wet	0.0200		92.3	70-130			
Vinyl Chloride	0.0220	0.010	mg/Kg wet	0.0200		110	40-130			†
m+p Xylene	0.0365	0.0040	mg/Kg wet	0.0400		91.2	70-130			
o-Xylene	0.0182	0.0020	mg/Kg wet	0.0200		91.1	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0483		mg/Kg wet	0.0500		96.7	70-130			
Surrogate: Toluene-d8	0.0512		mg/Kg wet	0.0500		102	70-130			
Surrogate: 4-Bromofluorobenzene	0.0502		mg/Kg wet	0.0500		100	70-130			

LCS Dup (B261338-BSD1)

Prepared & Analyzed: 07/06/20

Acetone	0.253	0.10	mg/Kg wet	0.200		126	70-160	3.58	25	V-20	†
Acrylonitrile	0.0227	0.0060	mg/Kg wet	0.0200		114	70-130	2.09	25		
tert-Amyl Methyl Ether (TAME)	0.0219	0.0010	mg/Kg wet	0.0200		110	70-130	2.03	25		
Benzene	0.0186	0.0020	mg/Kg wet	0.0200		93.0	70-130	1.18	25		
Bromobenzene	0.0192	0.0020	mg/Kg wet	0.0200		95.9	70-130	0.418	25		
Bromochloromethane	0.0227	0.0020	mg/Kg wet	0.0200		113	70-130	4.79	25		
Bromodichloromethane	0.0199	0.0020	mg/Kg wet	0.0200		99.4	70-130	0.707	25		
Bromoform	0.0215	0.0020	mg/Kg wet	0.0200		107	70-130	2.48	25		
Bromomethane	0.0195	0.010	mg/Kg wet	0.0200		97.4	40-130	7.51	25	V-34	†
2-Butanone (MEK)	0.245	0.040	mg/Kg wet	0.200		123	70-160	0.392	25		†
tert-Butyl Alcohol (TBA)	0.248	0.040	mg/Kg wet	0.200		124	40-130	2.26	25		†
n-Butylbenzene	0.0162	0.0020	mg/Kg wet	0.0200		81.1	70-130	2.56	25		
sec-Butylbenzene	0.0185	0.0020	mg/Kg wet	0.0200		92.7	70-130	3.60	25		
tert-Butylbenzene	0.0181	0.0020	mg/Kg wet	0.0200		90.5	70-160	4.85	25		†
tert-Butyl Ethyl Ether (TBEE)	0.0222	0.0010	mg/Kg wet	0.0200		111	70-130	1.73	25		
Carbon Disulfide	0.191	0.0060	mg/Kg wet	0.200		95.3	70-130	3.01	25		
Carbon Tetrachloride	0.0197	0.0020	mg/Kg wet	0.0200		98.6	70-130	3.00	25		
Chlorobenzene	0.0214	0.0020	mg/Kg wet	0.0200		107	70-130	4.10	25		
Chlorodibromomethane	0.0225	0.0010	mg/Kg wet	0.0200		112	70-130	3.63	25		
Chloroethane	0.0224	0.020	mg/Kg wet	0.0200		112	70-130	0.806	25		
Chloroform	0.0184	0.0040	mg/Kg wet	0.0200		92.1	70-130	0.544	25		
Chloromethane	0.0225	0.010	mg/Kg wet	0.0200		113	70-130	7.11	25	V-20	
2-Chlorotoluene	0.0192	0.0020	mg/Kg wet	0.0200		95.9	70-130	1.24	25		
4-Chlorotoluene	0.0185	0.0020	mg/Kg wet	0.0200		92.3	70-130	1.20	25		
1,2-Dibromo-3-chloropropane (DBCP)	0.0188	0.0020	mg/Kg wet	0.0200		94.2	70-130	10.7	25		
1,2-Dibromoethane (EDB)	0.0221	0.0010	mg/Kg wet	0.0200		110	70-130	1.88	25		
Dibromomethane	0.0221	0.0020	mg/Kg wet	0.0200		111	70-130	3.11	25		
1,2-Dichlorobenzene	0.0194	0.0020	mg/Kg wet	0.0200		97.0	70-130	1.64	25		
1,3-Dichlorobenzene	0.0190	0.0020	mg/Kg wet	0.0200		95.2	70-130	1.98	25		
1,4-Dichlorobenzene	0.0183	0.0020	mg/Kg wet	0.0200		91.5	70-130	4.70	25		
trans-1,4-Dichloro-2-butene	0.0202	0.0040	mg/Kg wet	0.0200		101	70-130	1.70	25		
Dichlorodifluoromethane (Freon 12)	0.0219	0.020	mg/Kg wet	0.0200		110	40-160	2.40	25		†
1,1-Dichloroethane	0.0204	0.0020	mg/Kg wet	0.0200		102	70-130	0.196	25		
1,2-Dichloroethane	0.0231	0.0020	mg/Kg wet	0.0200		116	70-130	1.20	25		
1,1-Dichloroethylene	0.0185	0.0040	mg/Kg wet	0.0200		92.3	70-130	8.51	25		
cis-1,2-Dichloroethylene	0.0195	0.0020	mg/Kg wet	0.0200		97.4	70-130	1.34	25		
trans-1,2-Dichloroethylene	0.0203	0.0020	mg/Kg wet	0.0200		101	70-130	1.79	25		
1,2-Dichloropropane	0.0218	0.0020	mg/Kg wet	0.0200		109	70-130	0.551	25		
1,3-Dichloropropane	0.0221	0.0010	mg/Kg wet	0.0200		110	70-130	3.04	25		
2,2-Dichloropropane	0.0172	0.0020	mg/Kg wet	0.0200		85.9	70-130	9.64	25		
1,1-Dichloropropene	0.0182	0.0020	mg/Kg wet	0.0200		90.9	70-130	4.09	25		

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B261338 - SW-846 5035</b>										
<b>LCS Dup (B261338-BSD1)</b>										
Prepared & Analyzed: 07/06/20										
cis-1,3-Dichloropropene	0.0216	0.0010	mg/Kg wet	0.0200		108	70-130	1.10	25	
trans-1,3-Dichloropropene	0.0214	0.0010	mg/Kg wet	0.0200		107	70-130	1.48	25	
Diethyl Ether	0.0202	0.020	mg/Kg wet	0.0200		101	70-130	1.47	25	
Diisopropyl Ether (DIPE)	0.0214	0.0010	mg/Kg wet	0.0200		107	70-130	3.03	25	
1,4-Dioxane	0.188	0.10	mg/Kg wet	0.200		93.9	40-160	23.3	50	† ‡
Ethylbenzene	0.0177	0.0020	mg/Kg wet	0.0200		88.7	70-130	1.23	25	
Hexachlorobutadiene	0.0207	0.0020	mg/Kg wet	0.0200		104	70-160	1.95	25	
2-Hexanone (MBK)	0.234	0.020	mg/Kg wet	0.200		117	70-160	0.136	25	†
Isopropylbenzene (Cumene)	0.0198	0.0020	mg/Kg wet	0.0200		99.2	70-130	1.63	25	
p-Isopropyltoluene (p-Cymene)	0.0178	0.0020	mg/Kg wet	0.0200		88.8	70-130	7.38	25	
<b>Methyl Acetate</b>	0.0268	0.0020	mg/Kg wet	0.0200		<b>134</b> *	70-130	1.50	25	L-02, V-20
Methyl tert-Butyl Ether (MTBE)	0.0213	0.0040	mg/Kg wet	0.0200		107	70-130	1.12	25	
Methyl Cyclohexane	0.0192	0.0020	mg/Kg wet	0.0200		95.9	70-130	4.29	25	
Methylene Chloride	0.0219	0.020	mg/Kg wet	0.0200		110	40-160	0.733	25	†
4-Methyl-2-pentanone (MIBK)	0.235	0.020	mg/Kg wet	0.200		117	70-160	0.264	25	†
Naphthalene	0.0149	0.0040	mg/Kg wet	0.0200		74.3	40-130	4.86	25	V-05 †
n-Propylbenzene	0.0176	0.0020	mg/Kg wet	0.0200		88.0	70-130	4.66	25	
Styrene	0.0201	0.0020	mg/Kg wet	0.0200		101	70-130	0.698	25	
1,1,1,2-Tetrachloroethane	0.0214	0.0020	mg/Kg wet	0.0200		107	70-130	0.838	25	
1,1,2,2-Tetrachloroethane	0.0210	0.0010	mg/Kg wet	0.0200		105	70-130	3.89	25	
Tetrachloroethylene	0.0210	0.0020	mg/Kg wet	0.0200		105	70-130	0.00	25	
Tetrahydrofuran	0.0215	0.010	mg/Kg wet	0.0200		108	70-130	5.83	25	
Toluene	0.0191	0.0020	mg/Kg wet	0.0200		95.6	70-130	0.626	25	
1,2,3-Trichlorobenzene	0.0179	0.0020	mg/Kg wet	0.0200		89.3	70-130	1.78	25	
1,2,4-Trichlorobenzene	0.0180	0.0020	mg/Kg wet	0.0200		89.9	70-130	4.78	25	
1,3,5-Trichlorobenzene	0.0192	0.0020	mg/Kg wet	0.0200		95.9	70-130	2.78	25	
1,1,1-Trichloroethane	0.0179	0.0020	mg/Kg wet	0.0200		89.3	70-130	2.21	25	
1,1,2-Trichloroethane	0.0208	0.0020	mg/Kg wet	0.0200		104	70-130	3.12	25	
Trichloroethylene	0.0192	0.0020	mg/Kg wet	0.0200		96.1	70-130	3.48	25	
Trichlorofluoromethane (Freon 11)	0.0211	0.010	mg/Kg wet	0.0200		106	70-130	0.00	25	
1,2,3-Trichloropropane	0.0224	0.0020	mg/Kg wet	0.0200		112	70-130	6.74	25	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.0199	0.010	mg/Kg wet	0.0200		99.3	70-130	1.80	25	
1,2,4-Trimethylbenzene	0.0171	0.0020	mg/Kg wet	0.0200		85.5	70-130	2.31	25	
1,3,5-Trimethylbenzene	0.0181	0.0020	mg/Kg wet	0.0200		90.4	70-130	2.08	25	
Vinyl Chloride	0.0219	0.010	mg/Kg wet	0.0200		109	40-130	0.638	25	†
m+p Xylene	0.0365	0.0040	mg/Kg wet	0.0400		91.2	70-130	0.00	25	
o-Xylene	0.0182	0.0020	mg/Kg wet	0.0200		90.9	70-130	0.220	25	
Surrogate: 1,2-Dichloroethane-d4	0.0476		mg/Kg wet	0.0500		95.3	70-130			
Surrogate: Toluene-d8	0.0508		mg/Kg wet	0.0500		102	70-130			
Surrogate: 4-Bromofluorobenzene	0.0513		mg/Kg wet	0.0500		103	70-130			



QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B261385 - SW-846 3546

Blank (B261385-BLK1)

Prepared: 07/07/20 Analyzed: 07/08/20

Acenaphthene	ND	0.17	mg/Kg wet							
Acenaphthylene	ND	0.17	mg/Kg wet							
Acetophenone	ND	0.34	mg/Kg wet							
Aniline	ND	0.34	mg/Kg wet							V-05, V-34
Anthracene	ND	0.17	mg/Kg wet							
Benzidine	ND	0.66	mg/Kg wet							V-04, V-05
Benzo(a)anthracene	ND	0.17	mg/Kg wet							
Benzo(a)pyrene	ND	0.17	mg/Kg wet							
Benzo(b)fluoranthene	ND	0.17	mg/Kg wet							
Benzo(g,h,i)perylene	ND	0.17	mg/Kg wet							
Benzo(k)fluoranthene	ND	0.17	mg/Kg wet							
Benzoic Acid	ND	1.0	mg/Kg wet							
Bis(2-chloroethoxy)methane	ND	0.34	mg/Kg wet							
Bis(2-chloroethyl)ether	ND	0.34	mg/Kg wet							
Bis(2-chloroisopropyl)ether	ND	0.34	mg/Kg wet							V-20
Bis(2-Ethylhexyl)phthalate	ND	0.34	mg/Kg wet							
4-Bromophenylphenylether	ND	0.34	mg/Kg wet							
Butylbenzylphthalate	ND	0.34	mg/Kg wet							
Carbazole	ND	0.17	mg/Kg wet							
4-Chloroaniline	ND	0.66	mg/Kg wet							V-34
4-Chloro-3-methylphenol	ND	0.66	mg/Kg wet							
2-Chloronaphthalene	ND	0.34	mg/Kg wet							
2-Chlorophenol	ND	0.34	mg/Kg wet							
4-Chlorophenylphenylether	ND	0.34	mg/Kg wet							
Chrysene	ND	0.17	mg/Kg wet							
Dibenz(a,h)anthracene	ND	0.17	mg/Kg wet							
Dibenzofuran	ND	0.34	mg/Kg wet							
Di-n-butylphthalate	ND	0.34	mg/Kg wet							
1,2-Dichlorobenzene	ND	0.34	mg/Kg wet							
1,3-Dichlorobenzene	ND	0.34	mg/Kg wet							
1,4-Dichlorobenzene	ND	0.34	mg/Kg wet							
3,3-Dichlorobenzidine	ND	0.17	mg/Kg wet							
2,4-Dichlorophenol	ND	0.34	mg/Kg wet							
Diethylphthalate	ND	0.34	mg/Kg wet							
2,4-Dimethylphenol	ND	0.34	mg/Kg wet							
Dimethylphthalate	ND	0.34	mg/Kg wet							
4,6-Dinitro-2-methylphenol	ND	0.34	mg/Kg wet							
2,4-Dinitrophenol	ND	0.66	mg/Kg wet							
2,4-Dinitrotoluene	ND	0.34	mg/Kg wet							
2,6-Dinitrotoluene	ND	0.34	mg/Kg wet							
Di-n-octylphthalate	ND	0.34	mg/Kg wet							V-20
1,2-Diphenylhydrazine/Azobenzene	ND	0.34	mg/Kg wet							
Fluoranthene	ND	0.17	mg/Kg wet							
Fluorene	ND	0.17	mg/Kg wet							
Hexachlorobenzene	ND	0.34	mg/Kg wet							
Hexachlorobutadiene	ND	0.34	mg/Kg wet							
Hexachlorocyclopentadiene	ND	0.34	mg/Kg wet							V-34
Hexachloroethane	ND	0.34	mg/Kg wet							
Indeno(1,2,3-cd)pyrene	ND	0.17	mg/Kg wet							
Isophorone	ND	0.34	mg/Kg wet							
1-Methylnaphthalene	ND	0.17	mg/Kg wet							
2-Methylnaphthalene	ND	0.17	mg/Kg wet							

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**QUALITY CONTROL**

**Semivolatile Organic Compounds by GC/MS - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B261385 - SW-846 3546**

**Blank (B261385-BLK1)**

Prepared: 07/07/20 Analyzed: 07/08/20

2-Methylphenol	ND	0.34	mg/Kg wet							
3/4-Methylphenol	ND	0.34	mg/Kg wet							
Naphthalene	ND	0.17	mg/Kg wet							
2-Nitroaniline	ND	0.34	mg/Kg wet							
3-Nitroaniline	ND	0.34	mg/Kg wet							
4-Nitroaniline	ND	0.34	mg/Kg wet							
Nitrobenzene	ND	0.34	mg/Kg wet							
2-Nitrophenol	ND	0.34	mg/Kg wet							
4-Nitrophenol	ND	0.66	mg/Kg wet							
N-Nitrosodimethylamine	ND	0.34	mg/Kg wet							
N-Nitrosodiphenylamine/Diphenylamine	ND	0.34	mg/Kg wet							
N-Nitrosodi-n-propylamine	ND	0.34	mg/Kg wet							
Pentachloronitrobenzene	ND	0.34	mg/Kg wet							
Pentachlorophenol	ND	0.34	mg/Kg wet							
Phenanthrene	ND	0.17	mg/Kg wet							
Phenol	ND	0.34	mg/Kg wet							
Pyrene	ND	0.17	mg/Kg wet							
Pyridine	ND	0.34	mg/Kg wet							
1,2,4,5-Tetrachlorobenzene	ND	0.34	mg/Kg wet							
1,2,4-Trichlorobenzene	ND	0.34	mg/Kg wet							
2,4,5-Trichlorophenol	ND	0.34	mg/Kg wet							
2,4,6-Trichlorophenol	ND	0.34	mg/Kg wet							
Surrogate: 2-Fluorophenol	4.11		mg/Kg wet	6.67		61.6	30-130			
Surrogate: Phenol-d6	4.27		mg/Kg wet	6.67		64.0	30-130			
Surrogate: Nitrobenzene-d5	2.09		mg/Kg wet	3.33		62.6	30-130			
Surrogate: 2-Fluorobiphenyl	2.15		mg/Kg wet	3.33		64.5	30-130			
Surrogate: 2,4,6-Tribromophenol	3.80		mg/Kg wet	6.67		57.0	30-130			
Surrogate: p-Terphenyl-d14	2.25		mg/Kg wet	3.33		67.6	30-130			

**LCS (B261385-BS1)**

Prepared: 07/07/20 Analyzed: 07/08/20

Acenaphthene	1.22	0.17	mg/Kg wet	1.67		73.1	40-140			
Acenaphthylene	1.21	0.17	mg/Kg wet	1.67		72.4	40-140			
Acetophenone	1.07	0.34	mg/Kg wet	1.67		64.1	40-140			
Aniline	0.939	0.34	mg/Kg wet	1.67		56.4	10-140			V-05, V-34 †
Anthracene	1.24	0.17	mg/Kg wet	1.67		74.1	40-140			
Benzidine	1.21	0.66	mg/Kg wet	1.67		72.6	40-140			V-04, V-05
Benzo(a)anthracene	1.26	0.17	mg/Kg wet	1.67		75.5	40-140			
Benzo(a)pyrene	1.30	0.17	mg/Kg wet	1.67		78.0	40-140			
Benzo(b)fluoranthene	1.35	0.17	mg/Kg wet	1.67		80.8	40-140			
Benzo(g,h,i)perylene	1.12	0.17	mg/Kg wet	1.67		67.2	40-140			
Benzo(k)fluoranthene	1.33	0.17	mg/Kg wet	1.67		79.6	40-140			
Benzoic Acid	0.824	1.0	mg/Kg wet	1.67		49.4	30-130			
Bis(2-chloroethoxy)methane	1.39	0.34	mg/Kg wet	1.67		83.7	40-140			
Bis(2-chloroethyl)ether	1.33	0.34	mg/Kg wet	1.67		79.9	40-140			
Bis(2-chloroisopropyl)ether	1.75	0.34	mg/Kg wet	1.67		105	40-140			V-06
Bis(2-Ethylhexyl)phthalate	1.52	0.34	mg/Kg wet	1.67		91.0	40-140			
4-Bromophenylphenylether	1.28	0.34	mg/Kg wet	1.67		76.9	40-140			
Butylbenzylphthalate	1.44	0.34	mg/Kg wet	1.67		86.6	40-140			
Carbazole	1.21	0.17	mg/Kg wet	1.67		72.6	40-140			
4-Chloroaniline	0.914	0.66	mg/Kg wet	1.67		54.8	10-140			V-34 †
4-Chloro-3-methylphenol	1.28	0.66	mg/Kg wet	1.67		76.7	30-130			
2-Chloronaphthalene	1.14	0.34	mg/Kg wet	1.67		68.2	40-140			

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B261385 - SW-846 3546</b>										
<b>LCS (B261385-BS1)</b>										
					Prepared: 07/07/20 Analyzed: 07/08/20					
2-Chlorophenol	1.12	0.34	mg/Kg wet	1.67		67.2	30-130			
4-Chlorophenylphenylether	1.30	0.34	mg/Kg wet	1.67		77.8	40-140			
Chrysene	1.26	0.17	mg/Kg wet	1.67		75.3	40-140			
Dibenz(a,h)anthracene	1.18	0.17	mg/Kg wet	1.67		70.5	40-140			
Dibenzofuran	1.30	0.34	mg/Kg wet	1.67		78.3	40-140			
Di-n-butylphthalate	1.40	0.34	mg/Kg wet	1.67		84.1	40-140			
1,2-Dichlorobenzene	0.974	0.34	mg/Kg wet	1.67		58.5	40-140			
1,3-Dichlorobenzene	0.971	0.34	mg/Kg wet	1.67		58.2	40-140			
1,4-Dichlorobenzene	0.967	0.34	mg/Kg wet	1.67		58.0	40-140			
3,3-Dichlorobenzidine	1.12	0.17	mg/Kg wet	1.67		67.4	20-140			†
2,4-Dichlorophenol	1.25	0.34	mg/Kg wet	1.67		74.8	30-130			
Diethylphthalate	1.40	0.34	mg/Kg wet	1.67		83.9	40-140			
2,4-Dimethylphenol	1.09	0.34	mg/Kg wet	1.67		65.6	30-130			
Dimethylphthalate	1.33	0.34	mg/Kg wet	1.67		79.8	40-140			
4,6-Dinitro-2-methylphenol	1.29	0.34	mg/Kg wet	1.67		77.4	30-130			
2,4-Dinitrophenol	1.22	0.66	mg/Kg wet	1.67		73.0	30-130			
2,4-Dinitrotoluene	1.33	0.34	mg/Kg wet	1.67		79.7	40-140			
2,6-Dinitrotoluene	1.37	0.34	mg/Kg wet	1.67		82.2	40-140			
Di-n-octylphthalate	1.58	0.34	mg/Kg wet	1.67		94.7	40-140			V-06
1,2-Diphenylhydrazine/Azobenzene	1.45	0.34	mg/Kg wet	1.67		86.8	40-140			
Fluoranthene	1.24	0.17	mg/Kg wet	1.67		74.2	40-140			
Fluorene	1.28	0.17	mg/Kg wet	1.67		76.8	40-140			
Hexachlorobenzene	1.30	0.34	mg/Kg wet	1.67		77.9	40-140			
Hexachlorobutadiene	1.14	0.34	mg/Kg wet	1.67		68.7	40-140			
Hexachlorocyclopentadiene	0.905	0.34	mg/Kg wet	1.67		54.3	40-140			V-34
Hexachloroethane	1.03	0.34	mg/Kg wet	1.67		61.8	40-140			
Indeno(1,2,3-cd)pyrene	1.30	0.17	mg/Kg wet	1.67		78.0	40-140			
Isophorone	1.36	0.34	mg/Kg wet	1.67		81.8	40-140			
1-Methylnaphthalene	1.10	0.17	mg/Kg wet	1.67		66.0	40-140			
2-Methylnaphthalene	1.34	0.17	mg/Kg wet	1.67		80.6	40-140			
2-Methylphenol	1.20	0.34	mg/Kg wet	1.67		71.8	30-130			
3/4-Methylphenol	1.18	0.34	mg/Kg wet	1.67		70.9	30-130			
Naphthalene	1.18	0.17	mg/Kg wet	1.67		70.7	40-140			
2-Nitroaniline	1.83	0.34	mg/Kg wet	1.67		110	40-140			
3-Nitroaniline	1.18	0.34	mg/Kg wet	1.67		70.7	30-140			†
4-Nitroaniline	1.32	0.34	mg/Kg wet	1.67		79.1	40-140			
Nitrobenzene	1.26	0.34	mg/Kg wet	1.67		75.7	40-140			
2-Nitrophenol	1.25	0.34	mg/Kg wet	1.67		75.2	30-130			
4-Nitrophenol	1.38	0.66	mg/Kg wet	1.67		83.1	30-130			
N-Nitrosodimethylamine	1.20	0.34	mg/Kg wet	1.67		71.8	40-140			
N-Nitrosodiphenylamine/Diphenylamine	1.39	0.34	mg/Kg wet	1.67		83.6	40-140			
N-Nitrosodi-n-propylamine	1.35	0.34	mg/Kg wet	1.67		80.8	40-140			
Pentachloronitrobenzene	1.27	0.34	mg/Kg wet	1.67		76.0	40-140			
Pentachlorophenol	1.22	0.34	mg/Kg wet	1.67		73.5	30-130			
Phenanthrene	1.26	0.17	mg/Kg wet	1.67		75.4	40-140			
Phenol	1.21	0.34	mg/Kg wet	1.67		72.9	30-130			
Pyrene	1.21	0.17	mg/Kg wet	1.67		72.5	40-140			
Pyridine	0.670	0.34	mg/Kg wet	1.67		40.2	30-140			†
1,2,4,5-Tetrachlorobenzene	1.10	0.34	mg/Kg wet	1.67		66.0	40-140			
1,2,4-Trichlorobenzene	1.10	0.34	mg/Kg wet	1.67		65.7	40-140			
2,4,5-Trichlorophenol	1.26	0.34	mg/Kg wet	1.67		75.4	30-130			
2,4,6-Trichlorophenol	1.33	0.34	mg/Kg wet	1.67		79.8	30-130			

QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B261385 - SW-846 3546

LCS (B261385-BS1)

Prepared: 07/07/20 Analyzed: 07/08/20

Surrogate: 2-Fluorophenol	4.74		mg/Kg wet	6.67		71.1	30-130			
Surrogate: Phenol-d6	5.05		mg/Kg wet	6.67		75.7	30-130			
Surrogate: Nitrobenzene-d5	2.66		mg/Kg wet	3.33		79.9	30-130			
Surrogate: 2-Fluorobiphenyl	2.74		mg/Kg wet	3.33		82.3	30-130			
Surrogate: 2,4,6-Tribromophenol	5.72		mg/Kg wet	6.67		85.8	30-130			
Surrogate: p-Terphenyl-d14	2.73		mg/Kg wet	3.33		81.8	30-130			

LCS Dup (B261385-BS1)

Prepared: 07/07/20 Analyzed: 07/08/20

Acenaphthene	1.30	0.17	mg/Kg wet	1.67		77.9	40-140	6.30	30	
Acenaphthylene	1.27	0.17	mg/Kg wet	1.67		76.3	40-140	5.30	30	
Acetophenone	1.14	0.34	mg/Kg wet	1.67		68.1	40-140	6.17	30	
Aniline	1.10	0.34	mg/Kg wet	1.67		65.9	10-140	15.7	50	V-05, V-34 † ‡
Anthracene	1.34	0.17	mg/Kg wet	1.67		80.3	40-140	8.06	30	
Benzidine	1.39	0.66	mg/Kg wet	1.67		83.3	40-140	13.7	30	V-04, V-05
Benzo(a)anthracene	1.34	0.17	mg/Kg wet	1.67		80.5	40-140	6.33	30	
Benzo(a)pyrene	1.40	0.17	mg/Kg wet	1.67		84.3	40-140	7.81	30	
Benzo(b)fluoranthene	1.43	0.17	mg/Kg wet	1.67		85.9	40-140	6.10	30	
Benzo(g,h,i)perylene	1.24	0.17	mg/Kg wet	1.67		74.3	40-140	10.1	30	
Benzo(k)fluoranthene	1.45	0.17	mg/Kg wet	1.67		87.2	40-140	9.09	30	
Benzoic Acid	1.01	1.0	mg/Kg wet	1.67		60.7	30-130	20.5	50	‡
Bis(2-chloroethoxy)methane	1.48	0.34	mg/Kg wet	1.67		88.7	40-140	5.87	30	
Bis(2-chloroethyl)ether	1.43	0.34	mg/Kg wet	1.67		85.9	40-140	7.31	30	
Bis(2-chloroisopropyl)ether	1.91	0.34	mg/Kg wet	1.67		115	40-140	8.87	30	V-06
Bis(2-Ethylhexyl)phthalate	1.66	0.34	mg/Kg wet	1.67		99.7	40-140	9.04	30	
4-Bromophenylphenylether	1.40	0.34	mg/Kg wet	1.67		83.8	40-140	8.58	30	
Butylbenzylphthalate	1.57	0.34	mg/Kg wet	1.67		94.0	40-140	8.26	30	
Carbazole	1.26	0.17	mg/Kg wet	1.67		75.6	40-140	4.13	30	
4-Chloroaniline	1.00	0.66	mg/Kg wet	1.67		60.2	10-140	9.25	30	V-34 †
4-Chloro-3-methylphenol	1.36	0.66	mg/Kg wet	1.67		81.3	30-130	5.85	30	
2-Chloronaphthalene	1.12	0.34	mg/Kg wet	1.67		67.3	40-140	1.39	30	
2-Chlorophenol	1.22	0.34	mg/Kg wet	1.67		73.5	30-130	8.90	30	
4-Chlorophenylphenylether	1.43	0.34	mg/Kg wet	1.67		85.9	40-140	9.87	30	
Chrysene	1.35	0.17	mg/Kg wet	1.67		81.2	40-140	7.54	30	
Dibenz(a,h)anthracene	1.33	0.17	mg/Kg wet	1.67		79.8	40-140	12.4	30	
Dibenzofuran	1.40	0.34	mg/Kg wet	1.67		84.0	40-140	7.10	30	
Di-n-butylphthalate	1.53	0.34	mg/Kg wet	1.67		92.0	40-140	9.02	30	
1,2-Dichlorobenzene	1.07	0.34	mg/Kg wet	1.67		64.1	40-140	9.17	30	
1,3-Dichlorobenzene	1.05	0.34	mg/Kg wet	1.67		62.9	40-140	7.76	30	
1,4-Dichlorobenzene	1.06	0.34	mg/Kg wet	1.67		63.3	40-140	8.70	30	
3,3-Dichlorobenzidine	1.26	0.17	mg/Kg wet	1.67		75.4	20-140	11.3	50	† ‡
2,4-Dichlorophenol	1.32	0.34	mg/Kg wet	1.67		79.4	30-130	5.96	30	
Diethylphthalate	1.47	0.34	mg/Kg wet	1.67		88.4	40-140	5.23	30	
2,4-Dimethylphenol	1.12	0.34	mg/Kg wet	1.67		67.1	30-130	2.17	30	
Dimethylphthalate	1.44	0.34	mg/Kg wet	1.67		86.7	40-140	8.27	30	
4,6-Dinitro-2-methylphenol	1.39	0.34	mg/Kg wet	1.67		83.3	30-130	7.32	30	
2,4-Dinitrophenol	1.26	0.66	mg/Kg wet	1.67		75.8	30-130	3.76	30	
2,4-Dinitrotoluene	1.40	0.34	mg/Kg wet	1.67		83.9	40-140	5.16	30	
2,6-Dinitrotoluene	1.41	0.34	mg/Kg wet	1.67		84.7	40-140	3.00	30	
Di-n-octylphthalate	1.73	0.34	mg/Kg wet	1.67		104	40-140	9.21	30	V-06
1,2-Diphenylhydrazine/Azobenzene	1.57	0.34	mg/Kg wet	1.67		94.0	40-140	8.01	30	
Fluoranthene	1.29	0.17	mg/Kg wet	1.67		77.5	40-140	4.40	30	
Fluorene	1.37	0.17	mg/Kg wet	1.67		82.3	40-140	6.86	30	

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B261385 - SW-846 3546</b>										
<b>LCS Dup (B261385-BSD1)</b>										
					Prepared: 07/07/20 Analyzed: 07/08/20					
Hexachlorobenzene	1.37	0.34	mg/Kg wet	1.67		82.1	40-140	5.28	30	
Hexachlorobutadiene	1.23	0.34	mg/Kg wet	1.67		73.9	40-140	7.32	30	
Hexachlorocyclopentadiene	0.995	0.34	mg/Kg wet	1.67		59.7	40-140	9.47	30	V-34
Hexachloroethane	1.14	0.34	mg/Kg wet	1.67		68.2	40-140	9.85	30	
Indeno(1,2,3-cd)pyrene	1.43	0.17	mg/Kg wet	1.67		85.8	40-140	9.52	30	
Isophorone	1.45	0.34	mg/Kg wet	1.67		87.2	40-140	6.32	30	
1-Methylnaphthalene	1.20	0.17	mg/Kg wet	1.67		72.2	40-140	8.92	30	
2-Methylnaphthalene	1.41	0.17	mg/Kg wet	1.67		84.3	40-140	4.54	30	
2-Methylphenol	1.29	0.34	mg/Kg wet	1.67		77.6	30-130	7.74	30	
3/4-Methylphenol	1.27	0.34	mg/Kg wet	1.67		76.3	30-130	7.23	30	
Naphthalene	1.26	0.17	mg/Kg wet	1.67		75.4	40-140	6.49	30	
2-Nitroaniline	1.93	0.34	mg/Kg wet	1.67		116	40-140	4.84	30	
3-Nitroaniline	1.23	0.34	mg/Kg wet	1.67		73.6	30-140	4.10	30	†
4-Nitroaniline	1.35	0.34	mg/Kg wet	1.67		81.2	40-140	2.72	30	
Nitrobenzene	1.36	0.34	mg/Kg wet	1.67		81.8	40-140	7.67	30	
2-Nitrophenol	1.32	0.34	mg/Kg wet	1.67		79.0	30-130	4.90	30	
4-Nitrophenol	1.48	0.66	mg/Kg wet	1.67		89.0	30-130	6.84	50	‡
N-Nitrosodimethylamine	1.29	0.34	mg/Kg wet	1.67		77.2	40-140	7.24	30	
N-Nitrosodiphenylamine/Diphenylamine	1.52	0.34	mg/Kg wet	1.67		90.9	40-140	8.44	30	
N-Nitrosodi-n-propylamine	1.44	0.34	mg/Kg wet	1.67		86.5	40-140	6.84	30	
Pentachloronitrobenzene	1.39	0.34	mg/Kg wet	1.67		83.1	40-140	9.03	30	
Pentachlorophenol	1.29	0.34	mg/Kg wet	1.67		77.6	30-130	5.40	30	
Phenanthrene	1.34	0.17	mg/Kg wet	1.67		80.2	40-140	6.25	30	
Phenol	1.28	0.34	mg/Kg wet	1.67		76.9	30-130	5.39	30	
Pyrene	1.31	0.17	mg/Kg wet	1.67		78.4	40-140	7.79	30	
Pyridine	0.725	0.34	mg/Kg wet	1.67		43.5	30-140	7.93	30	†
1,2,4,5-Tetrachlorobenzene	1.20	0.34	mg/Kg wet	1.67		72.0	40-140	8.61	30	
1,2,4-Trichlorobenzene	1.18	0.34	mg/Kg wet	1.67		70.7	40-140	7.36	30	
2,4,5-Trichlorophenol	1.38	0.34	mg/Kg wet	1.67		82.8	30-130	9.25	30	
2,4,6-Trichlorophenol	1.40	0.34	mg/Kg wet	1.67		84.1	30-130	5.32	30	
Surrogate: 2-Fluorophenol	5.21		mg/Kg wet	6.67		78.1	30-130			
Surrogate: Phenol-d6	5.30		mg/Kg wet	6.67		79.5	30-130			
Surrogate: Nitrobenzene-d5	2.71		mg/Kg wet	3.33		81.2	30-130			
Surrogate: 2-Fluorobiphenyl	2.89		mg/Kg wet	3.33		86.7	30-130			
Surrogate: 2,4,6-Tribromophenol	6.18		mg/Kg wet	6.67		92.7	30-130			
Surrogate: p-Terphenyl-d14	2.99		mg/Kg wet	3.33		89.6	30-130			

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**QUALITY CONTROL**

**Polychlorinated Biphenyls By GC/ECD - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B261434 - SW-846 3546</b>										
<b>Blank (B261434-BLK1)</b>					Prepared & Analyzed: 07/07/20					
Aroclor-1016	ND	0.020	mg/Kg wet							
Aroclor-1016 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1221	ND	0.020	mg/Kg wet							
Aroclor-1221 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1232	ND	0.020	mg/Kg wet							
Aroclor-1232 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1242	ND	0.020	mg/Kg wet							
Aroclor-1242 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1248	ND	0.020	mg/Kg wet							
Aroclor-1248 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1254	ND	0.020	mg/Kg wet							
Aroclor-1254 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1260	ND	0.020	mg/Kg wet							
Aroclor-1260 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1262	ND	0.020	mg/Kg wet							
Aroclor-1262 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1268	ND	0.020	mg/Kg wet							
Aroclor-1268 [2C]	ND	0.020	mg/Kg wet							
Surrogate: Decachlorobiphenyl	0.209		mg/Kg wet	0.200		105	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.204		mg/Kg wet	0.200		102	30-150			
Surrogate: Tetrachloro-m-xylene	0.183		mg/Kg wet	0.200		91.3	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.193		mg/Kg wet	0.200		96.5	30-150			
<b>LCS (B261434-BS1)</b>					Prepared & Analyzed: 07/07/20					
Aroclor-1016	0.17	0.020	mg/Kg wet	0.200		87.1	40-140			
Aroclor-1016 [2C]	0.18	0.020	mg/Kg wet	0.200		89.8	40-140			
Aroclor-1260	0.18	0.020	mg/Kg wet	0.200		88.1	40-140			
Aroclor-1260 [2C]	0.18	0.020	mg/Kg wet	0.200		92.4	40-140			
Surrogate: Decachlorobiphenyl	0.219		mg/Kg wet	0.200		110	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.214		mg/Kg wet	0.200		107	30-150			
Surrogate: Tetrachloro-m-xylene	0.194		mg/Kg wet	0.200		97.2	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.203		mg/Kg wet	0.200		101	30-150			
<b>LCS Dup (B261434-BSD1)</b>					Prepared & Analyzed: 07/07/20					
Aroclor-1016	0.17	0.020	mg/Kg wet	0.200		85.1	40-140	2.30	30	
Aroclor-1016 [2C]	0.19	0.020	mg/Kg wet	0.200		92.6	40-140	3.11	30	
Aroclor-1260	0.18	0.020	mg/Kg wet	0.200		88.3	40-140	0.202	30	
Aroclor-1260 [2C]	0.18	0.020	mg/Kg wet	0.200		90.6	40-140	1.99	30	
Surrogate: Decachlorobiphenyl	0.212		mg/Kg wet	0.200		106	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.206		mg/Kg wet	0.200		103	30-150			
Surrogate: Tetrachloro-m-xylene	0.186		mg/Kg wet	0.200		93.2	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.194		mg/Kg wet	0.200		97.0	30-150			

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**QUALITY CONTROL**

**Polychlorinated Biphenyls By GC/ECD - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B261434 - SW-846 3546**

**Matrix Spike (B261434-MS1)**

**Source: 20G0088-01**

Prepared: 07/07/20 Analyzed: 07/08/20

Aroclor-1016	0.21	0.094	mg/Kg dry	0.235	ND	89.5	40-140			
Aroclor-1016 [2C]	0.24	0.094	mg/Kg dry	0.235	ND	102	40-140			
Aroclor-1260	0.19	0.094	mg/Kg dry	0.235	ND	82.1	40-140			
Aroclor-1260 [2C]	0.23	0.094	mg/Kg dry	0.235	ND	96.6	40-140			
Surrogate: Decachlorobiphenyl	0.204		mg/Kg dry	0.235		86.9	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.258		mg/Kg dry	0.235		110	30-150			
Surrogate: Tetrachloro-m-xylene	0.209		mg/Kg dry	0.235		88.9	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.252		mg/Kg dry	0.235		107	30-150			

**Matrix Spike Dup (B261434-MSD1)**

**Source: 20G0088-01**

Prepared: 07/07/20 Analyzed: 07/08/20

Aroclor-1016	0.22	0.094	mg/Kg dry	0.235	ND	92.1	40-140	2.77	30	
Aroclor-1016 [2C]	0.25	0.094	mg/Kg dry	0.235	ND	105	40-140	2.49	30	
Aroclor-1260	0.20	0.094	mg/Kg dry	0.235	ND	84.5	40-140	2.89	30	
Aroclor-1260 [2C]	0.22	0.094	mg/Kg dry	0.235	ND	95.1	40-140	1.60	30	
Surrogate: Decachlorobiphenyl	0.212		mg/Kg dry	0.235		90.3	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.256		mg/Kg dry	0.235		109	30-150			
Surrogate: Tetrachloro-m-xylene	0.206		mg/Kg dry	0.235		87.5	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.239		mg/Kg dry	0.235		102	30-150			

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**QUALITY CONTROL**

**Petroleum Hydrocarbons Analyses - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B261382 - SW-846 3546</b>										
<b>Blank (B261382-BLK1)</b>										
					Prepared: 07/07/20 Analyzed: 07/09/20					
TPH (C9-C36)	ND	8.3	mg/Kg wet							
Surrogate: 2-Fluorobiphenyl	1.64		mg/Kg wet	3.33		49.1	40-140			
<b>LCS (B261382-BS1)</b>										
					Prepared: 07/07/20 Analyzed: 07/09/20					
TPH (C9-C36)	17.8	8.3	mg/Kg wet	33.3		53.5	40-140			
Surrogate: 2-Fluorobiphenyl	1.58		mg/Kg wet	3.33		47.4	40-140			
<b>LCS Dup (B261382-BSD1)</b>										
					Prepared: 07/07/20 Analyzed: 07/09/20					
TPH (C9-C36)	20.2	8.3	mg/Kg wet	33.3		60.6	40-140	12.4	30	
Surrogate: 2-Fluorobiphenyl	1.86		mg/Kg wet	3.33		55.7	40-140			



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**QUALITY CONTROL**

**Metals Analyses (Total) - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B261341 - SW-846 3050B</b>										
<b>Blank (B261341-BLK1)</b>										
Prepared: 07/06/20 Analyzed: 07/07/20										
Arsenic	ND	3.3	mg/Kg wet							
Barium	ND	1.7	mg/Kg wet							
Cadmium	ND	0.33	mg/Kg wet							
Chromium	ND	0.67	mg/Kg wet							
Lead	ND	0.50	mg/Kg wet							
Selenium	ND	3.3	mg/Kg wet							
Silver	ND	0.33	mg/Kg wet							
<b>LCS (B261341-BS1)</b>										
Prepared: 07/06/20 Analyzed: 07/07/20										
Arsenic	96.0	10	mg/Kg wet	97.6		98.3	82.8-116.8			
Barium	336	5.0	mg/Kg wet	320		105	82.5-117.5			
Cadmium	123	1.0	mg/Kg wet	114		108	82.8-117.5			
Chromium	159	2.0	mg/Kg wet	147		108	81.6-117.7			
Lead	104	1.5	mg/Kg wet	105		98.8	82.6-117.1			
Selenium	91.7	10	mg/Kg wet	93.1		98.5	78.9-121.4			
Silver	35.4	1.0	mg/Kg wet	32.0		111	79.7-120			
<b>LCS Dup (B261341-BSD1)</b>										
Prepared: 07/06/20 Analyzed: 07/07/20										
Arsenic	97.0	9.9	mg/Kg wet	97.6		99.4	82.8-116.8	1.10	30	
Barium	343	4.9	mg/Kg wet	320		107	82.5-117.5	2.01	20	
Cadmium	123	0.99	mg/Kg wet	114		107	82.8-117.5	0.229	20	
Chromium	159	2.0	mg/Kg wet	147		108	81.6-117.7	0.113	30	
Lead	112	1.5	mg/Kg wet	105		106	82.6-117.1	7.22	30	
Selenium	95.1	9.9	mg/Kg wet	93.1		102	78.9-121.4	3.67	30	
Silver	36.7	0.99	mg/Kg wet	32.0		115	79.7-120	3.40	30	
<b>Reference (B261341-SRM1) MRL Check</b>										
Prepared: 07/06/20 Analyzed: 07/08/20										
Lead	0.477	0.50	mg/Kg wet	0.495		96.2	80-120			
<b>Batch B261501 - SW-846 7471</b>										
<b>Blank (B261501-BLK1)</b>										
Prepared: 07/08/20 Analyzed: 07/09/20										
Mercury	ND	0.025	mg/Kg wet							
<b>LCS (B261501-BS1)</b>										
Prepared: 07/08/20 Analyzed: 07/09/20										
Mercury	4.96	0.37	mg/Kg wet	5.99		82.8	74.1-126			
<b>LCS Dup (B261501-BSD1)</b>										
Prepared: 07/08/20 Analyzed: 07/09/20										
Mercury	4.90	0.36	mg/Kg wet	5.99		81.9	74.1-126	1.18	20	

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**QUALITY CONTROL**

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B261285 - SW-846 9045C</b>										
<b>LCS (B261285-BS1)</b>										
				Prepared & Analyzed: 07/02/20						
pH	6.05		pH Units	6.00		101	90-110			
<b>Batch B261288 - % Solids</b>										
<b>Duplicate (B261288-DUP7)</b>										
				Source: 20G0088-01			Prepared: 07/03/20 Analyzed: 07/06/20			
% Solids	85.6		% Wt		85.1			0.645	20	
<b>Batch B261375 - SW-846 1010A</b>										
<b>Blank (B261375-BLK1)</b>										
				Prepared & Analyzed: 07/06/20						
Flashpoint	> 212 °F		°F							
<b>LCS (B261375-BS1)</b>										
				Prepared & Analyzed: 07/06/20						
Flashpoint	81		°F	81.0		99.6	98.8-101			
<b>LCS Dup (B261375-BSD1)</b>										
				Prepared & Analyzed: 07/06/20						
Flashpoint	81		°F	81.0		99.6	98.8-101	0.00	5	
<b>Batch B261408 - SW-846 9014</b>										
<b>Blank (B261408-BLK1)</b>										
				Prepared: 07/07/20 Analyzed: 07/08/20						
Reactive Cyanide	ND	0.40	mg/Kg							
<b>LCS (B261408-BS1)</b>										
				Prepared: 07/07/20 Analyzed: 07/08/20						
Reactive Cyanide	9.8	0.40	mg/Kg	10.0		98.4	83.2-115			
<b>Batch B261409 - SW-846 9030A</b>										
<b>Blank (B261409-BLK1)</b>										
				Prepared: 07/07/20 Analyzed: 07/08/20						
Reactive Sulfide	ND	2.0	mg/Kg							
<b>LCS (B261409-BS1)</b>										
				Prepared: 07/07/20 Analyzed: 07/08/20						
Reactive Sulfide	14	2.0	mg/Kg	14.8		94.6	71.6-120			

**IDENTIFICATION SUMMARY  
FOR SINGLE COMPONENT ANALYTES**

LCS
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*SW-846 8082A*

Lab Sample ID:           B261434-BS1                                Date(s) Analyzed           07/07/2020                     07/07/2020          

Instrument ID (1):           ECD5                                                Instrument ID (2):           ECD5          

GC Column (1):                                      ID:                                      (mm)                      GC Column (2):                                      ID:                                      (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.17	
	2	0.000	0.000	0.000	0.18	5.7
Aroclor-1260	1	0.000	0.000	0.000	0.18	
	2	0.000	0.000	0.000	0.18	0.0



**IDENTIFICATION SUMMARY  
FOR SINGLE COMPONENT ANALYTES**  
*SW-846 8082A*

**Matrix Spike**

Lab Sample ID:           B261434-MS1                                Date(s) Analyzed           07/08/2020                     07/08/2020          

Instrument ID (1):           ECD1                                                Instrument ID (2):           ECD1          

GC Column (1):                                      ID:                      (mm)                      GC Column (2):                                      ID:                      (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.21	
	2	0.000	0.000	0.000	0.24	13.3
Aroclor-1260	1	0.000	0.000	0.000	0.19	
	2	0.000	0.000	0.000	0.23	19.0

**IDENTIFICATION SUMMARY  
FOR SINGLE COMPONENT ANALYTES**  
*SW-846 8082A*

**Matrix Spike Dup**

Lab Sample ID:                   B261434-MSD1                                        Date(s) Analyzed           07/08/2020                     07/08/2020          

Instrument ID (1):                   ECD1                                        Instrument ID (2):                   ECD1                  

GC Column (1):                      ID:                      (mm)                      GC Column (2):                      ID:                      (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.22	
	2	0.000	0.000	0.000	0.25	12.8
Aroclor-1260	1	0.000	0.000	0.000	0.20	
	2	0.000	0.000	0.000	0.22	9.5

**FLAG/QUALIFIER SUMMARY**

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
H-03	Sample received after recommended holding time was exceeded.
L-02	Laboratory fortified blank/laboratory control sample recovery and duplicate recoveries outside of control limits. Data validation is not affected since all results are "not detected" for associated samples in this batch and bias is on the high side.
V-04	Initial calibration did not meet method specifications. Compound was calibrated using a response factor where %RSD is outside of method specified criteria. Reported result is estimated.
V-05	Continuing calibration verification (CCV) did not meet method specifications and was biased on the low side for this compound.
V-06	Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side for this compound.
V-20	Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.
V-34	Initial calibration verification (ICV) did not meet method specifications and was biased on the low side for this compound. Reported result is estimated.

**CERTIFICATIONS**

**Certified Analyses included in this Report**

Analyte	Certifications
<b>SW-846 1010A in Soil</b>	
Flashpoint	NY,NC,ME,VA
<b>SW-846 1030 in Soil</b>	
Ignitability	NY,NH,CT,NC,ME,VA
<b>SW-846 6010D in Soil</b>	
Arsenic	CT,NH,NY,ME,VA,NC
Barium	CT,NH,NY,ME,VA,NC
Cadmium	CT,NH,NY,ME,VA,NC
Chromium	CT,NH,NY,ME,VA,NC
Lead	CT,NH,NY,AIHA,ME,VA,NC
Selenium	CT,NH,NY,ME,VA,NC
Silver	CT,NH,NY,ME,VA,NC
<b>SW-846 7471B in Soil</b>	
Mercury	CT,NH,NY,NC,ME,VA
<b>SW-846 8082A in Soil</b>	
Aroclor-1016	CT,NH,NY,NC,ME,VA,PA
Aroclor-1016 [2C]	CT,NH,NY,NC,ME,VA,PA
Aroclor-1221	CT,NH,NY,NC,ME,VA,PA
Aroclor-1221 [2C]	CT,NH,NY,NC,ME,VA,PA
Aroclor-1232	CT,NH,NY,NC,ME,VA,PA
Aroclor-1232 [2C]	CT,NH,NY,NC,ME,VA,PA
Aroclor-1242	CT,NH,NY,NC,ME,VA,PA
Aroclor-1242 [2C]	CT,NH,NY,NC,ME,VA,PA
Aroclor-1248	CT,NH,NY,NC,ME,VA,PA
Aroclor-1248 [2C]	CT,NH,NY,NC,ME,VA,PA
Aroclor-1254	CT,NH,NY,NC,ME,VA,PA
Aroclor-1254 [2C]	CT,NH,NY,NC,ME,VA,PA
Aroclor-1260	CT,NH,NY,NC,ME,VA,PA
Aroclor-1260 [2C]	CT,NH,NY,NC,ME,VA,PA
Aroclor-1262	NH,NY,NC,ME,VA,PA
Aroclor-1262 [2C]	NH,NY,NC,ME,VA,PA
Aroclor-1268	NH,NY,NC,ME,VA,PA
Aroclor-1268 [2C]	NH,NY,NC,ME,VA,PA
<b>SW-846 8082A in Water</b>	
Aroclor-1016	CT,NH,NY,NC,ME,VA,PA
Aroclor-1016 [2C]	CT,NH,NY,NC,ME,VA,PA
Aroclor-1221	CT,NH,NY,NC,ME,VA,PA
Aroclor-1221 [2C]	CT,NH,NY,NC,ME,VA,PA
Aroclor-1232	CT,NH,NY,NC,ME,VA,PA
Aroclor-1232 [2C]	CT,NH,NY,NC,ME,VA,PA
Aroclor-1242	CT,NH,NY,NC,ME,VA,PA
Aroclor-1242 [2C]	CT,NH,NY,NC,ME,VA,PA
Aroclor-1248	CT,NH,NY,NC,ME,VA,PA
Aroclor-1248 [2C]	CT,NH,NY,NC,ME,VA,PA
Aroclor-1254	CT,NH,NY,NC,ME,VA,PA
Aroclor-1254 [2C]	CT,NH,NY,NC,ME,VA,PA



**CERTIFICATIONS**

**Certified Analyses included in this Report**

Analyte	Certifications
<i>SW-846 8082A in Water</i>	
Aroclor-1260	CT,NH,NY,NC,ME,VA,PA
Aroclor-1260 [2C]	CT,NH,NY,NC,ME,VA,PA
Aroclor-1262	NH,NY,NC,ME,VA,PA
Aroclor-1262 [2C]	NH,NY,NC,ME,VA,PA
Aroclor-1268	NH,NY,NC,ME,VA,PA
Aroclor-1268 [2C]	NH,NY,NC,ME,VA,PA
<i>SW-846 8260C-D in Soil</i>	
Acetone	CT,NH,NY,ME,VA
Acrylonitrile	CT,NH,NY,ME,VA
Benzene	CT,NH,NY,ME,VA
Bromobenzene	NH,NY,ME,VA
Bromochloromethane	NH,NY,ME,VA
Bromodichloromethane	CT,NH,NY,ME,VA
Bromoform	CT,NH,NY,ME,VA
Bromomethane	CT,NH,NY,ME,VA
2-Butanone (MEK)	CT,NH,NY,ME,VA
tert-Butyl Alcohol (TBA)	NY,ME
n-Butylbenzene	CT,NH,NY,ME,VA
sec-Butylbenzene	CT,NH,NY,ME,VA
tert-Butylbenzene	CT,NH,NY,ME,VA
Carbon Disulfide	CT,NH,NY,ME,VA
Carbon Tetrachloride	CT,NH,NY,ME,VA
Chlorobenzene	CT,NH,NY,ME,VA
Chlorodibromomethane	CT,NH,NY,ME,VA
Chloroethane	CT,NH,NY,ME,VA
Chloroform	CT,NH,NY,ME,VA
Chloromethane	CT,NH,NY,ME,VA
2-Chlorotoluene	CT,NH,NY,ME,VA
4-Chlorotoluene	CT,NH,NY,ME,VA
1,2-Dibromo-3-chloropropane (DBCP)	NY,ME
1,2-Dibromoethane (EDB)	NH,NY
Dibromomethane	NH,NY,ME,VA
1,2-Dichlorobenzene	CT,NH,NY,ME,VA
1,3-Dichlorobenzene	CT,NH,NY,ME,VA
1,4-Dichlorobenzene	CT,NH,NY,ME,VA
trans-1,4-Dichloro-2-butene	NY,ME
Dichlorodifluoromethane (Freon 12)	NH,NY,ME,VA
1,1-Dichloroethane	CT,NH,NY,ME,VA
1,2-Dichloroethane	CT,NH,NY,ME,VA
1,1-Dichloroethylene	CT,NH,NY,ME,VA
cis-1,2-Dichloroethylene	CT,NH,NY,ME,VA
trans-1,2-Dichloroethylene	CT,NH,NY,ME,VA
1,2-Dichloropropane	CT,NH,NY,ME,VA
1,3-Dichloropropane	NH,NY,ME,VA
2,2-Dichloropropane	NH,NY,ME,VA
1,1-Dichloropropene	NH,NY,ME,VA

**CERTIFICATIONS**

**Certified Analyses included in this Report**

<b>Analyte</b>	<b>Certifications</b>
<b><i>SW-846 8260C-D in Soil</i></b>	
cis-1,3-Dichloropropene	CT,NH,NY,ME,VA
trans-1,3-Dichloropropene	CT,NH,NY,ME,VA
Diethyl Ether	ME
1,4-Dioxane	NY,ME
Ethylbenzene	CT,NH,NY,ME,VA
Hexachlorobutadiene	NH,NY,ME,VA
2-Hexanone (MBK)	CT,NH,NY,ME,VA
Isopropylbenzene (Cumene)	CT,NH,NY,ME,VA
p-Isopropyltoluene (p-Cymene)	NH,NY
Methyl Acetate	NY,ME
Methyl tert-Butyl Ether (MTBE)	NY,ME,VA
Methyl Cyclohexane	NY
Methylene Chloride	CT,NH,NY,ME,VA
4-Methyl-2-pentanone (MIBK)	CT,NH,NY,ME,VA
Naphthalene	NH,NY,ME,VA
n-Propylbenzene	NH,NY,ME
Styrene	CT,NH,NY,ME,VA
1,1,1,2-Tetrachloroethane	CT,NH,NY,ME,VA
1,1,2,2-Tetrachloroethane	CT,NH,NY,ME,VA
Tetrachloroethylene	CT,NH,NY,ME,VA
Toluene	CT,NH,NY,ME,VA
1,2,3-Trichlorobenzene	NY,ME
1,2,4-Trichlorobenzene	NH,NY,ME,VA
1,3,5-Trichlorobenzene	ME
1,1,1-Trichloroethane	CT,NH,NY,ME,VA
1,1,2-Trichloroethane	CT,NH,NY,ME,VA
Trichloroethylene	CT,NH,NY,ME,VA
Trichlorofluoromethane (Freon 11)	CT,NH,NY,ME,VA
1,2,3-Trichloropropane	NH,NY,ME,VA
1,2,4-Trimethylbenzene	CT,NH,NY,ME,VA
1,3,5-Trimethylbenzene	CT,NH,NY,ME,VA
Vinyl Chloride	CT,NH,NY,ME,VA
m+p Xylene	CT,NH,NY,ME,VA
o-Xylene	CT,NH,NY,ME,VA
<b><i>SW-846 8270D-E in Soil</i></b>	
Acenaphthene	CT,NY,NH,ME,NC,VA
Acenaphthylene	CT,NY,NH,ME,NC,VA
Acetophenone	NY,NH,ME,NC,VA
Aniline	NY,NH,ME,NC,VA
Anthracene	CT,NY,NH,ME,NC,VA
Benzidine	CT,NY,NH,ME,NC,VA
Benzo(a)anthracene	CT,NY,NH,ME,NC,VA
Benzo(a)pyrene	CT,NY,NH,ME,NC,VA
Benzo(b)fluoranthene	CT,NY,NH,ME,NC,VA
Benzo(g,h,i)perylene	CT,NY,NH,ME,NC,VA
Benzo(k)fluoranthene	CT,NY,NH,ME,NC,VA

**CERTIFICATIONS**

**Certified Analyses included in this Report**

Analyte	Certifications
<i>SW-846 8270D-E in Soil</i>	
Benzoic Acid	NY,NH,ME,NC,VA
Bis(2-chloroethoxy)methane	CT,NY,NH,ME,NC,VA
Bis(2-chloroethyl)ether	CT,NY,NH,ME,NC,VA
Bis(2-chloroisopropyl)ether	CT,NY,NH,ME,NC,VA
Bis(2-Ethylhexyl)phthalate	CT,NY,NH,ME,NC,VA
4-Bromophenylphenylether	CT,NY,NH,ME,NC,VA
Butylbenzylphthalate	CT,NY,NH,ME,NC,VA
Carbazole	NC
4-Chloroaniline	CT,NY,NH,ME,NC,VA
4-Chloro-3-methylphenol	CT,NY,NH,ME,NC,VA
2-Chloronaphthalene	CT,NY,NH,NC,VA
2-Chlorophenol	CT,NY,NH,ME,NC,VA
4-Chlorophenylphenylether	CT,NY,NH,ME,NC,VA
Chrysene	CT,NY,NH,ME,NC,VA
Dibenz(a,h)anthracene	CT,NY,NH,ME,NC,VA
Dibenzofuran	CT,NY,NH,ME,NC,VA
Di-n-butylphthalate	CT,NY,NH,ME,NC,VA
1,2-Dichlorobenzene	NY,NH,ME,NC,VA
1,3-Dichlorobenzene	NY,NH,ME,NC,VA
1,4-Dichlorobenzene	NY,NH,ME,NC,VA
3,3-Dichlorobenzidine	CT,NY,NH,ME,NC,VA
2,4-Dichlorophenol	CT,NY,NH,ME,NC,VA
Diethylphthalate	CT,NY,NH,ME,NC,VA
2,4-Dimethylphenol	CT,NY,NH,ME,NC,VA
Dimethylphthalate	CT,NY,NH,ME,NC,VA
4,6-Dinitro-2-methylphenol	CT,NY,NH,ME,NC,VA
2,4-Dinitrophenol	CT,NY,NH,ME,NC,VA
2,4-Dinitrotoluene	CT,NY,NH,ME,NC,VA
2,6-Dinitrotoluene	CT,NY,NH,ME,NC,VA
Di-n-octylphthalate	CT,NY,NH,ME,NC,VA
1,2-Diphenylhydrazine/Azobenzene	NY,NH,ME,NC,VA
Fluoranthene	CT,NY,NH,ME,NC,VA
Fluorene	NY,NH,ME,NC,VA
Hexachlorobenzene	CT,NY,NH,ME,NC,VA
Hexachlorobutadiene	CT,NY,NH,ME,NC,VA
Hexachlorocyclopentadiene	CT,NY,NH,ME,NC,VA
Hexachloroethane	CT,NY,NH,ME,NC,VA
Indeno(1,2,3-cd)pyrene	CT,NY,NH,ME,NC,VA
Isophorone	CT,NY,NH,ME,NC,VA
1-Methylnaphthalene	NC
2-Methylnaphthalene	CT,NY,NH,ME,NC,VA
2-Methylphenol	CT,NY,NH,ME,NC,VA
3/4-Methylphenol	CT,NY,NH,ME,NC,VA
Naphthalene	CT,NY,NH,ME,NC,VA
2-Nitroaniline	CT,NY,NH,ME,NC,VA
3-Nitroaniline	CT,NY,NH,ME,NC,VA
4-Nitroaniline	CT,NY,NH,ME,NC,VA

**CERTIFICATIONS**

**Certified Analyses included in this Report**

Analyte	Certifications
<i>SW-846 8270D-E in Soil</i>	
Nitrobenzene	CT,NY,NH,ME,NC,VA
2-Nitrophenol	CT,NY,NH,ME,NC,VA
4-Nitrophenol	CT,NY,NH,ME,NC,VA
N-Nitrosodimethylamine	CT,NY,NH,ME,NC,VA
N-Nitrosodi-n-propylamine	CT,NY,NH,ME,NC,VA
Pentachloronitrobenzene	NY,NC
Pentachlorophenol	CT,NY,NH,ME,NC,VA
Phenanthrene	CT,NY,NH,ME,NC,VA
Phenol	CT,NY,NH,ME,NC,VA
Pyrene	CT,NY,NH,ME,NC,VA
Pyridine	CT,NY,NH,ME,NC,VA
1,2,4,5-Tetrachlorobenzene	NY,NC
1,2,4-Trichlorobenzene	CT,NY,NH,ME,NC,VA
2,4,5-Trichlorophenol	CT,NY,NH,ME,NC,VA
2,4,6-Trichlorophenol	CT,NY,NH,ME,NC,VA
2-Fluorophenol	NC

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2017	100033	03/1/2022
MA	Massachusetts DEP	M-MA100	06/30/2021
CT	Connecticut Department of Public Health	PH-0567	09/30/2021
NY	New York State Department of Health	10899 NELAP	04/1/2021
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2021
RI	Rhode Island Department of Health	LAO00112	12/30/2020
NC	North Carolina Div. of Water Quality	652	12/31/2020
NJ	New Jersey DEP	MA007 NELAP	06/30/2021
FL	Florida Department of Health	E871027 NELAP	06/30/2021
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2021
ME	State of Maine	2011028	06/9/2021
VA	Commonwealth of Virginia	460217	12/14/2020
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2020
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2021
NC-DW	North Carolina Department of Health	25703	07/31/2020
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2021



I Have Not Confirmed Sample Container Numbers With Lab Staff Before Relinquishing Over Samples \_\_\_\_\_



**con-test**  
ANALYTICAL LABORATORY

Doc# 277 Rev 5 2017

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

Client ESS Group

Received By CA Date 7/12/10 Time 1730

How were the samples received? In Cooler T No Cooler \_\_\_\_\_ On Ice T No Ice \_\_\_\_\_  
 Direct from Sampling \_\_\_\_\_ Ambient \_\_\_\_\_ Melted Ice \_\_\_\_\_

Were samples within Temperature? 2-6°C T By Gun # 2 Actual Temp - 4.5  
 By Blank # \_\_\_\_\_ Actual Temp - \_\_\_\_\_

Was Custody Seal Intact? N/A Were Samples Tampered with? N/A  
 Was COC Relinquished? T Does Chain Agree With Samples? F

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

Is COC in ink/ Legible? T Were samples received within holding time? T  
 Did COC include all pertinent information? Client T Analysis T Sampler Name T  
 Project T ID's T Collection Dates/Times T

Are Sample labels filled out and legible? T  
 Are there Lab to Filters? F Who was notified? \_\_\_\_\_  
 Are there Rushes? F Who was notified? \_\_\_\_\_  
 Are there Short Holds? T Who was notified? Katie  
 Is there enough Volume? T  
 Is there Headspace where applicable? T MS/MSD? F  
 Proper Media/Containers Used? T Is splitting samples required? F  
 Were trip blanks received? F On COC? F  
 Do all samples have the proper pH? N/A Acid \_\_\_\_\_ Base \_\_\_\_\_

Vials	#	Containers:	#		#
Unp-		1 Liter Amb.		1 Liter Plastic	16 oz Amb.
HCL-	<u>1</u>	500 mL Amb.		500 mL Plastic	8oz <u>Amb</u> /Clear
Meoh-	<u>2</u>	250 mL Amb.		250 mL Plastic	4oz Amb/Clear
Bisulfate-		Flashpoint		Col./Bacteria	2oz Amb/Clear
DI-		Other Glass		Other Plastic	Encore
Thiosulfate-		SOC Kit		Plastic Bag	Frozen:
Sulfuric-		Perchlorate		Ziplock	

**Unused Media**

Vials	#	Containers:	#		#
Unp-		1 Liter Amb.		1 Liter Plastic	16 oz Amb.
HCL-		500 mL Amb.		500 mL Plastic	8oz Amb/Clear
Meoh-		250 mL Amb.		250 mL Plastic	4oz Amb/Clear
Bisulfate-		Col./Bacteria		Flashpoint	2oz Amb/Clear
DI-		Other Plastic		Other Glass	Encore
Thiosulfate-		SOC Kit		Plastic Bag	Frozen:
Sulfuric-		Perchlorate		Ziplock	

Comments:

July 14, 2020

Craig Paradis  
ESS Group Inc.  
404 Wyman St. Suite 375  
Waltham, MA 02451

Project Location: 5 Main Street, Hope, RI  
Client Job Number:  
Project Number: P312-009  
Laboratory Work Order Number: 20G0327

Enclosed are results of analyses for samples received by the laboratory on July 8, 2020. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, reading "Jessica Hoffman", is displayed on a light blue rectangular background. The signature is written in a cursive, flowing style.

Jessica L. Hoffman  
Project Manager

## Table of Contents

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

ESS Group Inc.  
404 Wyman St. Suite 375  
Waltham, MA 02451  
ATTN: Craig Paradis

REPORT DATE: 7/14/2020

PURCHASE ORDER NUMBER:

PROJECT NUMBER: P312-009

**ANALYTICAL SUMMARY**

---

WORK ORDER NUMBER: 20G0327

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

PROJECT LOCATION: 5 Main Street, Hope, RI

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
DISP-UST-1	20G0327-01	Soil		SM 2540G SW-846 1311 SW-846 6010D	

**CASE NARRATIVE SUMMARY**

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

REVISION: 7/14/2020 Sample ID changed to match chain.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

A handwritten signature in black ink that reads "Jessica Hoffman". The signature is written in a cursive, flowing style.

Jessica L. Hoffman  
Project Manager

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

Project Location: 5 Main Street, Hope, RI

Sample Description:

Work Order: 20G0327

Date Received: 7/8/2020

Field Sample #: DISP-UST-1

Sampled: 7/1/2020 17:20

Sample ID: 20G0327-01

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	85.1		% Wt	1		SM 2540G	7/9/20	7/9/20 10:33	JS

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

Project Location: 5 Main Street, Hope, RI

Sample Description:

Work Order: 20G0327

Date Received: 7/8/2020

Field Sample #: DISP-UST-1

Sampled: 7/1/2020 17:20

Sample ID: 20G0327-01

Sample Matrix: Soil

TCLP - Metals Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Lead	3.0	0.10	mg/L	1		SW-846 6010D	7/10/20	7/13/20 19:55	TBC

---

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### Sample Extraction Data

Prep Method: % Solids    Analytical Method: SM 2540G

Lab Number [Field ID]	Batch	Date
20G0327-01 [DISP-UST-1]	B261599	07/09/20

Prep Method: SW-846 3010A    Analytical Method: SW-846 60100    ~~100~~ batches were extracted on 7/9/2020 per SW-846 1311 in Batch B261590

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
20G0327-01 [DISP-UST-1]	B261695	50.0	50.0	07/10/20

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

**QUALITY CONTROL**

**TCLP - Metals Analyses - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B261695 - SW-846 3010A</b>										
<b>Blank (B261695-BLK1)</b>										
					Prepared: 07/10/20 Analyzed: 07/13/20					
Lead	ND	0.10	mg/L							
<b>LCS (B261695-BS1)</b>										
					Prepared: 07/10/20 Analyzed: 07/13/20					
Lead	0.494	0.10	mg/L	0.500		98.9	80-120			
<b>LCS Dup (B261695-BSD1)</b>										
					Prepared: 07/10/20 Analyzed: 07/13/20					
Lead	0.487	0.10	mg/L	0.500		97.4	80-120	1.56	20	

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

**FLAG/QUALIFIER SUMMARY**

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level

Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.

No results have been blank subtracted unless specified in the case narrative section.

**CERTIFICATIONS**

**Certified Analyses included in this Report**

Analyte	Certifications
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*SW-846 6010D in Water*

Lead NY,CT,ME,NC,NH,VA

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2017	100033	03/1/2022
MA	Massachusetts DEP	M-MA100	06/30/2021
CT	Connecticut Department of Public Health	PH-0567	09/30/2021
NY	New York State Department of Health	10899 NELAP	04/1/2021
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2021
RI	Rhode Island Department of Health	LAO00112	12/30/2020
NC	North Carolina Div. of Water Quality	652	12/31/2020
NJ	New Jersey DEP	MA007 NELAP	06/30/2021
FL	Florida Department of Health	E871027 NELAP	06/30/2021
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2021
ME	State of Maine	2011028	06/9/2021
VA	Commonwealth of Virginia	460217	12/14/2020
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2020
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2021
NC-DW	North Carolina Department of Health	25703	07/31/2020
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2021





I Have Not Confirmed Sample Container Numbers With Lab Staff Before Relinquishing Over Samples \_\_\_\_\_



**con-test**  
ANALYTICAL LABORATORY

Doc# 277 Rev 5 2017

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

Client ESS Group

Received By CA Date 7/12/10 Time 1730

How were the samples received? In Cooler T No Cooler \_\_\_\_\_ On Ice T No Ice \_\_\_\_\_  
 Direct from Sampling \_\_\_\_\_ Ambient \_\_\_\_\_ Melted Ice \_\_\_\_\_

Were samples within Temperature? 2-6°C T By Gun # 2 Actual Temp - 4.5  
 By Blank # \_\_\_\_\_ Actual Temp - \_\_\_\_\_

Was Custody Seal Intact? N/A Were Samples Tampered with? N/A  
 Was COC Relinquished? T Does Chain Agree With Samples? F

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

Is COC in ink/ Legible? T Were samples received within holding time? T  
 Did COC include all pertinent Information? Client T Analysis T Sampler Name T  
 Project T ID's T Collection Dates/Times T

Are Sample labels filled out and legible? T  
 Are there Lab to Filters? F Who was notified? \_\_\_\_\_  
 Are there Rushes? F Who was notified? \_\_\_\_\_  
 Are there Short Holds? T Who was notified? Katie  
 Is there enough Volume? T  
 Is there Headspace where applicable? T MS/MSD? F  
 Proper Media/Containers Used? T Is splitting samples required? F  
 Were trip blanks received? F On COC? F  
 Do all samples have the proper pH? N/A Acid \_\_\_\_\_ Base \_\_\_\_\_

Vials	#	Containers:	#		#
Unp-		1 Liter Amb.		1 Liter Plastic	16 oz Amb.
HCL-	1	500 mL Amb.		500 mL Plastic	8oz Amb/Clear
Meoh-	2	250 mL Amb.		250 mL Plastic	4oz Amb/Clear
Bisulfate-		Flashpoint		Col./Bacteria	2oz Amb/Clear
DI-		Other Glass		Other Plastic	Encore
Thiosulfate-		SOC Kit		Plastic Bag	Frozen:
Sulfuric-		Perchlorate		Ziplock	

**Unused Media**

Vials	#	Containers:	#		#
Unp-		1 Liter Amb.		1 Liter Plastic	16 oz Amb.
HCL-		500 mL Amb.		500 mL Plastic	8oz Amb/Clear
Meoh-		250 mL Amb.		250 mL Plastic	4oz Amb/Clear
Bisulfate-		Col./Bacteria		Flashpoint	2oz Amb/Clear
DI-		Other Plastic		Other Glass	Encore
Thiosulfate-		SOC Kit		Plastic Bag	Frozen:
Sulfuric-		Perchlorate		Ziplock	

Comments:

**BORING AND WELL CONSTRUCTION LOG**



Site: Former Hope Mill  
 Client Name: Paramount Apartments, LLC  
 Date(s): September 7, 2016  
 Drilling Company: New England Geotech  
 Drilling Method: Geoprobe  
 Sampling Method: Macro Liner  
 ESS Observer: CCP/JDA

Boring/Well No: **ESS-30**  
 Depth to Water (ft): 9.5  
 Well Diameter (inches): N/A  
 Well Screen Slot Size: N/A  
 Measuring Point: Ground Surface  
 Measuring Point Elevation: NM  
 Ground Surface Elevation: NM

Depth bgs (ft.)	Sample or Run Designation	Sample Type	Blows per 6 inches or Core Run (time/ft.)	Recovery/Penetration (ft)	Rock Quality Designation	Screening Data		Depth (feet)	Materials Description Soils: moisture, density <sup>1</sup> , color, size, major and minor constituents <sup>2</sup> Rock: color, rock type, hardness, major mineral types, weathering, and degree of fracturing	Graphical Log	Well Construction
						PID (ppm)	FID (ppm)				
0	COMP-1 (Borings 30,31,32)			3.9/5.0			0.0	0	2" Asphalt Cover, Moist, black to dark brown, FINE SAND, some silt and gravel, trace coarse sand.		0
	ESS-30 (3-8)						0.0				1
5				2.8/5.0				-5	Moist to wet, yellowish-brown, COARSE SAND, some fine to medium sand and gravel.		4
											5
10								-10			8
											9
											10
											11
											12
											13
											14
											15

<p><b>LEGEND:</b>                  ND: not detected                  N/A: not applicable                  bgs: below ground surface                  NM: not measured</p> <p><b>ROCK</b>                  ROCK QUALITY DESIGNATION (RQD):                  reported in % = [length of core in pieces                  4" and longer/length of run] x 100</p>	<p><b>SAMPLE TYPES:</b>                  D: drive                  W: washed                  TP: test pit                  ST: Shelby Tube                  A: auger                  HA: hand auger                  C: cored                  RC: rotasonic core</p>	<p><b>SOIL</b></p> <p><sup>1</sup> DENSITY DESIGNATION based on blow counts for each 12" of penetration using a 140 lb. wt x 30" drop on a 2" O.D. split spoon sampler. If blow counts are not taken then density may be estimated</p> <p>MOISTURE: <sup>2</sup> PROPORTIONS USED: <sup>1</sup> GRANULAR SOILS DENSITY:</p> <p>dry Trace: &lt;10%                  damp Little: 10-20%                  moist Some: 20-35%                  wet And: 35-50%</p> <p><sup>1</sup> PLASTIC SOILS DENSITY:                  0-2: very soft                  3-4: soft                  5-8: medium stiff                  9-15: stiff                  16-30: very stiff                  &gt;30: hard</p> <p>0-4: very loose                  5-9: loose                  10-29: medium dense                  30-49: dense                  50+: very dense</p>	<p><b>NOTES:</b>                  Calibration Factor - 0.53 Benzene</p>
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**BORING AND WELL CONSTRUCTION LOG**



Site: Former Hope Mill  
 Client Name: Paramount Apartments, LLC  
 Date(s): September 7, 2016  
 Drilling Company: New England Geotech  
 Drilling Method: Geoprobe  
 Sampling Method: Macro Liner  
 ESS Observer: CCP/JDA

Boring/Well No: **ESS-31**  
 Depth to Water (ft): 5.5  
 Well Diameter (inches): N/A  
 Well Screen Slot Size: N/A  
 Measuring Point: Ground Surface  
 Measuring Point Elevation: NM  
 Ground Surface Elevation: NM

Depth bgs (ft.)	Sample or Run Designation	Sample Type	Blows per 6 inches or Core Run (time/ft.)	Recovery/Penetration (ft)	Rock Quality Designation	Screening Data		Depth (feet)	Materials Description Soils: moisture, density <sup>1</sup> , color, size, major and minor constituents <sup>2</sup> Rock: color, rock type, hardness, major mineral types, weathering, and degree of fracturing	Graphical Log	Well Construction
						PID (ppm)	FID (ppm)				
0	COMP-1 (Borings 30,31,32)			3.2/5.0			0.0	0	Dry, black, ASPHALT FILL (homogenous black fine sand)		0
	ESS-31 (3-8)						0.0		Dry to damp, light brown, SANDY SILT		3
									COBBLE		4
5				2.8/5.0				-5	Wet, brown, SILTY SAND, some gravel		5
10								-10			10
15								-15			15

<p><b>LEGEND:</b>                  ND: not detected                  N/A: not applicable                  bgs: below ground surface                  NM: not measured</p> <p><b>ROCK</b>                  ROCK QUALITY DESIGNATION (RQD):                  reported in % = [length of core in pieces                  4" and longer/length of run] x 100</p>	<p><b>SAMPLE TYPES:</b>                  D: drive                  W: washed                  TP: test pit                  ST: Shelby Tube                  A: auger                  HA: hand auger                  C: cored                  RC: rotasonic core</p>	<p><b>SOIL</b></p> <p><sup>1</sup> PLASTIC SOILS DENSITY:                  0-2: very soft                  3-4: soft                  5-8: medium stiff                  9-15: stiff                  16-30: very stiff                  &gt;30: hard</p> <p><sup>2</sup> PROPORTIONS USED: <sup>1</sup> GRANULAR SOILS DENSITY:                  Trace: &lt;10%                  Little: 10-20%                  Some: 20-35%                  And: 35-50%</p> <p>0-4: very loose                  5-9: loose                  10-29: medium dense                  30-49: dense                  50+: very dense</p>	<p><b>NOTES:</b>                  Calibration Factor - 0.53 Benzene</p>
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**BORING AND WELL CONSTRUCTION LOG**



Site: Former Hope Mill  
 Client Name: Paramount Apartments, LLC  
 Date(s): September 7, 2016  
 Drilling Company: New England Geotech  
 Drilling Method: Geoprobe  
 Sampling Method: Macro Liner  
 ESS Observer: CCP/JDA

Boring/Well No: **ESS-32**  
 Depth to Water (ft): 7.0  
 Well Diameter (inches): N/A  
 Well Screen Slot Size: N/A  
 Measuring Point: Ground Surface  
 Measuring Point Elevation: NM  
 Ground Surface Elevation: NM

Depth bgs (ft.)	Sample or Run Designation	Sample Type	Blows per 6 inches or Core Run (time/ft.)	Recovery/Penetration (ft)	Rock Quality Designation	Screening Data		Depth (feet)	Materials Description Soils: moisture, density <sup>1</sup> , color, size, major and minor constituents <sup>2</sup> Rock: color, rock type, hardness, major mineral types, weathering, and degree of fracturing	Graphical Log	Well Construction
						PID (ppm)	FID (ppm)				
0	COMP-1 (Borings 30,31,32)			3.0/5.0			0.0	0	Dry, black, ASPHALT FILL (homogenous black fine sand)		0
							0.0		Dry, brown, MEDIUM AND COARSE SAND, some gravel		1
	ESS-32 (3-8)										2
											3
5				2.5/3.0				-5	Damp, light brown, COARSE SAND AND GRAVEL		4
											5
											6
											7
									Wet, angular gravel. Refusal at 8'.		8
											9
											10
10								-10			11
											12
											13
											14
15								-15			15

<p><b>LEGEND:</b>                  ND: not detected                  N/A: not applicable                  bgs: below ground surface                  NM: not measured</p> <p><b>ROCK</b>                  ROCK QUALITY DESIGNATION (RQD):                  reported in % = [length of core in pieces                  4" and longer/length of run] x 100</p>	<p><b>SAMPLE TYPES:</b>                  D: drive                  W: washed                  TP: test pit                  ST: Shelby Tube                  A: auger                  HA: hand auger                  C: cored                  RC: rotasonic core</p>	<p><b>SOIL</b></p> <p><sup>1</sup> PLASTIC SOILS DENSITY:                  0-2: very soft                  3-4: soft                  5-8: medium stiff                  9-15: stiff                  16-30: very stiff                  &gt;30: hard</p> <p><sup>2</sup> PROPORTIONS USED: <sup>1</sup> GRANULAR SOILS DENSITY:                  Trace: &lt;10%                  Little: 10-20%                  Some: 20-35%                  And: 35-50%</p> <p>0-4: very loose                  5-9: loose                  10-29: medium dense                  30-49: dense                  50+: very dense</p>	<p><b>NOTES:</b>                  Calibration Factor - 0.53 Benzene</p>
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**BORING AND WELL CONSTRUCTION LOG**



Site: Former Hope Mill  
 Client Name: Paramount Apartments, LLC  
 Date(s): September 7, 2016  
 Drilling Company: New England Geotech  
 Drilling Method: Geoprobe  
 Sampling Method: Macro Liner  
 ESS Observer: CCP/JDA

Boring/Well No: **ESS-33**  
 Depth to Water (ft): 9.5 (SHWT)  
 Well Diameter (inches): N/A  
 Well Screen Slot Size: N/A  
 Measuring Point: Ground Surface  
 Measuring Point Elevation: NM  
 Ground Surface Elevation: NM

Depth bgs (ft.)	Sample or Run Designation	Sample Type	Blows per 6 inches or Core Run (time/ft.)	Recovery/Penetration (ft)	Rock Quality Designation	Screening Data		Depth (feet)	Materials Description Soils: moisture, density <sup>1</sup> , color, size, major and minor constituents <sup>2</sup> Rock: color, rock type, hardness, major mineral types, weathering, and degree of fracturing	Graphical Log	Well Construction
						PID (ppm)	FID (ppm)				
0	COMP-2 (Borings 33,34,35)			4.5/5.0			0.0	0	Dry, dark brown, LOAMY SAND.		0
	ESS-33 (3-8)								Dry, orange, LOAMY SAND. Colors indicate undisturbed soil horizon.		1
									Dry, light brown, COARSE SAND. Colors indicate undisturbed soil horizon.		2
5				4.2/5.0			0.0	-5	Dry to damp, light brown, shattered cobbles, COARSE SAND, native glacial outwash materials.		3
											4
											5
											6
											7
											8
											9
10								-10	Four refusals at 14'. Rods bent and lost at depth.		10
											11
											12
											13
											14
15								-15			15

<p><b>LEGEND:</b>                  ND: not detected                  N/A: not applicable                  bgs: below ground surface                  NM: not measured</p> <p><b>ROCK</b>                  ROCK QUALITY DESIGNATION (RQD):                  reported in % = [length of core in pieces                  4" and longer/length of run] x 100</p>	<p><b>SAMPLE TYPES:</b>                  D: drive                  W: washed                  TP: test pit                  ST: Shelby Tube                  A: auger                  HA: hand auger                  C: cored                  RC: rotasonic core</p>	<p><b>SOIL</b></p> <p><sup>1</sup> PLASTIC SOILS DENSITY:                  0-2: very soft                  3-4: soft                  5-8: medium stiff                  9-15: stiff                  16-30: very stiff                  &gt;30: hard</p> <p><sup>2</sup> PROPORTIONS USED:                  Trace: &lt;10%                  Little: 10-20%                  Some: 20-35%                  And: 35-50%</p> <p><sup>1</sup> GRANULAR SOILS DENSITY:                  0-4: very loose                  5-9: loose                  10-29: medium dense                  30-49: dense                  50+: very dense</p>	<p><b>NOTES:</b>                  Calibration Factor - 0.53 Benzene</p>
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**BORING AND WELL CONSTRUCTION LOG**



Site: Former Hope Mill  
 Client Name: Paramount Apartments, LLC  
 Date(s): September 7, 2016  
 Drilling Company: New England Geotech  
 Drilling Method: Geoprobe  
 Sampling Method: Macro Liner  
 ESS Observer: CCP/JDA

Boring/Well No: **ESS-34**  
 Depth to Water (ft): 13.0  
 Well Diameter (inches): N/A  
 Well Screen Slot Size: N/A  
 Measuring Point: Ground Surface  
 Measuring Point Elevation: NM  
 Ground Surface Elevation: NM

Depth bgs (ft.)	Sample or Run Designation	Sample Type	Blows per 6 inches or Core Run (time/ft.)	Recovery/Penetration (ft)	Rock Quality Designation	Screening Data		Depth (feet)	Materials Description Soils: moisture, density <sup>1</sup> , color, size, major and minor constituents <sup>2</sup> Rock: color, rock type, hardness, major mineral types, weathering, and degree of fracturing	Graphical Log	Well Construction
						PID (ppm)	FID (ppm)				
0	COMP-2 (Borings 33,34,35)			3.5/5.0				0	Dry, brown, LOAMY SAND, some gravel.		0
	ESS-34 (3-8)					0.0		3	Dry, black, ASH (as fine sand texture).		3
								4	Dry, brown to black, COARSE SAND with ash.		4
5				4.0/5.0				-5	Dry, brown, COARSE SAND, some gravel, trace ash.		5
								-8	Dry, orange-brown, COARSE SAND AND FINE GRAVEL, trace fine sand.		8
						0.1		-10			10
10				2.0/3.0				-11	Damp, dark brown to black, ASH AND COARSE SAND.		11
								-12	Damp, brown, COARSE SAND. Refusal at 13'.		12
								-13			13
								-14			14
15								-15			15

<p><b>LEGEND:</b>                  ND: not detected                  N/A: not applicable                  bgs: below ground surface                  NM: not measured</p> <p><b>ROCK</b>                  ROCK QUALITY DESIGNATION (RQD):                  reported in % = [length of core in pieces                  4" and longer/length of run] x 100</p>	<p><b>SAMPLE TYPES:</b>                  D: drive                  W: washed                  TP: test pit                  ST: Shelby Tube                  A: auger                  HA: hand auger                  C: cored                  RC: rotasonic core</p>	<p><b>SOIL</b></p> <p><sup>1</sup> PLASTIC SOILS DENSITY:                  0-2: very soft                  3-4: soft                  5-8: medium stiff                  9-15: stiff                  16-30: very stiff                  &gt;30: hard</p> <p><sup>2</sup> PROPORTIONS USED: <sup>1</sup> GRANULAR SOILS DENSITY:                  Trace: &lt;10%                  Little: 10-20%                  Some: 20-35%                  And: 35-50%</p> <p>MOISTURE:                  dry                  damp                  moist                  wet</p>	<p><b>NOTES:</b>                  Calibration Factor - 0.53 Benzene</p>
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**BORING AND WELL CONSTRUCTION LOG**



Site: Former Hope Mill  
 Client Name: Paramount Apartments, LLC  
 Date(s): September 7, 2016  
 Drilling Company: New England Geotech  
 Drilling Method: Geoprobe  
 Sampling Method: Macro Liner  
 ESS Observer: CCP/JDA

Boring/Well No: **ESS-35**  
 Depth to Water (ft): Approx 10' (SHWT)  
 Well Diameter (inches): N/A  
 Well Screen Slot Size: N/A  
 Measuring Point: Ground Surface  
 Measuring Point Elevation: NM  
 Ground Surface Elevation: NM

Depth bgs (ft.)	Sample or Run Designation	Sample Type	Blows per 6 inches or Core Run (time/ft.)	Recovery/Penetration (ft)	Rock Quality Designation	Screening Data		Depth (feet)	Materials Description Soils: moisture, density <sup>1</sup> , color, size, major and minor constituents <sup>2</sup> Rock: color, rock type, hardness, major mineral types, weathering, and degree of fracturing	Graphical Log	Well Construction
						PID (ppm)	FID (ppm)				
0	COMP-2 (Borings 33,34,35)			3.0/5.0				0	Dry, brown to black, ASH AND COARSE SAND.		0
	ESS-35 (3-8)					0.0					
5				3.0/5.0				-5	Dry, light brown to grey, MEDIUM AND COARSE SAND, some gravel.		5
						0.0			Dry to damp, grey, COARSE SAND. Refusal at 10'.		8
10				4.4/5.0				-10	Wet, dark brown, COARSE SAND AND GRAVEL, some fine to medium sand and silt.		10
15								-15			15

<p><b>LEGEND:</b>                  ND: not detected                  N/A: not applicable                  bgs: below ground surface                  NM: not measured</p> <p><b>ROCK</b>                  ROCK QUALITY DESIGNATION (RQD):                  reported in % = [length of core in pieces                  4" and longer/length of run] x 100</p>	<p><b>SAMPLE TYPES:</b>                  D: drive                  W: washed                  TP: test pit                  ST: Shelby Tube                  A: auger                  HA: hand auger                  C: cored                  RC: rotasonic core</p>	<p><b>SOIL</b></p> <p><sup>1</sup> PLASTIC SOILS DENSITY:                  0-2: very soft                  3-4: soft                  5-8: medium stiff                  9-15: stiff                  16-30: very stiff                  &gt;30: hard</p> <p><sup>2</sup> PROPORTIONS USED: <sup>1</sup> GRANULAR SOILS DENSITY:                  Trace: &lt;10%                  Little: 10-20%                  Some: 20-35%                  And: 35-50%</p> <p>MOISTURE:                  dry                  damp                  moist                  wet</p>	<p><b>NOTES:</b>                  Calibration Factor - 0.53 Benzene</p>
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**BORING AND WELL CONSTRUCTION LOG**



Site: Former Hope Mill  
 Client Name: Paramount Apartments, LLC  
 Date(s): September 7, 2016  
 Drilling Company: New England Geotech  
 Drilling Method: Geoprobe  
 Sampling Method: Macro Liner  
 ESS Observer: CCP/JDA

Boring/Well No: **ESS-36**  
 Depth to Water (ft): Approx 8.75' (SHWT)  
 Well Diameter (inches): N/A  
 Well Screen Slot Size: N/A  
 Measuring Point: Ground Surface  
 Measuring Point Elevation: NM  
 Ground Surface Elevation: NM

Depth bgs (ft.)	Sample or Run Designation	Sample Type	Blows per 6 inches or Core Run (time/ft.)	Recovery/Penetration (ft)	Rock Quality Designation	Screening Data		Depth (feet)	Materials Description Soils: moisture, density <sup>1</sup> , color, size, major and minor constituents <sup>2</sup> Rock: color, rock type, hardness, major mineral types, weathering, and degree of fracturing	Graphical Log	Well Construction
						PID (ppm)	FID (ppm)				
0	COMP-3 (Borings 36,37,38)					0.0		0	Dry, brown, LOAM.		
	ESS-36 (3-8)					0.0			Dry, brown, LOAMY SAND.		
									Dry, grey-brown, COARSE SAND.		
									Dry, grey-brown, COARSE SAND AND GRAVEL, some cobbles, trace silt. Two refusals at 9.5'		
						0.0					
10											
15											

<p><b>LEGEND:</b>                  ND: not detected                  N/A: not applicable                  bgs: below ground surface                  NM: not measured</p> <p><b>ROCK</b>                  ROCK QUALITY DESIGNATION (RQD):                  reported in % = [length of core in pieces                  4" and longer/length of run] x 100</p>	<p><b>SAMPLE TYPES:</b>                  D: drive                  W: washed                  TP: test pit                  ST: Shelby Tube                  A: auger                  HA: hand auger                  C: cored                  RC: rotasonic core</p>	<p><b>SOIL</b></p> <p><sup>1</sup> PLASTIC SOILS DENSITY:                  0-2: very soft                  3-4: soft                  5-8: medium stiff                  9-15: stiff                  16-30: very stiff                  &gt;30: hard</p> <p><sup>2</sup> PROPORTIONS USED:                  Trace: &lt;10%                  Little: 10-20%                  Some: 20-35%                  And: 35-50%</p> <p><sup>1</sup> GRANULAR SOILS DENSITY:                  0-4: very loose                  5-9: loose                  10-29: medium dense                  30-49: dense                  50+: very dense</p>	<p><b>NOTES:</b>                  Calibration Factor - 0.53 Benzene</p>
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**BORING AND WELL CONSTRUCTION LOG**



Site: Former Hope Mill  
 Client Name: Paramount Apartments, LLC  
 Date(s): September 7, 2016  
 Drilling Company: New England Geotech  
 Drilling Method: Geoprobe  
 Sampling Method: Macro Liner  
 ESS Observer: CCP/JDA

Boring/Well No: **ESS-37**  
 Depth to Water (ft): NM  
 Well Diameter (inches): N/A  
 Well Screen Slot Size: N/A  
 Measuring Point: Ground Surface  
 Measuring Point Elevation: NM  
 Ground Surface Elevation: NM

Depth bgs (ft.)	Sample or Run Designation	Sample Type	Blows per 6 inches or Core Run (time/ft.)	Recovery/Penetration (ft)	Rock Quality Designation	Screening Data		Depth (feet)	Materials Description Soils: moisture, density <sup>1</sup> , color, size, major and minor constituents <sup>2</sup> Rock: color, rock type, hardness, major mineral types, weathering, and degree of fracturing	Graphical Log	Well Construction
						PID (ppm)	FID (ppm)				
0	COMP-3 (Borings 36,37,38)					0.0		0	Dry, black, ASH (as medium sand texture).		0
								1	Dry, orange-brown, MEDIUM SAND, some ash.		1
	ESS-37 (3-8)					0.0		5			5
								10	Dry to damp, grey-brown, COARSE SAND AND FINE GRAVEL.		10
								15			15

<p><b>LEGEND:</b>                  ND: not detected                  N/A: not applicable                  bgs: below ground surface                  NM: not measured</p> <p><b>ROCK</b>                  ROCK QUALITY DESIGNATION (RQD):                  reported in % = [length of core in pieces                  4" and longer/length of run] x 100</p>	<p><b>SAMPLE TYPES:</b>                  D: drive                  W: washed                  TP: test pit                  ST: Shelby Tube                  A: auger                  HA: hand auger                  C: cored                  RC: rotasonic core</p>	<p><b>SOIL</b></p> <p><sup>1</sup> PLASTIC SOILS DENSITY:                  0-2: very soft                  3-4: soft                  5-8: medium stiff                  9-15: stiff                  16-30: very stiff                  &gt;30: hard</p> <p><sup>2</sup> PROPORTIONS USED: <sup>1</sup> GRANULAR SOILS DENSITY:                  Trace: &lt;10%                  Little: 10-20%                  Some: 20-35%                  And: 35-50%</p> <p>MOISTURE:                  dry                  damp                  moist                  wet</p>	<p><b>NOTES:</b>                  Calibration Factor - 0.53 Benzene</p>
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**BORING AND WELL CONSTRUCTION LOG**



Site: Former Hope Mill  
 Client Name: Paramount Apartments, LLC  
 Date(s): September 7, 2016  
 Drilling Company: New England Geotech  
 Drilling Method: Geoprobe  
 Sampling Method: Macro Liner  
 ESS Observer: CCP/JDA

Boring/Well No: **ESS-38**  
 Depth to Water (ft): Approx 9.5' (SHWT)  
 Well Diameter (inches): N/A  
 Well Screen Slot Size: N/A  
 Measuring Point: Ground Surface  
 Measuring Point Elevation: NM  
 Ground Surface Elevation: NM

Depth bgs (ft.)	Sample or Run Designation	Sample Type	Blows per 6 inches or Core Run (time/ft.)	Recovery/Penetration (ft)	Rock Quality Designation	Screening Data		Depth (feet)	Materials Description Soils: moisture, density <sup>1</sup> , color, size, major and minor constituents <sup>2</sup> Rock: color, rock type, hardness, major mineral types, weathering, and degree of fracturing	Graphical Log	Well Construction
						PID (ppm)	FID (ppm)				
0	COMP-3 (Borings 36,37,38)							0	Dry, dark brown, FILL (ash, coarse sand and trace coal).		0
	ESS-38 (3-8)					0.1			Dry, orange-brown, SILTY LOAM.		3
									Cobble		4
5						0.0		-5	Dry, orange-brown, SILTY LOAM.		5
									Dry to damp, grey-brown, GRAVEL (heavily weathered). Refusal at 10'.		7
10						0.0		-10			10
15								-15			15

<p><b>LEGEND:</b>                  ND: not detected                  N/A: not applicable                  bgs: below ground surface                  NM: not measured</p> <p><b>ROCK</b>                  ROCK QUALITY DESIGNATION (RQD):                  reported in % = [length of core in pieces                  4" and longer/length of run] x 100</p>	<p><b>SAMPLE TYPES:</b>                  D: drive                  W: washed                  TP: test pit                  ST: Shelby Tube                  A: auger                  HA: hand auger                  C: cored                  RC: rotasonic core</p>	<p><b>SOIL</b></p> <p><sup>1</sup> PLASTIC SOILS DENSITY:                  0-2: very soft                  3-4: soft                  5-8: medium stiff                  9-15: stiff                  16-30: very stiff                  &gt;30: hard</p> <p><sup>2</sup> PROPORTIONS USED: <sup>1</sup> GRANULAR SOILS DENSITY:                  Trace: &lt;10%                  Little: 10-20%                  Some: 20-35%                  And: 35-50%</p> <p>MOISTURE:                  dry                  damp                  moist                  wet</p>	<p><b>NOTES:</b>                  Calibration Factor - 0.53 Benzene</p>
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**BORING AND WELL CONSTRUCTION LOG**



Site: Former Hope Mill  
 Client Name: Paramount Apartments, LLC  
 Date(s): September 7, 2016  
 Drilling Company: New England Geotech  
 Drilling Method: Geoprobe  
 Sampling Method: Macro Liner  
 ESS Observer: CCP/JDA

Boring/Well No: **ESS-41**  
 Depth to Water (ft): NM  
 Well Diameter (inches): N/A  
 Well Screen Slot Size: N/A  
 Measuring Point: Ground Surface  
 Measuring Point Elevation: NM  
 Ground Surface Elevation: NM

Depth bgs (ft.)	Sample or Run Designation	Sample Type	Blows per 6 inches or Core Run (time/ft.)	Recovery/Penetration (ft)	Rock Quality Designation	Screening Data		Depth (feet)	Materials Description Soils: moisture, density <sup>1</sup> , color, size, major and minor constituents <sup>2</sup> Rock: color, rock type, hardness, major mineral types, weathering, and degree of fracturing	Graphical Log	Well Construction
						PID (ppm)	FID (ppm)				
0								0	Wet to damp, light brown, COARSE SANDY LOAM.		0
									Damp, dark brown, SANDY LOAM.		1
									Dry, grey to light brown, CRUSHED STONE AGGREGATE, some fine to medium sand.		2
											3
											4
											5
											6
											7
											8
											9
											10
											11
											12
											13
											14
											15

<p><b>LEGEND:</b>                  ND: not detected                  N/A: not applicable                  bgs: below ground surface                  NM: not measured</p> <p><b>ROCK</b>                  ROCK QUALITY DESIGNATION (RQD):                  reported in % = [length of core in pieces                  4" and longer/length of run] x 100</p>	<p><b>SAMPLE TYPES:</b>                  D: drive                  W: washed                  TP: test pit                  ST: Shelby Tube                  A: auger                  HA: hand auger                  C: cored                  RC: rotasonic core</p>	<p><b>SOIL</b></p> <p><sup>1</sup> PLASTIC SOILS DENSITY:                  0-2: very soft                  3-4: soft                  5-8: medium stiff                  9-15: stiff                  16-30: very stiff                  &gt;30: hard</p> <p><sup>2</sup> PROPORTIONS USED: <sup>1</sup> GRANULAR SOILS DENSITY:                  Trace: &lt;10%                  Little: 10-20%                  Some: 20-35%                  And: 35-50%</p> <p>MOISTURE:                  dry                  damp                  moist                  wet</p>	<p><b>NOTES:</b>                  Calibration Factor - 0.53 Benzene</p>
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**BORING AND WELL CONSTRUCTION LOG**



Site: Former Hope Mill  
 Client Name: Paramount Apartments, LLC  
 Date(s): September 8, 2016  
 Drilling Company: New England Geotech  
 Drilling Method: Geoprobe  
 Sampling Method: Macro Liner  
 ESS Observer: CCP/JDA

Boring/Well No: **ESS-43**  
 Depth to Water (ft): NM  
 Well Diameter (inches): N/A  
 Well Screen Slot Size: N/A  
 Measuring Point: Ground Surface  
 Measuring Point Elevation: NM  
 Ground Surface Elevation: NM

Depth bgs (ft.)	Sample or Run Designation	Sample Type	Blows per 6 inches or Core Run (time/ft.)	Recovery/Penetration (ft)	Rock Quality Designation	Screening Data		Depth (feet)	Materials Description Soils: moisture, density <sup>1</sup> , color, size, major and minor constituents <sup>2</sup> Rock: color, rock type, hardness, major mineral types, weathering, and degree of fracturing	Graphical Log	Well Construction
						PID (ppm)	FID (ppm)				
0	COMP-7 (Borings 43,44,45)			3.0/5.0			0.0	0	Damp, dark brown, SANDY LOAM, trace coal and ash.		0
	ESS-43 (2-8)								Dry to damp, dark brown to orange-brown, SANDY LOAM.		1
							0.0		Dry, grey to light brown, CRUSHED STONE AGGREGATE, some fine and medium sand. Four refusals at 6-7'.		2
5				4.0/5.0				-5			3
											4
											5
											6
											7
											8
											9
10								-10			10
											11
											12
											13
											14
15								-15			15

<p><b>LEGEND:</b>                  ND: not detected                  N/A: not applicable                  bgs: below ground surface                  NM: not measured</p> <p><b>ROCK</b>                  ROCK QUALITY DESIGNATION (RQD):                  reported in % = [length of core in pieces                  4" and longer/length of run] x 100</p>	<p><b>SAMPLE TYPES:</b>                  D: drive                  W: washed                  TP: test pit                  ST: Shelby Tube                  A: auger                  HA: hand auger                  C: cored                  RC: rotasonic core</p>	<p><b>SOIL</b></p> <p><sup>1</sup> PLASTIC SOILS DENSITY:                  0-2: very soft                  3-4: soft                  5-8: medium stiff                  9-15: stiff                  16-30: very stiff                  &gt;30: hard</p> <p><sup>2</sup> PROPORTIONS USED:                  Trace: &lt;10%                  Little: 10-20%                  Some: 20-35%                  And: 35-50%</p> <p><sup>1</sup> GRANULAR SOILS DENSITY:                  0-4: very loose                  5-9: loose                  10-29: medium dense                  30-49: dense                  50+: very dense</p>	<p><b>NOTES:</b>                  Calibration Factor - 0.53 Benzene</p>
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**BORING AND WELL CONSTRUCTION LOG**



Site: Former Hope Mill  
 Client Name: Paramount Apartments, LLC  
 Date(s): September 8, 2016  
 Drilling Company: New England Geotech  
 Drilling Method: Geoprobe  
 Sampling Method: Macro Liner  
 ESS Observer: CCP/JDA

Boring/Well No: **ESS-44**  
 Depth to Water (ft): NM  
 Well Diameter (inches): N/A  
 Well Screen Slot Size: N/A  
 Measuring Point: Ground Surface  
 Measuring Point Elevation: NM  
 Ground Surface Elevation: NM

Depth bgs (ft.)	Sample or Run Designation	Sample Type	Blows per 6 inches or Core Run (time/ft.)	Recovery/Penetration (ft)	Rock Quality Designation	Screening Data		Depth (feet)	Materials Description Soils: moisture, density <sup>1</sup> , color, size, major and minor constituents <sup>2</sup> Rock: color, rock type, hardness, major mineral types, weathering, and degree of fracturing	Graphical Log	Well Construction
						PID (ppm)	FID (ppm)				
0	COMP-7 (Borings 43,44,45)			3.25/5.0				0	Damp, dark brown, SANDY LOAM, trace coal and ash.		0
	ESS-44 (2-8)								Dry, COARSE SAND AND FINE GRAVEL, some aggregate.		1
5				4.5/5.0			0.0	-5			5
10							0.0	-10	Damp, grey, SILTY LOAM. Two refusals at 10'.		10
15								-15			15

<p><b>LEGEND:</b>                  ND: not detected                  N/A: not applicable                  bgs: below ground surface                  NM: not measured</p> <p><b>ROCK</b>                  ROCK QUALITY DESIGNATION (RQD):                  reported in % = [length of core in pieces 4" and longer/length of run] x 100</p>	<p><b>SAMPLE TYPES:</b>                  D: drive                  W: washed                  TP: test pit                  ST: Shelby Tube                  A: auger                  HA: hand auger                  C: cored                  RC: rotasonic core</p>	<p><b>SOIL</b></p> <p><sup>1</sup> DENSITY DESIGNATION based on blow counts for each 12" of penetration using a 140 lb. wt x 30" drop on a 2" O.D. split spoon sampler. If blow counts are not taken then density may be estimated</p> <p>MOISTURE: <sup>2</sup> PROPORTIONS USED: <sup>1</sup> GRANULAR SOILS DENSITY:</p> <p>dry Trace: &lt;10%                  damp Little: 10-20%                  moist Some: 20-35%                  wet And: 35-50%</p> <p><sup>1</sup> PLASTIC SOILS DENSITY:                  0-2: very soft                  3-4: soft                  5-8: medium stiff                  9-15: stiff                  16-30: very stiff                  &gt;30: hard</p> <p>0-4: very loose                  5-9: loose                  10-29: medium dense                  30-49: dense                  50+: very dense</p>	<p><b>NOTES:</b>                  Calibration Factor - 0.53 Benzene</p>
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**BORING AND WELL CONSTRUCTION LOG**



Site: Former Hope Mill  
 Client Name: Paramount Apartments, LLC  
 Date(s): September 8, 2016  
 Drilling Company: New England Geotech  
 Drilling Method: Geoprobe  
 Sampling Method: Macro Liner  
 ESS Observer: CCP/JDA

Boring/Well No: **ESS-45**  
 Depth to Water (ft): NM  
 Well Diameter (inches): N/A  
 Well Screen Slot Size: N/A  
 Measuring Point: Ground Surface  
 Measuring Point Elevation: NM  
 Ground Surface Elevation: NM

Depth bgs (ft.)	Sample or Run Designation	Sample Type	Blows per 6 inches or Core Run (time/ft.)	Recovery/Penetration (ft)	Rock Quality Designation	Screening Data		Depth (feet)	Materials Description Soils: moisture, density <sup>1</sup> , color, size, major and minor constituents <sup>2</sup> Rock: color, rock type, hardness, major mineral types, weathering, and degree of fracturing	Graphical Log	Well Construction
						PID (ppm)	FID (ppm)				
0	COMP-7 (Borings 43,44,45)			4.0/5.0				0	Damp, dark brown, SANDY LOAM, trace coal and ash.		0
	ESS-45 (2-8)								Dry, orange-brown, LOAMY SAND.		1
									Dry, grey, COARSE SAND AND FINE GRAVEL.		2
5				5.0/5.0			0.0	-5			5
											6
									Damp to wet, grey, SILTY LOAM, trace to some gravel.		7
											8
							0.0	-10			9
10											10
											11
											12
											13
											14
15								-15			15

<p><b>LEGEND:</b>                  ND: not detected                  N/A: not applicable                  bgs: below ground surface                  NM: not measured</p> <p><b>ROCK</b>                  ROCK QUALITY DESIGNATION (RQD):                  reported in % = [length of core in pieces                  4" and longer/length of run] x 100</p>	<p><b>SAMPLE TYPES:</b>                  D: drive                  W: washed                  TP: test pit                  ST: Shelby Tube                  A: auger                  HA: hand auger                  C: cored                  RC: rotasonic core</p>	<p><b>SOIL</b></p> <p><sup>1</sup> PLASTIC SOILS DENSITY:                  0-2: very soft                  3-4: soft                  5-8: medium stiff                  9-15: stiff                  16-30: very stiff                  &gt;30: hard</p> <p><sup>2</sup> PROPORTIONS USED:                  Trace: &lt;10%                  Little: 10-20%                  Some: 20-35%                  And: 35-50%</p> <p><sup>1</sup> GRANULAR SOILS DENSITY:                  0-4: very loose                  5-9: loose                  10-29: medium dense                  30-49: dense                  50+: very dense</p>	<p><b>NOTES:</b>                  Calibration Factor - 0.53 Benzene</p>
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**BORING AND WELL CONSTRUCTION LOG**



Site: Former Hope Mill  
 Client Name: Paramount Apartments, LLC  
 Date(s): September 7, 2016  
 Drilling Company: New England Geotech  
 Drilling Method: Geoprobe  
 Sampling Method: Macro Liner  
 ESS Observer: CCP/JDA

Boring/Well No: **ESS-47 / MW-11**  
 Depth to Water (ft): 9.25'  
 Well Diameter (inches): 2.0'  
 Well Screen Slot Size: 0.010  
 Measuring Point: Ground Surface  
 Measuring Point Elevation: NM  
 Ground Surface Elevation: NM

Depth bgs (ft.)	Sample or Run Designation	Sample Type	Blows per 6 inches or Core Run (time/ft.)	Recovery/Penetration (ft)	Rock Quality Designation	Screening Data		Depth (feet)	Materials Description Soils: moisture, density <sup>1</sup> , color, size, major and minor constituents <sup>2</sup> Rock: color, rock type, hardness, major mineral types, weathering, and degree of fracturing	Graphical Log	Well Construction
						PID (ppm)	FID (ppm)				
0				NM				0	Dry, brown to black, COARSE SAND, trace ash, some brick.		
5				NM		0.0		-5	Damp, PEAT, trace intact root structure. Damp, brown, FINE SAND.		
10	ESS-47 (8_5)					0.0		-10	Damp, brown to grey-orange, GRAVEL AND FINE SAND. Wet, brown, GRAVEL.		
15						0.0		-15	Damp, COARSE SAND. Wet, grey, SILTY FINE SAND.		

<p><b>LEGEND:</b>                  ND: not detected                  N/A: not applicable                  bgs: below ground surface                  NM: not measured</p> <p><b>ROCK</b>                  ROCK QUALITY DESIGNATION (RQD):                  reported in % = [length of core in pieces 4" and longer/length of run] x 100</p>	<p><b>SAMPLE TYPES:</b>                  D: drive                  W: washed                  TP: test pit                  ST: Shelby Tube                  A: auger                  HA: hand auger                  C: cored                  RC: rotasonic core</p>	<p><b>SOIL</b></p> <p><sup>1</sup> PLASTIC SOILS DENSITY:                  0-2: very soft                  3-4: soft                  5-8: medium stiff                  9-15: stiff                  16-30: very stiff                  &gt;30: hard</p> <p><sup>2</sup> PROPORTIONS USED: <sup>1</sup> GRANULAR SOILS DENSITY:                  Trace: &lt;10%                  Little: 10-20%                  Some: 20-35%                  And: 35-50%</p> <p>MOISTURE:                  dry                  damp                  moist                  wet</p>	<p><b>NOTES:</b>                  Calibration Factor - 0.53 Benzene</p>
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**BORING AND WELL CONSTRUCTION LOG**



Site: Former Hope Mill  
 Client Name: Paramount Apartments, LLC  
 Date(s): September 8, 2016  
 Drilling Company: New England Geotech  
 Drilling Method: Geoprobe  
 Sampling Method: Macro Liner  
 ESS Observer: CCP/JDA

Boring/Well No: **ESS-49 / MW-12**  
 Depth to Water (ft): 10' (7.5 SHWT)  
 Well Diameter (inches): N/A  
 Well Screen Slot Size: N/A  
 Measuring Point: Ground Surface  
 Measuring Point Elevation: NM  
 Ground Surface Elevation: NM

Depth bgs (ft.)	Sample or Run Designation	Sample Type	Blows per 6 inches or Core Run (time/ft.)	Recovery/Penetration (ft)	Rock Quality Designation	Screening Data		Depth (feet)	Materials Description Soils: moisture, density <sup>1</sup> , color, size, major and minor constituents <sup>2</sup> Rock: color, rock type, hardness, major mineral types, weathering, and degree of fracturing	Graphical Log	Well Construction
						PID (ppm)	FID (ppm)				
0				4.0/5.0				0	Damp, dark brown, LOAM. Damp, light brown, LOAMY SAND. Damp, dark brown, LOAM (buried "O" horizon). Damp, brown to orange developed soil horizon, roots present, LOAMY FINE SAND.		
5				4.5/5.0			0.0	-5	Damp to moist, FINE TO COARSE SAND.		
10				3.5/5.0				-10	Wet, COARSE SAND AND FINE GRAVEL. Wet, light brown, SILT.		
15								-15	Wet, COASE SAND AND FINE GRAVEL.		

<b>LEGEND:</b> ND: not detected N/A: not applicable bgs: below ground surface NM: not measured  <b>ROCK</b> ROCK QUALITY DESIGNATION (RQD): reported in % = [length of core in pieces 4" and longer/length of run] x 100	<b>SAMPLE TYPES:</b> D: drive W: washed TP: test pit ST: Shelby Tube A: auger HA: hand auger C: cored RC: rotasonic core	<b>SOIL</b> <sup>1</sup> Density designation based on blow counts for each 12" of penetration using a 140 lb. wt x 30" drop on a 2" O.D. split spoon sampler. If blow counts are not taken then density may be estimated  <b>MOISTURE:</b> <sup>2</sup> PROPORTIONS USED: <sup>1</sup> GRANULAR SOILS DENSITY: dry Trace: <10% damp Little: 10-20% moist Some: 20-35% wet And: 35-50%	<sup>1</sup> PLASTIC SOILS DENSITY: 0-2: very soft 3-4: soft 5-8: medium stiff 9-15: stiff 16-30: very stiff >30: hard  <sup>1</sup> GRANULAR SOILS DENSITY: 0-4: very loose 5-9: loose 10-29: medium dense 30-49: dense 50+: very dense	<b>NOTES:</b> Calibration Factor - 0.53 Benzene
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**BORING AND WELL CONSTRUCTION LOG**



Site: <u>Hope Mill, 5 Main Street, Hope, RI</u>	<b>Boring/Well No: ESS-61/ MW-16</b>
Client Name: <u>Paramount Apartments, LLC</u>	Depth to Water (ft): <u>10.03'</u>
Date(s): <u>June 3 and 23, 2020</u>	Well Diameter (inches): <u>2"</u>
Drilling Company: <u>New England GeoTech/ Soil Ex</u>	Well Screen Slot Size: <u>0.10</u>
Drilling Method: <u>Geoprobe- Direct Push/ HSA</u>	Measuring Point: <u>Top of PVC</u>
Sampling Method: <u>Macro-core</u>	Measuring Point Elevation: <u>NM</u>
ESS Observer: <u>M.Phillips and M. O'Brien</u>	Ground Surface Elevation: <u>NM</u>

Depth bgs (ft.)	Sample or Run Designation	Sample Type	Blows per 6 inches or Core Run (time/ft.)	Recovery/Penetration (ft)	Rock Quality Designation	Screening Data		Depth (feet)	Materials Description Soils: moisture, density, <sup>1</sup> color, size, major and minor constituents <sup>2</sup>  Rock: color, rock type, hardness, major mineral types, weathering, and degree of fracturing	Graphical Log	Well Construction
						PID (ppm)	FID (ppm)				
0				3.0/ 5.0			0.2	0	Topsoil		
								1	Dry, brown, FINE SAND, little coarse gravel, trace fine gravel, trace medium sand.		
								2	Dry, dark brown and brown, FINE SAND, some silt, trace fine gravel.		
								3			
								4	Dry, brown, FINE SAND and COARSE GRAVEL, little medium sand, trace coarse sand.		
5				4.5/ 5.0				5			
	ESS-61 (7-8')						0.1	7	Dry to moist, brown, FINE SAND, some medium sand, little coarse gravel, trace fine gravel.		
								8	Rock.		
								9	Moist, brown, FINE SAND, little medium sand, trace medium coarse sand, trace fine gravel, trace coarse gravel.		
				5.0/ 5.0				10			
								11	Moist, light brown, FINE SAND, little coarse gravel, trace fine gravel, trace medium sand, trace medium coarse sand.		
								12			
								13	Moist, brown, FINE SAND, trace medium sand.		
								14	Moist, light brown, FINE SAND, some medium sand, little coarse gravel, trace fine gravel.		
15								15			

<p><b>LEGEND:</b>                  ND: not detected                  N/A: not applicable                  bgs: below ground surface                  NM: not measured</p> <p><b>ROCK</b>                  ROCK QUALITY DESIGNATION (RQD):                  reported in % = [length of core in pieces                  4" and longer/length of run] x 100</p>	<p><b>SAMPLE TYPES:</b>                  D: drive                  W: washed                  TP: test pit                  ST: Shelby Tube                  A: auger                  HA: hand auger                  C: cored                  RC: rotasonic core</p>	<p><b>SOIL</b></p> <p><sup>1</sup> PLASTIC SOILS DENSITY:                  0-2: very soft                  3-4: soft                  5-8: medium stiff                  9-15: stiff                  16-30: very stiff                  &gt;30: hard</p> <p><sup>2</sup> PROPORTIONS USED:                  Trace: &lt;10%                  Little: 10-20%                  Some: 20-35%                  And: 35-50%</p> <p><sup>1</sup> GRANULAR SOILS DENSITY:                  0-4: very loose                  5-9: loose                  10-29: medium dense                  30-49: dense                  50+: very dense</p>	<p><b>NOTES:</b>                  Refusal with GeoProbe at 15' bgs.</p>
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**BORING AND WELL CONSTRUCTION LOG**



Site: <u>Hope Mill, 5 Main Street, Hpoee, RI</u>	<b>Boring/Well No: ESS-62/ MW-15</b>
Client Name: <u>Paramount Apartments, LLC</u>	Depth to Water (ft): <u>9.24'</u>
Date(s): <u>June 3 and 23, 2020</u>	Well Diameter (inches): <u>2"</u>
Drilling Company: <u>New England GeoTech/ Soil Ex</u>	Well Screen Slot Size: <u>0.10</u>
Drilling Method: <u>Geoprobe- Direct Push/ HSA</u>	Measuring Point: <u>Top of PVC</u>
Sampling Method: <u>Macro-core</u>	Measuring Point Elevation: <u>NM</u>
ESS Observer: <u>M.Phillips and M. O'Brien</u>	Ground Surface Elevation: <u>NM</u>

Depth bgs (ft.)	Sample or Run Designation	Sample Type	Blows per 6 inches or Core Run (time/ft.)	Recovery/Penetration (ft)	Rock Quality Designation	Screening Data		Depth (feet)	Materials Description Soils: moisture, density, <sup>1</sup> color, size, major and minor constituents <sup>2</sup> Rock: color, rock type, hardness, major mineral types, weathering, and degree of fracturing	Graphical Log	Well Construction	
						PID (ppm)	FID (ppm)					
0	ESS-62 (1.1'-1.8')			2.7/ 5.0			0.1	0	Topsoil			
									Dry, light brown, FINE SAND, trace fine gravel.			
									Rock.			
									Dry, red brown, FINE SAND, little medium coarse sand, little fine gravel, trace coarse gravel.			
									Dry, brown, FINE SAND, some fine gravel, little medium sand, trace coarse gravel.			
5					4.5/ 5.0			0.1	-5			Dry, light brown, FINE SAND, little medium coarse sand, trace fine gravel, trace coarse gravel.
												Rock.
												Dry, light brown, FINE SAND, some medium sand, little coarse gravel, trace fine gravel, trace coarse sand.
												Rock.
10					4.5/ 5.0				-10			Damp, brown, FINE SAND, little fine gravel, trace coarse sand.
												Moist, brown, FINE SAND, little fine gravel, trace coarse gravel, trace medium sand.
												Wet, light brown, FINE SAND, little medium sand, trace fine gravel, trace coarse gravel.
												Wet, orange brown, COARSE and FINE GRAVEL.
15									-15			Wet, light brown, FINE SAND, trace fine gravel.
												Wet, orange brown, FINE SAND, trace fine gravel, trace medium sand.

**LEGEND:**

ND: not detected  
 N/A: not applicable  
 bgs: below ground surface  
 NM: not measured

**ROCK**

ROCK QUALITY DESIGNATION (RQD):  
 reported in % = [length of core in pieces  
 4" and longer/length of run] x 100

**SAMPLE TYPES:**

D: drive  
 W: washed  
 TP: test pit  
 ST: Shelby Tube  
 A: auger  
 HA: hand auger  
 C: cored  
 RC: rotasonic core

**SOIL**

<sup>1</sup> Density designation based on blow counts for each 12" of penetration using a 140 lb. wt x 30" drop on a 2" O.D. split spoon sampler. If blow counts are not taken then density may be estimated

MOISTURE:  
 dry  
 damp  
 moist  
 wet

<sup>2</sup> PROPORTIONS USED:  
 Trace: <10%  
 Little: 10-20%  
 Some: 20-35%  
 And: 35-50%

<sup>1</sup> PLASTIC SOILS DENSITY:

0-2: very soft  
 3-4: soft  
 5-8: medium stiff  
 9-15: stiff  
 16-30: very stiff  
 >30: hard

<sup>1</sup> GRANULAR SOILS DENSITY:

0-4: very loose  
 5-9: loose  
 10-29: medium dense  
 30-49: dense  
 50+: very dense

**NOTES:**

Refusal with GeoProbe just shy of 15' bgs.

**BORING AND WELL CONSTRUCTION LOG**



Site: Hope Mill, 5 Main Street, Hope, RI  
 Client Name: Paramount Apartments, LLC  
 Date(s): June 3, 2020  
 Drilling Company: New England GeoTech  
 Drilling Method: Geoprobe- Direct Push  
 Sampling Method: Macro-core  
 ESS Observer: M.Phillips and M. O'Brien

Boring/Well No: **ESS-63**  
 Depth to Water (ft): ~10  
 Well Diameter (inches): NA  
 Well Screen Slot Size: NA  
 Measuring Point: NA  
 Measuring Point Elevation: NM  
 Ground Surface Elevation: NM

Depth bgs (ft.)	Sample or Run Designation	Sample Type	Blows per 6 inches or Core Run (time/ft.)	Recovery/Penetration (ft)	Rock Quality Designation	Screening Data		Depth (feet)	Materials Description Soils: moisture, density, <sup>1</sup> color, size, major and minor constituents <sup>2</sup> Rock: color, rock type, hardness, major mineral types, weathering, and degree of fracturing	Graphical Log	Well Construction
						PID (ppm)	FID (ppm)				
0				2.7/ 5.0				0	Topsoil		
							16.0		Dry, brown, FINE SAND, trace fine gravel, trace coarse gravel, trace organics, trace woodchips. Rubber-like substance observed.		
5				2.0/ 5.0			70.4	-5	Dry, dark brown, FINE SAND, little coarse gravel, little fine gravel, trace medium sand (petroleum impacts observed). Rock.		
10				2.8/ 5.0				-10	Moist to wet, brown, FINE SAND, trace fine gravel (petroleum impacts observed).		
15								-15			

<p><b>LEGEND:</b>                  ND: not detected                  N/A: not applicable                  bgs: below ground surface                  NM: not measured</p> <p><b>ROCK</b>                  ROCK QUALITY DESIGNATION (RQD):                  reported in % = [length of core in pieces 4" and longer/length of run] x 100</p>	<p><b>SAMPLE TYPES:</b>                  D: drive                  W: washed                  TP: test pit                  ST: Shelby Tube                  A: auger                  HA: hand auger                  C: cored                  RC: rotasonic core</p>	<p><b>SOIL</b></p> <p><sup>1</sup> PLASTIC SOILS DENSITY:                  0-2: very soft                  3-4: soft                  5-8: medium stiff                  9-15: stiff                  16-30: very stiff                  &gt;30: hard</p> <p><b>MOISTURE:</b>                  dry                  damp                  moist                  wet</p> <p><sup>2</sup> PROPORTIONS USED:                  Trace: &lt;10%                  Little: 10-20%                  Some: 20-35%                  And: 35-50%</p> <p><sup>1</sup> GRANULAR SOILS DENSITY:                  0-4: very loose                  5-9: loose                  10-29: medium dense                  30-49: dense                  50+: very dense</p>	<p><b>NOTES:</b>                  Petroleum impacted soils identified. Stopped at 15' bgs.</p>
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**BORING AND WELL CONSTRUCTION LOG**



Site: Hope Mill, 5 Main Street, Hope, RI  
 Client Name: Paramount Apartments, LLC  
 Date(s): June 3, 2020  
 Drilling Company: New England GeoTech  
 Drilling Method: Geoprobe- Direct Push  
 Sampling Method: Macro-core  
 ESS Observer: M.Phillips and M. O'Brien

**Boring/Well No: ESS-64**  
 Depth to Water (ft): NA  
 Well Diameter (inches): NA  
 Well Screen Slot Size: NA  
 Measuring Point: NA  
 Measuring Point Elevation: NM  
 Ground Surface Elevation: NM

Depth bgs (ft.)	Sample or Run Designation	Sample Type	Blows per 6 inches or Core Run (time/ft.)	Recovery/Penetration (ft)	Rock Quality Designation	Screening Data		Depth (feet)	Materials Description Soils: moisture, density, <sup>1</sup> color, size, major and minor constituents <sup>2</sup> Rock: color, rock type, hardness, major mineral types, weathering, and degree of fracturing	Graphical Log	Well Construction
						PID (ppm)	FID (ppm)				
0				2.7/ 5.0				0	Topsoil  Dry, brown, FINE SAND, some medium coarse sand, little coarse gravel, little fine gravel, trace coal/slag.		
5				0.5/ 1.0		0.0		-5			
10								-10			

**LEGEND:**

ND: not detected  
 N/A: not applicable  
 bgs: below ground surface  
 NM: not measured

**ROCK**

ROCK QUALITY DESIGNATION (RQD):  
 reported in % = [length of core in pieces  
 4" and longer/length of run] x 100

**SAMPLE TYPES:**

D: drive  
 W: washed  
 TP: test pit  
 ST: Shelby Tube  
 A: auger  
 HA: hand auger  
 C: cored  
 RC: rotasonic core

**SOIL**

<sup>1</sup> Density designation based on blow counts for each 12" of penetration using a 140 lb. wt x 30" drop on a 2" O.D. split spoon sampler. If blow counts are not taken then density may be estimated

**MOISTURE:**

dry  
 damp  
 moist  
 wet

<sup>2</sup> PROPORTIONS USED:  
 Trace: <10%  
 Little: 10-20%  
 Some: 20-35%  
 And: 35-50%

<sup>1</sup> PLASTIC SOILS DENSITY:

0-2: very soft  
 3-4: soft  
 5-8: medium stiff  
 9-15: stiff  
 16-30: very stiff  
 >30: hard

<sup>1</sup> GRANULAR SOILS DENSITY:

0-4: very loose  
 5-9: loose  
 10-29: medium dense  
 30-49: dense  
 50+: very dense

**NOTES:**

Multiple attempts, hit refusal at 6 to 7' bgs. No sample collected due to shallow refusal.

**BORING AND WELL CONSTRUCTION LOG**



Site: Hope Mill, 5 Main Street, Hpoee, RI  
 Client Name: Paramount Apartments, LLC  
 Date(s): June 23, 2020  
 Drilling Company: Soil Ex  
 Drilling Method: Hollow Stem Auger  
 Sampling Method: NA  
 ESS Observer: M.Phillips and M. O'Brien

Boring/Well No: **ESS-64A/ MW-17**  
 Depth to Water (ft): 11.87'  
 Well Diameter (inches): 2"  
 Well Screen Slot Size: 0.10  
 Measuring Point: Top of PVC  
 Measuring Point Elevation: NM  
 Ground Surface Elevation: NM

Depth bgs (ft.)	Sample or Run Designation	Sample Type	Blows per 6 inches or Core Run (time/ft.)	Recovery/Penetration (ft)	Rock Quality Designation	Screening Data		Depth (feet)	Materials Description Soils: moisture, density, <sup>1</sup> color, size, major and minor constituents <sup>2</sup> Rock: color, rock type, hardness, major mineral types, weathering, and degree of fracturing	Graphical Log	Well Construction
						PID (ppm)	FID (ppm)				
0				1.0/ 2.0				0	Topsoil Dry, brown, FINE SAND, trace fine gravel.		
				0.8/ 2.0				2	Dry, brown, FINE SAND, trace fine gravel, trace brick. Dry, brown, FINE SAND, trace medium sand, trace fine gravel.		
5				1.2/ 2.0			0.1	-5	Dry, light brown, FINE SAND, little coarse gravel, little fine gravel, trace coarse sand. Rock.		
								-7	Dry, light brown, FINE SAND, trace coarse sand. Rock.		
10								-10			
15								-15			
								-18			

**LEGEND:**

ND: not detected  
 N/A: not applicable  
 bgs: below ground surface  
 NM: not measured

**ROCK**

ROCK QUALITY DESIGNATION (RQD):  
 reported in % = [length of core in pieces  
 4" and longer/length of run] x 100

**SAMPLE TYPES:**

D: drive  
 W: washed  
 TP: test pit  
 ST: Shelby Tube  
 A: auger  
 HA: hand auger  
 C: cored  
 RC: rotasonic core

**SOIL**

<sup>1</sup> Density designation based on blow counts for each 12" of penetration using a 140 lb. wt x 30" drop on a 2" O.D. split spoon sampler. If blow counts are not taken then density may be estimated

MOISTURE:  
 dry  
 damp  
 moist  
 wet

<sup>2</sup> PROPORTIONS USED:  
 Trace: <10%  
 Little: 10-20%  
 Some: 20-35%  
 And: 35-50%

<sup>1</sup> PLASTIC SOILS DENSITY:

0-2: very soft  
 3-4: soft  
 5-8: medium stiff  
 9-15: stiff  
 16-30: very stiff  
 >30: hard

<sup>1</sup> GRANULAR SOILS DENSITY:

0-4: very loose  
 5-9: loose  
 10-29: medium dense  
 30-49: dense  
 50+: very dense

**NOTES:**

Large boulder encountered at 7' bgs.



**BORING AND WELL CONSTRUCTION LOG**



Site: 5 Main Street, Hope, RI  
 Client Name: Paramount Apartments, LLC  
 Date(s): June 3, 2020  
 Drilling Company: New England GeoTech  
 Drilling Method: Geoprobe- Direct Push  
 Sampling Method: Macro-core  
 ESS Observer: M.Phillips and M. O'Brien

Boring/Well No: **ESS-65/MW-14**  
 Depth to Water (ft): ~13  
 Well Diameter (inches): 2"  
 Well Screen Slot Size: 0.10  
 Measuring Point: TPVC  
 Measuring Point Elevation: NM  
 Ground Surface Elevation: NM

Depth bgs (ft.)	Sample or Run Designation	Sample Type	Blows per 6 inches or Core Run (time/ft.)	Recovery/Penetration (ft)	Rock Quality Designation	Screening Data		Depth (feet)	Materials Description Soils: moisture, density, <sup>1</sup> color, size, major and minor constituents <sup>2</sup>  Rock: color, rock type, hardness, major mineral types, weathering, and degree of fracturing	Graphical Log	Well Construction
						PID (ppm)	FID (ppm)				
0				3.5/ 5.0			0.1	0	Topsoil		
									Dry, gray, FINE SAND, some coarse gravel, trace fine gravel.		
									Dry, brown, FINE SAND, little medium sand, trace coal/slag.		
									Dry, gray, FINE SAND, little medium sand, trace fine gravel, trace coarse gravel.		
5				3.9/ 5.0			0.0	-5	Dry, dark brown, FINE SAND, some silt, trace medium coarse sand.		
									Dry, orange brown, FINE SAND, some silt, trace medium coarse sand.		
									Dry, gray, FINE SAND, some medium sand, little coarse gravel, little fine gravel.		
									Dry, purple, FINE SAND, some medium sand, little coarse gravel, little fine gravel.		
10	ESS-65 (11.3'-12.5')			4.0/ 5.0				-10	Dry, gray, FINE SAND, some medium sand, little coarse gravel, little fine gravel.		
									Dry, green, FINE SAND, some medium sand, little coarse gravel, little fine gravel.		
									Dry, gray, FINE SAND, some medium sand, little coarse gravel, little fine gravel.		
15				1.5/ 5.0				-15	Dry, brown, FINE SAND and FINE GRAVEL, trace medium sand.		
									Moist to wet, gray, FINE SAND, little fine gravel, trace medium sand.		
									Wet, gray, FINE and MEDIUM SAND, trace coarse gravel, trace coarse sand.		
20								-20			

<b>LEGEND:</b> ND: not detected N/A: not applicable bgs: below ground surface NM: not measured  <b>ROCK</b> ROCK QUALITY DESIGNATION (RQD): reported in % = [length of core in pieces 4" and longer/length of run] x 100	<b>SAMPLE TYPES:</b> D: drive W: washed TP: test pit ST: Shelby Tube A: auger HA: hand auger C: cored RC: rotasonic core	<b>SOIL</b>  <sup>1</sup> DENSITY DESIGNATION based on blow counts for each 12" of penetration using a 140 lb. wt x 30" drop on a 2" O.D. split spoon sampler. If blow counts are not taken then density may be estimated  <b>MOISTURE:</b> dry damp moist wet	<sup>1</sup> PLASTIC SOILS DENSITY: 0-2: very soft 3-4: soft 5-8: medium stiff 9-15: stiff 16-30: very stiff >30: hard  <sup>1</sup> PROPORTIONS USED: Trace: <10% Little: 10-20% Some: 20-35% And: 35-50%	<sup>1</sup> GRANULAR SOILS DENSITY: 0-4: very loose 5-9: loose 10-29: medium dense 30-49: dense 50+: very dense	<b>NOTES:</b>  Purple and green colored soils observed at approx. 6' and 7' bgs.
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**BORING AND WELL CONSTRUCTION LOG**



Site: 5 Main Street, Hope, RI  
 Client Name: Paramount Apartments, LLC  
 Date(s): April 8, 2020  
 Drilling Company: GeoSearch  
 Drilling Method: Hollow Stem Auger  
 Sampling Method: NA  
 ESS Observer: M.Phillips and M. O'Brien

Boring/Well No: **MW-7**  
 Depth to Water (ft): 5.31  
 Well Diameter (inches): 2  
 Well Screen Slot Size: 0.10  
 Measuring Point: TPVC  
 Measuring Point Elevation: NM  
 Ground Surface Elevation: NM

Depth bgs (ft.)	Sample or Run Designation	Sample Type	Blows per 6 inches or Core Run (time/ft.)	Recovery/Penetration (ft)	Rock Quality Designation	Screening Data		Depth (feet)	Materials Description Soils: moisture, density, <sup>1</sup> color, size, major and minor constituents <sup>2</sup>  Rock: color, rock type, hardness, major mineral types, weathering, and degree of fracturing	Graphical Log	Well Construction
						PID (ppm)	FID (ppm)				
0				1.0/ 2.0			0.2	0	Topsoil		
				<0.2/ 2.0					Dry, light brown, FINE SAND, little fine gravel, trace coarse gravel.		
									Dry, light brown, FINE SAND, little fine gravel, trace coarse gravel.		
5				0.8/ 2.0			0.1	-5	Dry to moist, orange brown, FINE SAND, trace fine gravel.		
				1.0/ 2.0			0.1		Moist, light brown, FINE SAND, trace fine gravel.		
									Moist, brown, COARSE SAND and FINE GRAVEL, some fine sand, trace coarse gravel.		
									Wet, brown, COARSE SAND and FINE GRAVEL, some fine sand, little medium sand, trace coarse gravel.		
10				0.7/ 1.0				-10			
15								-15			

**LEGEND:**

ND: not detected  
 N/A: not applicable  
 bgs: below ground surface  
 NM: not measured

**ROCK**

ROCK QUALITY DESIGNATION (RQD):  
 reported in % = [length of core in pieces  
 4" and longer/length of run] x 100

**SAMPLE TYPES:**

D: drive  
 W: washed  
 TP: test pit  
 ST: Shelby Tube  
 A: auger  
 HA: hand auger  
 C: cored  
 RC: rotasonic core

**SOIL**

<sup>1</sup> Density designation based on blow counts for each 12" of penetration using a 140 lb. wt x 30" drop on a 2" O.D. split spoon sampler. If blow counts are not taken then density may be estimated

MOISTURE:  
 dry  
 damp  
 moist  
 wet

<sup>2</sup> PROPORTIONS USED:  
 Trace: <10%  
 Little: 10-20%  
 Some: 20-35%  
 And: 35-50%

<sup>1</sup> PLASTIC SOILS DENSITY:

0-2: very soft  
 3-4: soft  
 5-8: medium stiff  
 9-15: stiff  
 16-30: very stiff  
 >30: hard

<sup>1</sup> GRANULAR SOILS DENSITY:

0-4: very loose  
 5-9: loose  
 10-29: medium dense  
 30-49: dense  
 50+: very dense

**NOTES:** An Air Hammer was used when refusal was encountered at 11 feet with the split spoon. The obstruction was not large, and drilling resumed with the hollow stem auger.

**BORING AND WELL CONSTRUCTION LOG**



Site: 5 Main Street, Hope, RI  
 Client Name: Paramount Apartments, LLC  
 Date(s): April 8, 2020  
 Drilling Company: GeoSearch  
 Drilling Method: Hollow Stem Auger  
 Sampling Method: NA  
 ESS Observer: M.Phillips and M. O'Brien

Boring/Well No: **MW-8**  
 Depth to Water (ft): 3.87  
 Well Diameter (inches): 2  
 Well Screen Slot Size: 0.10  
 Measuring Point: TPVC  
 Measuring Point Elevation: NM  
 Ground Surface Elevation: NM

Depth bgs (ft.)	Sample or Run Designation	Sample Type	Blows per 6 inches or Core Run (time/ft.)	Recovery/Penetration (ft)	Rock Quality Designation	Screening Data		Depth (feet)	Materials Description Soils: moisture, density, <sup>1</sup> color, size, major and minor constituents <sup>2</sup>  Rock: color, rock type, hardness, major mineral types, weathering, and degree of fracturing	Graphical Log	Well Construction
						PID (ppm)	FID (ppm)				
0				1.6/ 2.0		0.1		0	Topsoil		
						0.1		0.1	Moist, dark brown, FINE SAND and SILT, trace fine gravel.		
				1.2/ 2.0		0.0		1.2	Moist, dark brown and black, FINE SAND and SILT, trace fine gravel.		
						0.0		1.7	Moist, orange brown, FINE SAND, little medium sand, trace fine gravel.		
								2.0	Dry, grayish brown, FINE SAND and GRAVEL.		
5				0.5/ 2.0				5	Moist, dark brown, FINE SAND and SILT, trace fine and coarse gravel and organics (potentially collapse)		
				1.7/ 2.0				7	Wet, light brown, FINE and MEDIUM SAND, little fine gravel, trace coarse gravel.		
								8.5	Wet, light brown, FINE and MEDIUM SAND, little fine gravel, trace coarse gravel.		
10				1.4/ 2.0				10	Moist, light brown, FINE SAND and SILT, some fine gravel, trace coarse sand.		
				0.7/ 2.0				12	Wet, light brown, FINE and MEDIUM SAND, some fine gravel, little coarse sand, trace coarse gravel.		
15								15			

**LEGEND:**

ND: not detected  
 N/A: not applicable  
 bgs: below ground surface  
 NM: not measured

**ROCK**

ROCK QUALITY DESIGNATION (RQD):  
 reported in % = [length of core in pieces  
 4" and longer/length of run] x 100

**SAMPLE TYPES:**

D: drive  
 W: washed  
 TP: test pit  
 ST: Shelby Tube  
 A: auger  
 HA: hand auger  
 C: cored  
 RC: rotasonic core

**SOIL**

<sup>1</sup> Density designation based on blow counts for each 12" of penetration using a 140 lb. wt x 30" drop on a 2" O.D. split spoon sampler. If blow counts are not taken then density may be estimated

MOISTURE:  
 dry  
 damp  
 moist  
 wet

<sup>2</sup> PROPORTIONS USED:  
 Trace: <10%  
 Little: 10-20%  
 Some: 20-35%  
 And: 35-50%

<sup>1</sup> PLASTIC SOILS DENSITY:

0-2: very soft  
 3-4: soft  
 5-8: medium stiff  
 9-15: stiff  
 16-30: very stiff  
 >30: hard

<sup>1</sup> GRANULAR SOILS DENSITY:

0-4: very loose  
 5-9: loose  
 10-29: medium dense  
 30-49: dense  
 50+: very dense

**NOTES:** Encountered boulder obstruction shy of 14'. Well set at 13' 10".

**BORING AND WELL CONSTRUCTION LOG**



Site: 5 Main Street, Hope, RI  
 Client Name: Paramount Apartments, LLC  
 Date(s): April 8, 2020  
 Drilling Company: GeoSearch  
 Drilling Method: Hollow Stem Auger  
 Sampling Method: NA  
 ESS Observer: M.Phillips and M. O'Brien

Boring/Well No: **MW-9**  
 Depth to Water (ft): 3.24  
 Well Diameter (inches): 2  
 Well Screen Slot Size: 0.10  
 Measuring Point: TPVC  
 Measuring Point Elevation: NM  
 Ground Surface Elevation: NM

Depth bgs (ft.)	Sample or Run Designation	Sample Type	Blows per 6 inches or Core Run (time/ft.)	Recovery/Penetration (ft)	Rock Quality Designation	Screening Data		Depth (feet)	Materials Description Soils: moisture, density, <sup>1</sup> color, size, major and minor constituents <sup>2</sup>  Rock: color, rock type, hardness, major mineral types, weathering, and degree of fracturing	Graphical Log	Well Construction
						PID (ppm)	FID (ppm)				
0				1.0/ 2.0			0.3	0	Asphalt		
									Dry, dark brown and black, FINE SAND and SILT, trace fine gravel, trace coarse gravel.		
				1.3/ 2.0			0.0		Dry, brown, FINE SAND, some fine gravel, little coarse sand.		
									Dry, orange brown, FINE SAND, trace fine and coarse gravel.		
									Dry, brown, FINE and COARSE SAND, some fine gravel, trace medium sand and coarse gravel.		
5				0.8/ 2.0				-5	Wet, brown, COARSE SAND and FINE GRAVEL, some fine sand, trace medium sand and coarse gravel.		
				0.9/ 2.0					Wet, brown, COARSE SAND and FINE GRAVEL, some fine sand, trace medium sand and coarse gravel (minimal recovery).		
10								-10			
15								-15			

**LEGEND:**

ND: not detected  
 N/A: not applicable  
 bgs: below ground surface  
 NM: not measured

**ROCK**

ROCK QUALITY DESIGNATION (RQD):  
 reported in % = [length of core in pieces  
 4" and longer/length of run] x 100

**SAMPLE TYPES:**

D: drive  
 W: washed  
 TP: test pit  
 ST: Shelby Tube  
 A: auger  
 HA: hand auger  
 C: cored  
 RC: rotasonic core

**SOIL**

<sup>1</sup> Density designation based on blow counts for each 12" of penetration using a 140 lb. wt x 30" drop on a 2" O.D. split spoon sampler. If blow counts are not taken then density may be estimated

MOISTURE:  
 dry  
 damp  
 moist  
 wet

<sup>2</sup> PROPORTIONS USED:  
 Trace: <10%  
 Little: 10-20%  
 Some: 20-35%  
 And: 35-50%

<sup>1</sup> PLASTIC SOILS DENSITY:

0-2: very soft  
 3-4: soft  
 5-8: medium stiff  
 9-15: stiff  
 16-30: very stiff  
 >30: hard

<sup>1</sup> GRANULAR SOILS DENSITY:

0-4: very loose  
 5-9: loose  
 10-29: medium dense  
 30-49: dense  
 50+: very dense

**NOTES:** Air Hammer used when encountered refusal with split spoon at 10' below ground surface (bgs). Well set at 13' bgs.

**BORING AND WELL CONSTRUCTION LOG**



Site: 5 Main Street, Hope, RI  
 Client Name: Paramount Apartments, LLC  
 Date(s): April 8, 2020  
 Drilling Company: GeoSearch  
 Drilling Method: Hollow Stem Auger  
 Sampling Method: NA  
 ESS Observer: M.Phillips and M. O'Brien

Boring/Well No: **MW-13**  
 Depth to Water (ft): 6.01  
 Well Diameter (inches): 2  
 Well Screen Slot Size: 0.10  
 Measuring Point: TPVC  
 Measuring Point Elevation: NM  
 Ground Surface Elevation: NM

Depth bgs (ft.)	Sample or Run Designation	Sample Type	Blows per 6 inches or Core Run (time/ft.)	Recovery/Penetration (ft)	Rock Quality Designation	Screening Data		Depth (feet)	Materials Description Soils: moisture, density, <sup>1</sup> color, size, major and minor constituents <sup>2</sup>  Rock: color, rock type, hardness, major mineral types, weathering, and degree of fracturing	Graphical Log	Well Construction
						PID (ppm)	FID (ppm)				
0				1.0/ 2.0			0.3	0	Topsoil		
				1.2/ 2.0			0.3	1	Dry, brown, FINE SAND and SILT, trace coarse gravel and medium sand.		
				1.5/ 2.0			0.2	3	Dry, gray, FINE SAND and FINE GRAVEL, trace silt.		
				1.5/ 2.0			0.1	4	Moist, olive and dark gray, FINE SAND and SILT, trace fine gravel and organics.		
5				1.5/ 2.0			0.2	5	Dry, light brown, FINE SAND, little medium sand, trace fine and coarse gravel.		
				1.5/ 2.0			0.1	7	Rock		
				1.1/ 2.0			0.0	8	Moist, light brown, FINE and MEDIUM SAND, trace fine and coarse gravel.		
10				2.0/ 2.0				10	Moist, brown and tan, FINE SAND and SILT, trace fine and coarse gravel.		
				0.9/ 2.0				12	Wet, brown and tan, FINE and MEDIUM SAND, little fine gravel, trace coarse gravel.		
								14	Wet, light brown, FINE SAND, trace coarse gravel.		
15								15	Wet, light gray, FINE SAND.		
								17			
								18			

**LEGEND:**

ND: not detected  
 N/A: not applicable  
 bgs: below ground surface  
 NM: not measured

**ROCK**

ROCK QUALITY DESIGNATION (RQD):  
 reported in % = [length of core in pieces  
 4" and longer/length of run] x 100

**SAMPLE TYPES:**

D: drive  
 W: washed  
 TP: test pit  
 ST: Shelby Tube  
 A: auger  
 HA: hand auger  
 C: cored  
 RC: rotasonic core

**SOIL**

<sup>1</sup> Density designation based on blow counts for each 12" of penetration using a 140 lb. wt x 30" drop on a 2" O.D. split spoon sampler. If blow counts are not taken then density may be estimated

MOISTURE:  
 dry  
 damp  
 moist  
 wet

<sup>2</sup> PROPORTIONS USED:  
 Trace: <10%  
 Little: 10-20%  
 Some: 20-35%  
 And: 35-50%

<sup>1</sup> PLASTIC SOILS DENSITY:

0-2: very soft  
 3-4: soft  
 5-8: medium stiff  
 9-15: stiff  
 16-30: very stiff  
 >30: hard

<sup>1</sup> GRANULAR SOILS DENSITY:

0-4: very loose  
 5-9: loose  
 10-29: medium dense  
 30-49: dense  
 50+: very dense

**NOTES:**



GROUNDWATER MONITORING WELL DEVELOPMENT FORM

Client: Pomona  
 Site: Hope Mill  
 Job #: P312-007  
 Date: 4/10/20 + 4/13/20

Well ID: MW-7

Well Diameter: 2  
 Measuring Point: TPVC  
 ESS Personnel: MO + MSP

Development Method: disposable Bailer / w/ale Pump

Distance from Top of PVC to Top of Casing: \_\_\_\_\_  
 Distance from Ground Surf to Top of Casing: \_\_\_\_\_

Pre-development Measurements	
Time: <u>4/10/20</u>	<u>10:10</u>
Depth to Water (ft):	<u>6.98'</u>
Depth to bottom (ft):	<u>14.72'</u>
Depth to product (ft):	<u>NA</u>
Product thickness (ft):	<u>NA</u>

Length of Water Column: 7.74'  
 Well Volume: 1.26

Post-development Measurements	
Time: <u>4/13/20</u>	<u>1007</u>
Depth to Water (ft):	<u>7.31</u>
Depth to bottom (ft):	<u>15.17</u>
Depth to product (ft):	<u>N/A</u>
Product thickness (ft):	<u>N/A</u>

Groundwater Monitoring Results

Time	Volume Purged (gals)	Temperature (°F)	pH (s.u.)	Turbidity (NTU)	Conductivity (mS)	Notes
1023	1.25	—	—	—	—	
1027	2.5	—	—	—	—	
1037	3.75	—	—	—	—	
1047	5.0	—	—	—	—	
1055	6.25	—	—	—	—	
1101	7.5	—	—	—	—	
1106	8.75	—	—	—	—	
1115	10	—	—	—	—	
1123	11.25	—	—	—	—	
1129	12.5	—	—	—	—	
1133	13.75	—	—	—	—	
1139	15	—	—	—	—	
1146	16.25	—	—	—	—	
1152	17.5	—	—	—	—	
1200	18.75	—	—	—	—	
1205	20.00	—	—	—	—	HT DTB (12.75)
1216	21.25	—	—	—	—	HT
1224	22.5	—	—	—	—	HT DTB (12.68)

Comments: See Reverse side of page for 4/13/20 cont...

Notes: Recharge Conditions, Color, Odor, Sediment Content & Color, Volume DI Water Added, Well Access Conditions (lock required?), etc.  
 Well Volume Factors (gallons/foot of water in well): 1-inch (0.041), 1.5-inch (0.092), 2-inch (0.163), 4-inch (0.653), 6-inch (1.47)  
 Determine well volume by multiplying length of water column by well volume factor

pg. 1 of 2

4/13/20

MW-7 cont.

144	DTW - 6.92	PRE
	DTB - 12.65	

7.31	Post	1007
15.17		

	<u>GALS</u>			Turb	
950	27.5	-	-	-	-
954	32.5	-	-	-	-
959	37.5	-	-	24	-
903	42.5	-	-	12	-

High turbidity  
" "







GROUNDWATER MONITORING WELL DEVELOPMENT FORM

pg. 1 of 2

Client: Paramount  
 Site: Hope Mill  
 Job #: B12-007  
 Date: 7/10/20

Well ID: MW-9  
 Well Diameter: 2"  
 Measuring Point: TPK  
 ESS Personnel: MP & MO

Development Method: Bailer/water Pump

Distance from Top of PVC to Top of Casing: NM

Distance from Ground Surf to Top of Casing: NM

See pg. 2

Pre-development Measurements	
Time:	<u>7:51 AM</u>
Depth to Water (ft):	<u>4.32'</u>
Depth to bottom (ft):	<u>10.53'</u>
Depth to product (ft):	<u>NA</u>
Product thickness (ft):	<u>NA</u>

Length of Water Column: 6.21'  
 Well Volume: 1.01 gal

Post-development Measurements	
Time:	
Depth to Water (ft):	
Depth to bottom (ft):	
Depth to product (ft):	
Product thickness (ft):	

Groundwater Monitoring Results

Time	Volume Purged (gals)	Temperature (°F)	pH (s.u.)	Turbidity (NTU)	Conductivity (mS)	Notes
08:19 AM	1 gal	—	—	—	—	High turbidity
08 24	2	—	—	—	—	High turbidity
08 30	3	—	—	—	—	High turbidity
08 34	4	—	—	—	—	High turbidity
08 38	5	—	—	—	—	High turbidity
08 43	6	—	—	—	—	High turbidity
08 48	7	—	—	—	—	High turbidity
08 54	8	—	—	—	—	High turbidity
08 59	9	—	—	—	—	High turbidity
09 04	10	—	—	—	—	high turbidity
09 21	11	—	—	—	—	high turbidity
09 24	12	—	—	—	—	high turbidity
09 27	13	—	—	—	—	high turbidity
09 28	14	—	—	—	—	high turbidity
09 30	15	—	—	—	—	high turbidity
09 34	16	—	—	—	—	high turbidity
09 37	17	—	—	—	—	high turbidity
09 41	18	—	—	—	—	high turbidity
09 44	19	—	—	—	—	high turbidity

Comments: High turbidity - machine won't read machine error  
No sheen observed or odor observed

Notes: Recharge Conditions, Color, Odor, Sediment Content & Color, Volume DI Water Added, Well Access Conditions (lock required?), etc.  
 Well Volume Factors (gallons/foot of water in well): 1-inch (0.041), 1.5-inch (0.092), 2-inch (0.163), 4-inch (0.653), 6-inch (1.47)

Determine well volume by multiplying length of water column by well volume factor





GROUNDWATER MONITORING WELL DEVELOPMENT FORM

2 of 2

Client: Paramount  
Site: Llope M:11  
Job #: P312-007  
Date: 4/10/20

Well ID: MW-9  
Well Diameter: 2"  
Measuring Point: \_\_\_\_\_  
ESS Personnel: MP & MO

Development Method: Boiler/walk pump

Distance from Top of PVC to Top of Casing: \_\_\_\_\_  
Distance from Ground Surf to Top of Casing: \_\_\_\_\_

Pre-development Measurements	
Time:	<u>0845</u> <u>4/13/20</u>
Depth to Water (ft):	<u>4.36</u>
Depth to bottom (ft):	<u>11.86</u>
Depth to product (ft):	<u>N/A</u>
Product thickness(ft)	<u>N/A</u>

Length of Water Column: \_\_\_\_\_  
Well Volume: \_\_\_\_\_

Post-development Measurements	
Time:	<u>4/13/20</u> <u>0935</u>
Depth to Water(ft):	<u>4.37</u>
Depth to bottom (ft):	<u>13.15</u>
Depth to product (ft):	_____
Product thickness (ft):	_____

Groundwater Monitoring Results

Time	Volume Purged (gals)	Temperature (°F)	pH (s.u.)	Turbidity (NTU)	Conductivity (mS)	Notes
0948	20	—	—	—	—	High turbidity (dtb 12.15')
0953	21	—	—	—	—	High turbidity
0959	22	—	—	—	—	High turbidity
1004	23	—	—	—	—	" "
1008	24	—	—	—	—	" "
1012	25	—	—	—	—	" "
1022	30	—	—	—	—	" "
1037	35	—	—	—	—	" "
1050	40	—	—	—	—	" "
1109	45	—	—	—	—	" "
1125	50	—	—	—	—	" "
- Stopped development, need different equipment to finish.						
0850	55	—	—	—	—	High Turbidity
0907	60	—	—	—	—	" "
0911	65	—	—	—	—	" "
0915	70	—	—	—	—	
0918	75	—	—	69	—	
0923	80	—	—	32	—	
0927	85	—	—	16	—	

Comments:  
12.15' dtb @ 0948

Notes: Recharge Conditions, Color, Odor, Sediment Content & Color, Volume DI Water Added, Well Access Conditions (lock required?), etc.  
Well Volume Factors (gallons/foot of water in well): 1-inch (0.041), 1.5-inch (0.092), 2-inch (0.163), 4-inch (0.653), 6-inch (1.47)  
Determine well volume by multiplying length of water column by well volume factor

















# LOW FLOW GROUNDWATER MONITORING WELL SAMPLING FORM

Site Name: Hope Mill  
 Well ID: MW-7  
 Depth to Water: 5.31 (ft)  
 Depth to Bottom: 15.17 (ft)  
 Screen Interval: 5.17-15.17 (ft - ft)  
 Well Diameter: 2 (inches)  
 Water Column: 9.86 (ft)  
 Well Volume: 1.61 (gals)

Date: 4/17/20  
 Project #: R312-007  
 Measuring Point: + PVC  
 ESS Personnel: MP & MO  
 Weather: 40°F & sunny  
 Additional Notes: \_\_\_\_\_

Well Volume Factors (gallons/foot of water in well): 0.75-inch (0.023), 1-inch (0.041), 1.5-inch (0.092), 2-inch (0.163), 4-inch (0.653)

Time	Vol. Purged <sup>2</sup> (units: L)	D.T.W. (feet)	Parameter Monitoring Results			pH	Orp (mV)	Turb. (NTUs)
			Temp. (°F / °C)	Sp. Cond (us/cm)	D.O. (mg/l)			
0951	Start	Start	Purge					
0956	0.0	5.34	7.09	185.4	3.90	6.87	74.7	0.0
1001	1.8	5.38	7.9	185.4	3.68	6.43	71.9	0.0
1006	2.8	5.34	7.9	185.4	3.54	6.30	70.7	0.0
1011	3.85	5.39	7.9	186.3	3.40	6.21	70.0	0.0
1016	4.85	5.34	8.0	186.4	3.16	6.18	67.0	0.0
1021	5.85	5.40	8.0	188.8	3.10	6.14	65.1	0.0
1026	Parameters Stable							

Comments: Well purged/sampled with peristaltic / bladder pump. Intake Set to 0.31 feet below MP.  
 Bladder pump controller settings: Refill/Discharge/PSI -> 1  
 Equipment Specifications: YSI Pro Plus, LaMotte 2020t, Peristaltic Pump

Notes: Sampling Method, Sample Interval, Recharge Conditions, Color, Odor, Sheen, Sediment Content, etc.  
<sup>1</sup> - When values are greater than 5 NTU (All readings <5 NTU are considered stabilized for sampling)  
<sup>2</sup> - The final purge volume MUST be greater than the stabilized drawdown volume (drawdown volume = volume between static water level and drawdown water level plus tubing volumes)

Time:	Parameters	Dup. (y/n)	Container Type	Quantity	Preservative
1026	VOCs	N	Voa	3	HCl
1026	total Ph & AS	N	Poly	1	HNO3

Note sample time, parameters, duplicates, field blanks, etc. Indicate which samples field filtered.

# LOW FLOW GROUNDWATER MONITORING WELL SAMPLING FORM

Site Name: Hope Mill  
 Well ID: MW-8  
 Depth to Water: 3.79 (ft)  
 Depth to Bottom: 13.91 (ft)  
 Screen Interval: 3.41 - 13.41 (ft - ft)  
 Well Diameter: 2 (inches)  
 Water Column: 10.12 (ft)  
 Well Volume: 1.65 (gals)

Date: 4/17/20  
 Project #: P312-007  
 Measuring Point: TWG  
 ESS Personnel: MP & MO  
 Weather: 40°F & Sunny  
 Additional Notes: \_\_\_\_\_

Well Volume Factors (gallons/foot of water in well): 0.75-inch (0.023), 1-inch (0.041), 1.5-inch (0.092), 2-inch (0.163), 4-inch (0.653)

### Parameter Monitoring Results

Time	Vol. Purged <sup>2</sup> (units: L)	D.T.W. (feet)	Parameter Monitoring Results					
			Temp. (°F / °C)	Sp. Cond (us/cm)	D.O. (mg/l)	pH	Orp (mV)	Turb. (NTUs)
1119	<u>1</u>	<u>3.85</u>	<u>9.3</u>	<u>74.1</u>	<u>12.12</u>	<u>6.40</u>	<u>34.7</u>	<u>3.71</u>
1124	<u>1.85</u>	<u>3.88</u>	<u>9.3</u>	<u>73.2</u>	<u>12.53</u>	<u>6.33</u>	<u>47.0</u>	<u>6.71</u>
1129	<u>2.85</u>	<u>3.89</u>	<u>9.2</u>	<u>73.8</u>	<u>12.72</u>	<u>6.27</u>	<u>52.6</u>	<u>5.73</u>
1134	<u>3.85</u>	<u>3.90</u>	<u>9.3</u>	<u>73.8</u>	<u>12.52</u>	<u>6.30</u>	<u>56.6</u>	<u>4.39</u>
1139	<u>4.85</u>	<u>3.90</u>	<u>9.3</u>	<u>73.7</u>	<u>12.64</u>	<u>6.29</u>	<u>62.5</u>	<u>5.14</u>
1144	<u>5.8</u>	<u>3.90</u>	<u>9.3</u>	<u>73.7</u>	<u>12.74</u>	<u>6.29</u>	<u>65.2</u>	<u>4.87</u>
1149	<u>6.8</u>	<u>3.91</u>	<u>9.2</u>	<u>75.0</u>	<u>12.63</u>	<u>6.29</u>	<u>66.7</u>	<u>4.06</u>
1154	<u>7.8</u>	<u>3.91</u>	<u>9.1</u>	<u>73.6</u>	<u>12.77</u>	<u>6.26</u>	<u>70.7</u>	<u>3.77</u>
PARAMETERS STABILIZED								

**Comments:**

Well purged/sampled with peristaltic bladder pump. Intake Set to 8.85 feet below MP.  
 Bladder pump controller settings: Refill/Discharge/PSI -> / /  
 Equipment Specifications: YSI Pro-Plus, Lottette 2020t, Peristaltic Pump

Notes: Sampling Method, Sample Interval, Recharge Conditions, Color, Odor, Sheen, Sediment Content, etc.  
<sup>1</sup> - When values are greater than 5 NTU (All readings < 5 NTU are considered stabilized for sampling)  
<sup>2</sup> - The final purge volume MUST be greater than the stabilized drawdown volume (drawdown volume = volume between static water level and drawdown water level plus tubing volumes)

**Sample Parameters:**

Time:	Parameters	Dup. (y/n)	Container Type	Quantity	Preservative
1204	VOCs	N	Van	3	HCl
1204	Total Pb & As	N	Poly	1	HNO3
1204	PAHs	N	Amber	2	NP

Note sample time, parameters, duplicates, field blanks, etc. Indicate which samples field filtered.



**LOW FLOW GROUNDWATER MONITORING WELL SAMPLING FORM**

Site Name: Hope Mill  
 Well ID: MW-11  
 Depth to Water: 6.02 (ft)  
 Depth to Bottom: 18.0 (ft)  
 Screen Interval: 6-18 (ft - ft)  
 Well Diameter: 2 (inches)  
 Water Column: 11.98 (ft)  
 Well Volume: 1.95 (gals)

Date: 4/17/20  
 Project #: 1312-007  
 Measuring Point: TPVC  
 ESS Personnel: MP  
 Weather: Sun, 45°  
 Additional Notes: organics (roots?) in  
purge water, Screen turbidity  
DTB 17.87'

Well Volume Factors (gallons/foot of water in well): 0.75-inch (0.023), 1-inch (0.041), 1.5-inch (0.092), 2-inch (0.163), 4-inch (0.653)

**Parameter Monitoring Results**

Time	Vol. Purged <sup>2</sup> (units: L)	D.T.W. (feet)	+/- 3%	+/- 3%	+/- 10%	+/- 0.1	+/- 10	+/- 10%
			Temp (°F / °C)	Sp. Cond (us/cm)	D.O. (mg/l)	pH	Orp (mV)	Turb. (NTUs)
1131	Start Purge							
1136	1	6.47	10.2	339.7	11.43	7.23	168.0	2.90
1141	2	6.48	10.1	256.6	7.90	6.61	166.3	19.0
1146	3	6.48	10.3	247.3	6.96	6.45	164.7	1.0
1151	4	6.48	10.2	239.0	6.18	6.37	163.8	1.0
1156	5	6.48	9.8	236.4	5.41	6.26	167.5	0.0
1201	6	6.48	10.3	232.4	3.48	6.21	168.8	0.0
1206	7	6.48	10.0	229.6	3.19	6.23	170.0	0.0
1211	8	6.48	10.0	226.9	2.86	6.24	172.1	0.0
1216	9	6.48	10.0	228.1	2.57	6.22	172.5	0.0
1221	10	6.48	10.2	228.5	2.34	6.25	171.3	0.0
1226	11	6.48	10.0	225.3	2.45	6.21	175.3	0.0
Parameters Stable								

Comments:

Well purged/sampled with peristaltic bladder pump. Intake Set to 12 feet below MP.

Bladder pump controller settings: Refill/Discharge/PSI ->

Equipment Specifications: YSI Pro Plus, LaMotte 2020e, Peristaltic Pump

Notes: Sampling Method, Sample Interval, Recharge Conditions, Color, Odor, Sheen, Sediment Content, etc.

<sup>1</sup> - When values are greater than 5 NTU (All readings <5 NTU are considered stabilized for sampling)

<sup>2</sup> - The final purge volume MUST be greater than the stabilized drawdown volume (drawdown volume = volume between static water level and drawdown water level plus tubing volumes)

Sample Parameters:

Time:	Parameters	Dup. (y/n)	Container Type	Quantity	Preservative
1231	VOC's	N	VOC's	3	HCl
1231	Total Lead + Arsenic	↓	Poly	1	HNO <sub>3</sub>

Note sample time, parameters, duplicates, field blanks, etc. Indicate which samples field filtered.



## LOW FLOW GROUNDWATER MONITORING WELL SAMPLING FORM

Site Name: Hope Mill Date: 4/16/20  
 Well ID: MW-12 Project #: P312-007  
 Depth to Water: 8.91 (ft) Measuring Point: TPVC  
 Depth to Bottom: 15.0 (ft) ESS Personnel: KP + MD  
 Screen Interval: 5-15 (ft - ft) Weather: Sun, 45°  
 Well Diameter: 2 (inches) Additional Notes: \_\_\_\_\_  
 Water Column: 6.09 (ft) DIB 14.81  
 Well Volume: 0.99 (gals) \_\_\_\_\_

Well Volume Factors (gallons/foot of water in well): 0.75-inch (0.023), 1-inch (0.041), 1.5-inch (0.092), 2-inch (0.163), 4-inch (0.653)

### Parameter Monitoring Results

Time	Vol. Purged <sup>2</sup> (units: L)	D.T.W. (feet)	Temp		Sp. Cond (us/cm)	D.O. (mg/l)	pH	Orp (mV)	Turb. (NTUs)
			+/- 3% (°F)	+/- 3% (°C)					
1034	Start Pump								
1039	1.0	8.95	9.7		0.480	11.26	6.42	20.7	0.97
1044	2.2	8.94	9.6		0.473	10.42	5.97	26.2	0.0
1049	3.3	8.94	9.6		0.481	10.09	5.89	28.6	0.0
1054	4.3	8.94	9.6		0.477	9.78	5.83	32.5	0.0
1059	5.3	8.94	9.7		0.478	9.46	5.85	34.1	0.0
<del>1104</del>									
<i>Parameters Stable</i>									

**Comments:**

Well purged/sampled with (peristaltic) bladder pump. Intake Set to 12 feet below MP.  
 Bladder pump controller settings: Refill/Discharge/PSI -> / /  
 Equipment Specifications: YSI Pro Plus, LaMotte 2020t, Peristaltic Pump

Notes: Sampling Method, Sample Interval, Recharge Conditions, Color, Odor, Sheen, Sediment Content, etc.

- <sup>1</sup> - When values are greater than 5 NTU (All readings < 5 NTU are considered stabilized for sampling)
- <sup>2</sup> - The final purge volume MUST be greater than the stabilized drawdown volume (drawdown volume = volume between static water level and drawdown water level plus tubing volumes)

**Sample Parameters:**

Time:	Parameters	Dup. (y/n)	Container Type	Quantity	Preservative
1104	VOC'S	N	Vials	3	
1104	SVOC'S	N	Amber	2	
1104	Total Pb	N	Poly	1	
1104	Total Ar	N	Poly		

Note sample time, parameters, duplicates, field blanks, etc. Indicate which samples field filtered.

## LOW FLOW GROUNDWATER MONITORING WELL SAMPLING FORM

Site Name: Hone M.11 P312-007  
 Well ID: MW-13  
 Depth to Water: 6.05 (ft)  
 Depth to Bottom: 17 (ft)  
 Screen Interval: 7-17 (ft - ft)  
 Well Diameter: 2 (inches)  
 Water Column: 10.95 (ft)  
 Well Volume: 1.78 (gals)

Date: 4/16/20  
 Project #: P312-007  
 Measuring Point: TPVC  
 ESS Personnel: MP + MO  
 Weather: Sun, 45°  
 Additional Notes: DTB 17.0

Well Volume Factors (gallons/foot of water in well): 0.75-inch (0.023), 1-inch (0.041), 1.5-inch (0.092), 2-inch (0.163), 4-inch (0.653)

### Parameter Monitoring Results

Time	Vol. Purged <sup>2</sup> (units: L)	D.T.W. (feet)	Temp		Sp. Cond (us/cm)	D.O. (mg/l)	pH	Orp (mV)	Turb. (NTUs)
			+/- 3%	+/- 3%					
1216	Start	Range							
1221	0.6	6.11	8.5	0.018	13.66	5.53	69.7	2.66	
1226	1.6	6.12	8.5	0.017	13.50	4.90	81.8	3.20	
1231	2.55	6.12	8.4	0.017	13.54	4.89	84.4	1.70	
1236	3.55	6.13	8.4	0.017	13.61	4.89	81.6	0.95	
Parameters Stable									

**Comments:**

Well purged/sampled with peristaltic bladder pump. Intake Set to \_\_\_\_\_ feet below MP.

Bladder pump controller settings: Refill/Discharge/PSI -> 1

Equipment Specifications: YSI Pro Plus, LaMotte 2020L, Peristaltic Pump

*Notes: Sampling Method, Sample Interval, Recharge Conditions, Color, Odor, Sheen, Sediment Content, etc.*

<sup>1</sup> - When values are greater than 5 NTU (All readings <5 NTU are considered stabilized for sampling)

<sup>2</sup> - The final purge volume MUST be greater than the stabilized drawdown volume (drawdown volume = volume between static water level and drawdown water level plus tubing volumes)

**Sample Parameters:**

Time:	Parameters	Dup. (y/n)	Container Type	Quantity	Preservative
1241	Chlordane	N	1L Amber	2	None
1241	VOCs	N	Voa 40 mL	3	HCl
1241	Total Pb & As	N	Poly 250 mL	1	HNO <sub>3</sub>

Note sample time, parameters, duplicates, field blanks, etc. Indicate which samples field filtered.







**LOW FLOW GROUNDWATER MONITORING WELL SAMPLING FORM**

Site Name: _____	Date: <u>6/30/20</u>
Well ID: <u>MW-16</u>	Project #: <u>P312-009</u>
Depth to Water: <u>10.812</u> (ft)	Measuring Point: <u>TPVC</u>
Depth to Bottom: <u>19.68</u> (ft)	ESS Personnel: <u>M. Phillips</u>
Screen Interval: <u>10-20</u> (ft - ft)	Weather: <u>Cloudy, 70°</u>
Well Diameter: <u>2</u> (inches)	Additional Notes: _____
Water Column: <u>9.56</u> (ft)	_____
Well Volume: <u>1.6</u> (gals)	_____

Well Volume Factors (gallons/foot of water in well): 0.75-inch (0.023), 1-inch (0.041), 1.5-inch (0.092), 2-inch (0.163), 4-inch (0.653)

Time	Vol. Purged (units: L)	D.T.W. (feet)	Parameter Monitoring Results					
			Temp. (°F / °C)	Sp. Cond (us/cm)	D.O. (mg/l)	pH	Orp (mV)	Turb. (NTUs)
<u>1138</u>	<u>Start Purge</u>							
<u>1143</u>	<u>1.0</u>	<u>10.30</u>	<u>13.6</u>	<u>68.5</u>	<u>6.73</u>	<u>5.28</u>	<u>170.3</u>	<u>1.0</u>
<u>1148</u>	<u>2.0</u>	<u>10.32</u>	<u>13.6</u>	<u>68.4</u>	<u>6.60</u>	<u>5.18</u>	<u>171.9</u>	<u>1.1</u>
<u>1153</u>	<u>3.0</u>	<u>10.35</u>	<u>13.6</u>	<u>69.8</u>	<u>6.93</u>	<u>5.15</u>	<u>174.6</u>	<u>1.0</u>
<u>1158</u>	<u>4.0</u>	<u>10.37</u>	<u>13.6</u>	<u>71.3</u>	<u>6.87</u>	<u>5.15</u>	<u>176.1</u>	<u>1.3</u>
<u>Parameters Stable</u>								

Comments:  
Well purged/sampled with peristaltic / bladder pump. Intake Set to \_\_\_\_\_ feet below MP.

Bladder pump controller settings: Refill/Discharge/PSI -> \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

Note: Sampling Method, Sample Interval, Recharge Conditions, Color, Odor, Sheen, Sediment Content, etc.

Time:	Parameters	Dup. (y/n)	Container Type	Quantity	Preservative
<u>1203</u>					

Note sample time, parameters, duplicates, field blanks, etc. Indicate which samples field filtered.



## LOW FLOW GROUNDWATER MONITORING WELL SAMPLING FORM

Site Name: _____	Date: <u>6/30/20</u>
Well ID: <u>MW-17</u>	Project #: <u>P312-009</u>
Depth to Water: <u>12.02</u> (ft)	Measuring Point: <u>TPVC</u>
Depth to Bottom: <u>14.18</u> (ft)	ESS Personnel: <u>M. Phillips</u>
Screen Interval: <u>5-15</u> (ft - ft)	Weather: <u>Cloudy, 70°</u>
Well Diameter: <u>2</u> (inches)	Additional Notes: _____
Water Column: <u>2.16</u> (ft)	_____
Well Volume: <u>0.35</u> (gals)	_____

Well Volume Factors (gallons/foot of water in well): 0.75-inch (0.023), 1-inch (0.041), 1.5-inch (0.092), 2-inch (0.163), 4-inch (0.653)

Time	Vol. Purged (units: L)	D.T.W. (feet)	Parameter Monitoring Results					
			Temp. (°F / °C)	Sp. Cond (us/cm)	D.O. (mg/l)	pH	Orp (mV)	Turb. (NTUs)
0923	Start Purge							
0928	0.9	13.33	12.9	199.3	4.96	7.16	96.6	961
0933	1.8	13.85	12.8	205.3	6.10	6.86	97.8	1709
0935	Stop Purge, well degassing							
0941	no-start pump, slower purge rate							
0946	2.3	13.02	13.6	186.4	6.82	6.62	94.3	1650
0951	2.8	13.20	13.2	194.8	7.35	6.57	103.6	2017
0956	3.3	13.27	13.2	194.7	8.22	6.55	106.0	3084
1001	3.8	13.31	13.4	194.1	8.61	6.52	108.2	2173
1006	4.3	13.36	13.2	190.0	8.65	6.50	110.7	1727
1011	4.8	13.40	13.1	186.6	8.54	6.48	112.2	1667
1016	5.3	13.42	13.3	184.8	8.53	6.46	114.1	1625
Parameters Stable								

**Comments:**

Well purged/sampled with peristaltic bladder pump. Intake Set to 13.5 feet below MP.

Bladder pump controller settings: Refill/Discharge/PSI -> | |

Note: Sampling Method, Sample Interval, Recharge Conditions, Color, Odor, Sheen, Sediment Content, etc.

**Sample Parameters:**

Time	Parameters	Dup. (y/n)	Container Type	Quantity	Preservative
1021	VOC's	N	VORS	3	HCL

Note sample time, parameters, duplicates, field blanks, etc. Indicate which samples field filtered.



Notification To Abutters

SITE INVESTIGATION

**Hope Mill  
Main Street, Village of Hope, Rhode Island**

**August 2, 2016**

In accordance with the Rhode Island Department of Environmental Management's (RIDEM's) Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases (the Remediation Regulations), and the Industrial Property Remediation and Reuse Act (Rhode Island General Law 23-19.14, Section 11), Paramount Apartments, LLC (Paramount) is providing notice to abutters that of their intent to conduct a Site Investigation for the above mentioned property. The property is further designated as Plat # 5 Lots #1, 8, 58, 69, 114, and 117 of the Scituate Tax Assessor's plat maps. The goal of the investigation is to determine the extent to which any historical activities at the property may have resulted in any exceedances of the RIDEM's promulgated soil criteria and groundwater objectives. The investigation will involve sampling and analysis of surface and subsurface soil and groundwater. All investigation activities and sampling will be conducted by Paramount's Environmental Consultant, ESS Group, Inc. (ESS) and/or ESS's subcontractors. ESS personnel will test the soil and groundwater at the Site. All environmental media samples will be collected in appropriate containers and will be transported for analysis at an off-site licensed laboratory. The future use of the property will be for residential purposes.

The investigation is scheduled to be conducted between August 2016 and May 2017. It is anticipated that ESS will begin soil sampling in late August or early September. Field work is dependent on favorable weather conditions and subcontractor availability, so the schedule of activities may be subject to changes.

RIDEM has determined that conducting this investigation is in the public interest.

Written comments should be submitted to:

Cynthia Gianfrancesco  
R.I. Department of Environmental Management  
Office of Waste Management  
235 Promenade Street  
Providence, RI 02908-5767  
Phone: (401) 222-2797 ext. 7126


Arrangements to review RIDEM records may be made by calling Angela Spadoni, Office of Customer and Technical Assistance, (401) 222-4700 ext. 7307.

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1.	DEMERS, LIONEL P & JUDY E 25 CHASE RD COVENTRY, RI 02816	.465										
2.												
3.	MERIANO JAMES M & SUSAN M 975 KNOTTY OAK RD COVENTRY, RI 02816	.465										
4.												
5.	MILLER ROBERT E & GLORIA 7 CLARKE RD COVENTRY, RI 02816	.465										
6.												
7.	DIVONA HARRY JR & SUSAN M 2 CLARKE RD COVENTRY, RI 02816	.465										
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1.	COMPANATICO DOMENIC G 24 CLARKE RD COVENTRY, RI 02816	.465										
2.												
3.	KENNEDY WILLIAM C & JOYCE 13 CLARKE RD COVENTRY, RI 02816	.465										
4.												
5.	KNIGHT JOHN H & JANE E 4 GLENVIEW CT COVENTRY, RI 02816	.465										
6.												
7.	DELFINO CAROL A 1 CLARKE RD COVENTRY, RI 02816	.465										
8.												
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1.	RUSSO MICHAEL R 20 CLARKE RD COVENTRY, RI 02816	.465										
2.												
3.	SILVA JOSEPH T & SARAH E 26 CLARKE RD COVENTRY, RI 02816	.465										
4.												
5.	JENSEN ALAN R & FRANCINE 9 CLARKE RD COVENTRY, RI 02816	.465										
6.												
7.	CARUSO MATTHEW K & KERRI 984 KNOTTY OAK RD COVENTRY, RI 02816	.465										
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Total Number of Pieces Listed by Sender <b>86</b>		Total Number of Pieces Received at Post Office <b>86</b>		Postmaster, Per (Name of receiving employee) <b>RC [Signature]</b>								

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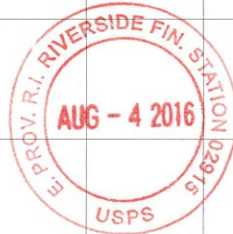


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1.	WALL JEREMY R ET AL LEJA ASHLEY D (JT) 43 HOPE FURNACE ROAD HOPE, RI 02831 HOPE RI 02831	.465										
2.	Parcel ID: 05-0/108-00 BROWN CHERYL A REVOCABLE TRUST BROWN CHERYL A TRUSTEE 53 BEN BROWN AVENUE HOPE, RI 02831 HOPE RI 02831	.465										
3.												
4.	Parcel ID: 05-0/119-00 SHLESINGER, EDWARD B 41 HOPE FURNACE ROAD HOPE, RI 02831	.465										
5.												
6.	Parcel ID: 05-0/027-00 TAMBOE KENNETH G & EMILIE M RLT TAMBOE KENNETH G & EMILIE M TRUSTEES 3960 DORRIT AVENUE BOYNTON BEACH, FL 33436 BOYNTON BEACH FL 33436	.465										
7.												
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1.												
2.												
3.	Parcel ID: 05-0/049-00 STETTLER, MYRIAM PO BOX 103 38 MAIN STREET HOPE, RI 02831		.465									
4.												
5.	Parcel ID: 05-0/050-00 MORAN, ANGELA L 2/4 BROWN STREET P O BOX 164 HOPE, RI 02831 HOPE RI 02831		.465									
6.												
7.	Parcel ID: 05-0/051-00 MCINNIS FAMILY TRUST 2015 MCINNIS BRIAN D & RENEE TRUSTEES 3 BROWN STREET HOPE, RI 02831 HOPE RI 02831		.465									
8.												

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1.	Parcel ID: 03-0/030-00 KIRCH, JAMES D ET UX LORI A 11 GLENVIEW COURT PO BOX 295 HOPE, RI 02831 HOPE RI 02831	.465										
2.												
3.	Parcel ID: 05-0/036-00 DALNAS ERIC D 29 MILL STREET HOPE, RI 02831 HOPE RI 02831	.465										
4.												
5.	Parcel ID: 05-0/039-00 DANDROW, WALTER J-JR ET AL DANDROW, JENNIFER L., & HEATHER L. (JT) 32 LAKEVIEW DRIVE CHEPACHET, RI 02814 CHEPACHET RI 02814	.465										
6.	Parcel ID: 05-0/114-00											
7.	Parcel ID: 05-0/038-00 DESSERT JOSETH M 45 AMES STREET COVENTRY, RI 02816 COVENTRY RI 02816	.465										
8.	Parcel ID: 05-0/107-00											
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1.	BELLEVILLE, HENRY H ET AL BELLEVILLE, EDWARD (JT) 35 MAIN STREET HOPE, RI 02831 HOPE RI 02831	.465										
2.												
3.	Parcel ID: 05-0/037-00 LEMOI, PAUL S ET UX DARLENE S 105 HOWARD AVE HOPE, RI 02831	.465										
4.	Parcel ID: 05-0/040-00											
5.	Parcel ID: 03-0/031-00 SILVIA KATHLEEN PO BOX 3 HOPE, RI 02831 HOPE RI 02831	.465										
6.												
7.	Parcel ID: 04-0/023-00 LEVELLEE, JUSTIN M P O BOX 247 HOPE, RI 02831 HOPE RI 02831	.465										
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1.	HALEY, THEODORE T JR ET UX LOUISE M 104 MAIN STREET HOPE, RI 02831 HOPE RI 02831	.465										
2.												
3.	WINWARD, JOHN T JR ET UX JULIE A 7 HARRINGTON AVE HOPE, RI 02831	.465										
4.												
5.	Parcel ID: 04-0/031-00 GRABBERT, LAURA E AND GRABBERT, THOMAS A (JT) 380 SEVEN MILE ROAD HOPE, RI 02831 HOPE RI 02831	.465										
6.												
7.	Parcel ID: 04-0/059-00 PETERS, RICHARD ET UX LORI 92 MAIN STREET PO BOX 446 HOPE, RI 02831 HOPE RI 02831	.465										
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1.	Parcel ID: 05-0/010-00 MARTIN, BRIAN R ETUX RENEE L P O BOX 173	.465										
2.	ANTONACCIO ROBERT V & GAI 2 GLENVIEW CT COVENTRY, RI 02816	.465										
3.												
4.	ENRIGHT ROSEMARY 988 KNOTTY OAK RD COVENTRY, RI 02816	.465										
5.												
6.	MONEY STEVEN E & BETH E 28 CLARKE RD COVENTRY, RI 02816	.465										
7.												
8.	BARRACO ANTHONY J JR 12 CLARKE RD COVENTRY, RI 02816	.465										



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1.	FERLAND WAYNE H & ROSEMAR 6 GLENVIEW CT COVENTRY, RI 02816	.465										
2.												
3.	MULLEN DAISY M 14 CLARKE RD COVENTRY, RI 02816	.465										
4.												
5.	BERGERON, RICHARD & LYNN 8 DARIUS LN COVENTRY, RI 02826	.465										
6.												
7.	FINCH PATRICK W & SHEILA 980 KNOTTY OAK RD COVENTRY, RI 02816	.465										
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1.	PADYKULA VIRGINIA M 22 CLARKE RD COVENTRY, RI 02816	.465										
2.												
3.	RUDOLPH THOMAS W & MICHEL 18 CLARKE RD COVENTRY, RI 02816	.465										
4.												
5.	GRUETZKE ROBERT 16 CLARKE RD COVENTRY, RI 02816	.465										
6.												
7.	BETTEZ RUDOLPH T & BARBAR TRUST PO BOX 252 HOPE, RI 02831	.465										
8.												
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1.	Parcel ID: 03-0/008-00 NEW ENGLAND DEVELOPMENT RI LLC 30 OLD KINGS HIGHWAY SOUTH DARIEN, CT 06820 DARIEN CT 06820	.465										
2.												
3.	Parcel ID: 03-0/017-00 HOPE ASSOCIATES, INC % THEODORE RICHARD 408 SEVEN MILE ROAD HOPE, RI 02831 HOPE RI 02831	.465										
4.												
5.												
6.												
7.												
8.	Parcel ID: 04-0/025-00 ALLAN, JOHN N ET UX MARY E 103 MAIN STREET HOPE, RI 02831 HOPE RI 02831	.465										

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1.	Parcel ID: 04-0/026-00 ALLAN, JOHN N ET UX MARY E 103 MAIN STREET HOPE, RI 02831 HOPE RI 02831	.465										
2.												
3.	Parcel ID: 04-0/059-00 PETERS, RICHARD ET UX LORI 92 MAIN STREET PO BOX 446 HOPE, RI 02831 HOPE RI 02831	.465										
4.												
5.												
6.	Parcel ID: 04-0/058-00 POCCIA JAMES J ET UX CHRISTINE A (TE) PO BOX 285 96 MAIN STREET HOPE, RI 02831 HOPE RI 02831	.465										
7.												
8.												
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86	80	RC <i>[Signature]</i>										



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1.	Parcel ID: 04-0/060-00 MURDOCK ERIN K ET AL DINOBILO BRIAN N (JT) 88 MAIN STREET HOPE, RI 02831	.465										
2.												
3.	Parcel ID: 05-0/002-00 SKURKA, THOMAS H ET UX JOAN E 91 HILL STREET COVENTRY, RI 02816	.465										
4.												
5.	Parcel ID: 05-0/003-00 MACAMAUX PAUL R 42 SPRUCE DRIVE HOPE, RI 02831	.465										
6.												
7.	Parcel ID: 05-0/004-00 PALMIERI CHERYL A TRUST BRUCE E HARRIS JR 18 MILL STREET PO BOX 302 HOPE RI 02831	.465										
8.												



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1.	Parcel ID: 05-0/005-00 <b>BETTEZ, ROLAND ET UX MARSHA</b> <b>83 WOOD COVE DRIVE</b> <b>COVENTRY, RI 02816</b>	.465										
2.												
3.	Parcel ID: 05-0/006-00 <b>MATHEU, GILBERT &amp; RANDY</b> <b>PO BOX 275</b> <b>HOPE, RI 02831-0275</b> <b>HOPE RI 02831-0275</b>	.465										
4.												
5.												
6.	Parcel ID: 05-0/008-00 <b>DESAUTELS, ARTHUR &amp; VERONICA</b> <b>P O BOX 19</b> <b>HOPE, RI 02831</b> <b>HOPE RI 02831</b>	.465										
7.												
8.	Parcel ID: 05-0/009-00 <b>HAYNES EDWARD L ET UX</b> <b>JACQUELINE S (TE)</b> <b>2 MILL STREET</b> <b>HOPE, RI 02831</b> <b>HOPE RI 02831</b>	.465										



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Total Number of Pieces Received at Post Office

86

Postmaster, Per (Name of receiving employee)

RC *[Signature]*

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ESS Group, Inc.  
 10 Hemingway Drive, 2nd Floor  
 East Providence, RI 02915

check type of mail or service:

- Certified
- COD
- Delivery Confirmation
- Express Mail
- Insured
- Recorded Delivery (International)
- Registered
- Return Receipt for Merchandise
- Signature Confirmation

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 certificate of mailing,  
 or for additional  
 copies of this bill)  
 Postmark and  
 Date of Receipt

Article Number	Addressee (Name, Street, City, State, & ZIP Code)	Postage	Fee	Handling Charge	Actual Value if Registered	Insured Value	Due Sender if COD	DC Fee	SC Fee	SH Fee	RD Fee	RR Fee
1.												
2.												
3.	Parcel ID: 05-0/016-00 FRAGMENT GAVIN A ET UX BRENDA (TE) 143 WHIPPLE AVENUE WARWICK, RI 02889	.465										
4.	Parcel ID: 05-0/032-00											
5.	Parcel ID: 05-0/031-00 BARROSO, JOSE A ET UX LUCY 76 MAIN STREET HOPE RI 02831	.465										
6.	Parcel ID: 05-0/033-00											
7.	Parcel ID: 05-0/032-00 CYR ROGER P ET UX DIANE T (TE) 5 HOWLAND LANE HOPE, RI 02831 HOPE RI 02831	.465										
8.	Parcel ID: 05-0/034-00											

Delivery Confirmation  
 Signature Confirmation  
 Special Handling  
 Restricted Delivery  
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Total Number of Pieces Listed by Sender

86

Total Number of Pieces Received at Post Office

86

Postmaster, Per (Name of receiving employee)

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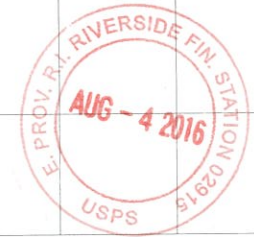
ESS Group, Inc.  
 10 Hemingway Drive, 2nd Floor  
 East Providence, RI 02915

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- Express Mail
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Article Number	Addressee (Name, Street, City, State, & ZIP Code)	Postage	Fee	Handling Charge	Actual Value if Registered	Insured Value	Due Sender if COD	DC Fee	SC Fee	SH Fee	RD Fee	RR Fee
1.	MERCIER MARJORIE R-TRUST PALOMBO, ARLENE L. & HARRIS, MARGARET L. TRUSTEES 13 MILL STREET PO BOX 248 HOPE RI 02831	.465										
2.	Parcel ID: 05-0/035-00											
3.	RICHARD, THEODORE J-IV C/O 408 SEVEN MILE ROAD HOPE, RI 02831 HOPE RI 02831	.465										
4.	Parcel ID: 05-0/036-00											
5.	Parcel ID: 05-0/036-00 DALNAS ERIC D 29 MILL STREET HOPE, RI 02831 HOPE RI 02831	.465										
6.	Parcel ID: 05-0/039-00											
7.												
8.												



Delivery Confirmation  
 Signature Confirmation  
 Special Handling  
 Restricted Delivery  
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Total Number of Pieces Listed by Sender: **86**  
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SS Group, Inc.  
 0 Hemingway Drive, 2nd Floor  
 Providence, RI 02915

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  - Insured
  - Recorded Delivery (International)
  - Registered
  - Return Receipt for Merchandise
  - Signature Confirmation

Affix Stamp Here  
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 Postmark and Date of Receipt

Article Number	Addressee (Name, Street, City, State, & ZIP Code)	Postage	Fee	Handling Charge	Actual Value if Registered	Insured Value	Due Sender if COD	DC Fee	SC Fee	SH Fee	RD Fee	RR Fee
1.	Parcel ID: 05-0/034-00 CHEVALIER, JOHN P 21 MILL STREET HOPE, RI 02831 HOPE RI 02831	.465										
2.												
3.												
4.												
5.	5/107 Parcel ID: 05-0/041-00 DIMUCCIO, DAVID E 1224 NARRAGANSETT BLVD CRANSTON, RI 02905 CRANSTON RI 02905	.465										
6.												
7.	Parcel ID: 05-0/042-00 ANDERSON GERTRUDE L 41 MAIN STREET PO BOX 106 HOPE, RI 02831 HOPE RI 02831	.465										
8.												

Delivery Confirmation  
 Signature Confirmation  
 Special Handling  
 Restricted Delivery  
 Return Receipt



Total Number of Pieces Listed by Sender: **86**  
 Total Number of Pieces Received at Post Office: **86**

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SS Group, Inc.  
 0 Hemingway Drive, 2nd Floor  
 ast Providence, RI 02915

Check type of mail or service:

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Article Number	Addressee (Name, Street, City, State, & ZIP Code)	Postage	Fee	Handling Charge	Actual Value if Registered	Insured Value	Due Sender if COD	DC Fee	SC Fee	SH Fee	RD Fee	RR Fee
1.	Parcel ID: 05-0/043-00 STILL WATER CHRISTIAN FELLOWSHIP 51 MAIN STREET HOPE, RI 02831 HOPE RI 02831	.465										
2.												
3.	Parcel ID: 05-0/048-00 THERRIEN YVETTE E PO BOX 95 HOPE, RI 02831 HOPE RI 02831	.465										
4.												
5.	Parcel ID: 05-0/049-00 STETTLER, MYRIAM PO BOX 103 38 MAIN STREET HOPE, RI 02831	.465										
6.												
7.	Parcel ID: 05-0/050-00 MORAN, ANGELA L 2/4 BROWN STREET P O BOX 164 HOPE, RI 02831 HOPE RI 02831	.465										
8.	Parcel ID: 05-0/054-00											



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Total Number of Pieces Listed by Sender: **86**  
 Total Number of Pieces Received at Post Office: **86**  
 Postmaster, Per (Name of receiving employee): **HC Lewett**

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Complete by Typewriter, Ink, or Ball Point Pen

ESS Group, Inc.  
 10 Hemingway Drive, 2nd Floor  
 East Providence, RI 02915

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Article Number	Addressee (Name, Street, City, State, & ZIP Code)	Postage	Fee	Handling Charge	Actual Value if Registered	Insured Value	Due Sender if COD	DC Fee	SC Fee	SH Fee	RD Fee	RR Fee
1.	Parcel ID: 05-0/056-00 RUDOLPH, JOHN A ET UX VALERIE J 28 MAIN ST, P O BOX 16 HOPE, RI 02831	.465										
2.	Parcel ID: 05-0/056-00											
3.	Parcel ID: 05-0/052-00 RI HOUSING & MORTGAGE FINANCE CORP 100% ATTN: SERVICING DIVISION (COLVIN DENNIS M - RIGHT OF REDEMPTION) 44 WASHINGTON STREET HOPE, RI 02831	.465										
4.	Parcel ID: 05-0/055-00											
5.	Parcel ID: 05-0/054-00 CLAIRBORNE WAYNE C ET UX CHARLENE L (TE) 9 BROWN STREET HOPE, RI 02831 HOPE RI 02831	.465										
6.	Parcel ID: 05-0/058-00											
7.	COLLINS, CHARLES A JR ET UX ROBIN A 224B CENTRAL PIKE, P O BOX 187 N SCITUATE, RI 02857	.465										
8.	Parcel ID: 05-0/069-00											



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 86

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ESS Group, Inc.  
 10 Hemingway Drive, 2nd Floor  
 East Providence, RI 02915

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1.	DIMARTINO ANGELA ET VIR CHRISTOPHER (TE) 22 MAIN STREET HOPE, RI 02831 HOPE RI 02831	.465										
2.	Parcel ID: 05-0/059-00											
3.	IZZI NICHOLAS J 152 BURNT HILL ROAD HOPE, RI 02831 HOPE RI 02831	.465										
4.	Parcel ID: 05-0/117-00 PAWTUXET RIVER AUTHORITY											
5.	Parcel ID: 10-0/002-00 AUDUBON SOCIETY OF RI 12 SANDERSON ROAD SMITHFIELD, RI 02917	.465										
6.												
7.	Parcel ID: 05-0/117-00 PAWTUXET RIVER AUTHORITY 334 KNIGHT STREET WARWICK, RI 02886	.465										
8.												



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 Restricted Delivery  
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ESS Group, Inc.  
 10 Hemingway Drive, 2nd Floor  
 East Providence, RI 02915

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Article Number	Addressee (Name, Street, City, State, & ZIP Code)	Postage	Fee	Handling Charge	Actual Value if Registered	Insured Value	Due Sender if COD	DC Fee	SC Fee	SH Fee	RD Fee	RR Fee
1.	MITTRA ARUNDEEP ET UX MELODY (TE) 39 HOPE FURNACE ROAD HOPE, RI 02831 HOPE RI 02831	.465										
2.	Parcel ID: 05-0/107-00											
3.	Parcel ID: 05-0/029-00 WOODHOUSE, HAMPTON R ETUX SARAH 67 BEN BROWN AVENUE HOPE, RI 02831 HOPE RI 02831	.465										
4.												
5.	Parcel ID: 05-0/056-00 COLLINS, CHARLES A JR ET UX ROBIN A 224B CENTRAL PIKE, P O BOX 187 N SCITUATE, RI 02857	.465										
6.												
7.	Parcel ID: 05-0/060-00 CONNAUGHTON DANIEL J ET UX KAREN E (TE) 35 HOPE FURNACE ROAD HOPE, RI 02831 HOPE RI 02831	.465										
8.	Parcel ID: 05-0/064-00											

*Play*



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ESS Group, Inc.  
 10 Hemingway Drive, 2nd Floor  
 East Providence, RI 02915

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Article Number	Addressee (Name, Street, City, State, & ZIP Code)	Postage	Fee	Handling Charge	Actual Value if Registered	Insured Value	Due Sender if COD	DC Fee	SC Fee	SH Fee	RD Fee	RR Fee
1.	PIMENTEL, CHARLENE M P O BOX 415 HOPE RI 02831-0415	.465										
2.												
3.	Parcel ID: 05-0/075-00 KIBBE, CARL H ET UX DEBRA L 68 BEN BROWN AVENUE HOPE, RI 02831	.465										
4.												
5.	Parcel ID: 05-0/061-00 NARRAGANSETT ELECTRIC CO C/O PROPERTY TAX DEPARTMENT 25 RESEARCH DRIVE WESTBOROUGH, MA 01582-0099	.465										
6.	Parcel ID: 05-0/069-00											
7.	Parcel ID: 05-0/065-00 BETTEZ RUDOLPH T-TRUSTEE RUDOLPH & BARBARA BETTEZ JOINT REV TRUST % BETTEZ RONALD 1293 CHOPMIST HILL ROAD NORTH SCITUATE RI 02857	.465										
8.	Parcel ID: 05-0/074-00											



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Notification To Abutters

Planned Site Investigations Activities

**Hope Mill  
Main Street, Village of Hope, Rhode Island**

March 27, 2020

In accordance with the Rhode Island Department of Environmental Management's (RIDEM's) Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases (the Remediation Regulations), and the Industrial Property Remediation and Reuse Act (Rhode Island General Law 23-19.14, Section 11), Paramount Apartments, LLC (Paramount) is providing notice to abutting property owners of their intent to conduct Site Investigations for the above mentioned property. The property is further designated as Plat # 5 Lots #1, 8, 58, 69, 114, and 117 of the Scituate Tax Assessor's plat maps. The goal of the investigation is to further determine the extent to which any historical activities at the property may have resulted in any exceedances of the RIDEM's promulgated soil criteria and groundwater objectives. The investigation will involve sampling and analysis of soil and groundwater by Paramount's Environmental Consultant, ESS Group, Inc. (ESS) and/or ESS's subcontractors.

The investigation is scheduled to be conducted between April 2020 and June 2020. It is anticipated that ESS will begin the field work in early April. Field work is dependent on favorable weather conditions and subcontractor availability, so the schedule of activities may be subject to changes. The results of the investigation should be available by August 2020.

For more information regarding this notice or this investigation, or to make arrangements to review RIDEM records pertaining to this property location, contact Joseph T. Martella II (401) 222-2797, extension 7109.





Name and Address of Sender

Ess Group, Inc.  
404 Wyman Street, Suite 375  
Waltham, MA 02451

TOTAL NO.  
of Pieces Listed by Sender

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of Pieces Received at Post Office™

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CONCORD, MA  
01742  
MAR 28 20  
AMOUNT  
**\$17.20**  
R2304H108630-17

USPS® Tracking Number  
Firm-specific Identifier

Address  
(Name, Street, City, State, and ZIP Code™)

1.	Lencille, Justin M PO Box 247 Hope, RI 02831
2.	Pawtuxet River Authority 334 Knight Street Warwick, RI 02886
3.	Lemo, Paul S Et ux Doree S 105 Howard Ave Hope, RI 02831
4.	Collins, Charles A Jr Et ux Robin A 224 B Central Pike, PO Box 187 N Scituate, RI 02857
5.	RI Housing & Mortgage Finance Corp 44 Washington Street Providence, RI 02903
6.	Mushy, Brian R Et ux Renee L PO Box 173 Hope, RI 02831-0173



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U.S. POSTAGE PAID  
CONCORD, MA  
01742  
MAR 28 20  
AMOUNT  
**\$17.20**  
R2304H108630-17

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Name and Address of Sender  ESS Group, Inc. 404 Wymen Street, Suite 375 Waltham, MA 02451	TOTAL NO. of Pieces Listed by Sender  Postmaster, per (name of receiving employee)	TOTAL NO. of Pieces Received at Post Office™	Affix Stamp Here Postmark with Date of Receipt.
USPS® Tracking Number Firm-specific Identifier	Address (Name, Street, City, State, and ZIP Code™)	Postage	Fee
1.	Belleville, Henry H Et al Belleville, Edward (ST) 35 Nam Street Hope, RI 02831		
2.	Audubon Society of RI 12 Sanderson Road Smithfield, RI 02917		
3.	Shlesings, Edward B. 41 Hope Furnace Road Hope, RI 02831		
4.	Wall, Jeremy R. Et al Leja Ashley P. (ST) 43 Hope Furnace Road Hope, RI 02831		
5.	Narragansett Electric Co C/O Property Tax Department 25 Research Drive Westborough, MA 01582-0099		
6.	Woodhouse, Hampton R Et ux Sarah 67 Ben Brown Avenue Hope, RI 02831		





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<p>Ess Group, Inc. 404 Wyman Street, Suite 375 Waltham, MA 02451</p>	<p>Postmaster, per (name of receiving employee)</p>					
1.	<p>Macan, Angela L. 2/4 Bough Street, PO Box 164 Hope, RI 02831</p>					
2.	<p>Still Waters Christian Fellowship 51 Main Street Hope, RI 02831</p>					
3.	<p>Grabbert, Laura E. Grabbert, Thomas A. (JT) 380 Seven Mile Road Hope, RI 02831</p>					
4.	<p>Mescies, Marjorie R-Trust Palumbo, Arlene L. &amp; Harris, Margaret L. Trustees 13 Mill Street, PO Box 248 Hope, RI 02831</p>					
5.	<p>Fennert, Gavin A Et ux Brenda (FE) 143 Wunipale Avenue Warrwick, RI 02884</p>					
6.	<p>Mathew Gilbert &amp; Ranby PO Box 275 Hope, RI 02831</p>					





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<p>ESS Group, Inc. 404 Wyman Street, Suite 375 Waltham, MA 02451</p>	<p>Postmaster, per (name of receiving employee)</p>					
1.	Brown, Cheryl A Revocable Trust					
2.	Brown, Cheryl A Trustee 53 Ben Brown Avenue Hope, RI 02831 Parents, Charlene M. PO Box 415 Hope, RI 02831-0415					
3.	Connaughton Daniel J, Etux Karen G (TE) 35 Hope Forge Road Hope, RI 02831					
4.	Tambor, Kenneth G & Emilie M, RL Tambor, Kenneth G & Emilie M Trustees 3960 Dorrit Avenue Boynton Beach, FL 33436					
5.	Stettin, Myriam PO Box 103 38 Main Street Hope, RI 02831					
6.	Anderson, Gertrude L. 41 Main Street PO Box 106 Hope, RI 02831					





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ESS Group, Inc. 404 Wyman Street, Suite 375 Waltham, MA 02451	Postmaster, per (name of receiving employee)					
1.	Gyr, Rogers P Et ux Diane T (TE) 5 Howland Lane Hope, RI 02831					
2.	CHEVALIER John P. 21 Mill Street Hope, RI 02831					
3.	HAYNES, Edward L Et ux Jacqueline S. (TE) 2 Mill Street Hope, RI 02831					
4.	BETHZ, Roland Et ux Marsha 83 Wood Cove Drive Coventry, RI 02816					
5.	Kibbe, Carl H Et ux Debra L. 68 Ben Brown Avenue Hope, RI 02831					
6.	Haley, Theodore T Jr Et ux Louise M 104 Main Street Hope, RI 02831					





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<p>ESS Group, Inc. 404 Wyman Street, Suite 375 Waltham, MA 02451</p>	<p>Postmaster, per (name of receiving employee)</p>		
<p>USPS® Tracking Number Firm-specific Identifier</p>	<p>Address (Name, Street, City, State, and ZIP Code™)</p>	<p>Postage</p>	<p>Fee</p>
<p>1.</p>	<p>Peluz, Richard Et ux Lori 97 Main Street, PO Box 446 Hope, RI 02831</p>		<p>Special Handling</p>
<p>2.</p>	<p>Milton, Arundel Et ux Melody (TE) 39 Hope Furnace Road Hope, RI 02831</p>		<p>Parcel Airlift</p>
<p>3.</p>	<p>Therrien, Yvette E. PO Box 95 Hope, RI 02831</p>		
<p>4.</p>	<p>Dimuccio, David E. 1224 Nantuxseth Blvd Conston, RI 02905</p>		
<p>5.</p>	<p>Richard, Theodore S-IV 610 40th Seven Mile Road Hope, RI 02831</p>		
<p>6.</p>	<p>Burioso, Jose A Et ux Lucy 76 Main Street Hope, RI 02831</p>		





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USPS® Tracking Number Firm-specific Identifier	Address (Name, Street, City, State, and ZIP Code™)	Postage	Fee	Special Handling	Parcel Airlift	
1.	ESS Group, Inc. 404 Wymen Street, Suite 375 Waltham, MA 02451	Postmaster, per (name of receiving employee)				
2.	DeSautels, Arthur & Veronica PO Box 14 Hope, RI 02831					
3.	Palmeri, Cheryl A Trust, Bruce E Hogg's Jr 18 Mill Street PO Box 302 Hope, RI 02831					
4.	Wimward, John T Jr, Ethel Julie A 7 Washington Ave Hope, RI 02831					
5.	Rudolph, John E Ethel Valeria S 28 Main Street PO Box 16 Hope, RI 02831					
6.	Palms, Eric D. 29 Mill Street Hope, RI 02831					
7.	Silvia, Kathleen PO Box 3 Hope, RI 02831					





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Ess Group, Inc. 4104 Wyman Street, Suite 375 Waltham, MA 02451	Postmaster, per (name of receiving employee)						
USPS® Tracking Number Firm-specific Identifier	Address (Name, Street, City, State, and ZIP Code™)						
1.	Dandrow, Walter J-Jr Et al Dandrow, Jennifer L & Heather L. (JT)	32 Lakeview Drive	Chepachet, RI 02814	Cia:Thorne, Wayne (Et ux Charlene L. (TE))	4 Brown Street	Hope, RI 02831	
2.	Mcinnis, Brian D. & Renee Trustees	3 Brown Street	Hope, RI 02831	Allan, John N. Et ux Mary E	103 Main Street	Hope, RI 02831	
3.	Hope A Associates, Inc.	408 Seven Mile Road	Hope, RI 02831	Dessert, Joseph M	45 Ames Street	Coveyly, RI 02816	
4.							
5.							
6.							





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Ess Group, Inc. 404 Wyman Street, Suite 375 Waltham, MA 02451	Postmaster, per (name of receiving employee)					
1.	Dimarkio, Angela Et vic Christopher (TE) 22 Main Street Hope, RI 02831					
2.	Kirch, James P. Et ux Lori A. 11 Glenview Court, PO Box 245 Hope, RI 02831					
3.	New England Development RE LLC 30 Old Kings Highway South Darien, CT 06820					
4.	Murdoch, Erin K et al Dinobik, Brian N (JT) 48 Main Street Hope, RI 02831					
5.	Izzi, Nicholas J. 152 Burat Hill Rd Hope, RI 02831					
6.	MacLennan, Paul R. 12 Service Drive Hope, RI 02831					





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<p>ESS Group, Inc. 1104 Wyman Street, Suite 375 Waltham, MA 02456</p>	<p>Postmaster, per (name of receiving employee)</p>					
1.	<p>Pocia, James J Etux PO Box 285 66 Main Street Hone, RI 02831</p>					
2.	<p>Betesz, Rudolph &amp; Barbara 1293 Chocmist Hill Road Scituate, RI 02857</p>					
3.	<p>Silva, Joseph T &amp; Sarah E 26 Clarke Road Coventry, RI 02816</p>					
4.	<p>Jensen Alan R &amp; Francine 9 Clarke Road Coventry, RI 02816</p>					
5.	<p>Caruso, Matthew K &amp; Kara 994 Knobby Oak Road Coventry, RI 02816</p>					
6.	<p>Russo, Michael R 20 Clarke Road Coventry, RI 02816</p>					





**Certificate of Mailing — Firm**

Name and Address of Sender	TOTAL NO. of Pieces Listed by Sender	TOTAL NO. of Pieces Received at Post Office™	Affix Stamp Here Postmark with Date of Receipt.
<p>ESS Group, Inc. 1104 Wyman Street, Suite 375 Waltham, MA 02451</p>	<p>Postmaster, per (name of receiving employee)</p>		
<p>USPS® Tracking Number Firm-specific Identifier</p>	<p>Address (Name, Street, City, State, and ZIP Code™)</p>	<p>Postage</p>	<p>Fee</p>
<p>1.</p>	<p>Rudolph, Thomas W &amp; Michel 18 Clarke Road Coventry, RI 02816</p>		<p>Special Handling</p>
<p>2.</p>	<p>Puoykula, Virginia M 22 Clarke Road Coventry, RI 02816</p>		<p>Parcel Airlift</p>
<p>3.</p>	<p>BETZ, Rudolph T &amp; Barbara Trust PO Box 252 Hope, RI 02831</p>		
<p>4.</p>	<p>Gruetzke, Robert 16 Clarke Road Coventry, RI 02816</p>		
<p>5.</p>	<p>Finch, Patrick W &amp; Sheila 980 KNOTTY OAK ROAD Coventry, RI 02816</p>		
<p>6.</p>	<p>Bergeron, Richard &amp; Lynn 8 Darius Lane Coventry, RI 02826</p>		





Certificate of Mailing — Firm

Name and Address of Sender	TOTAL NO. of Pieces Listed by Sender	TOTAL NO. of Pieces Received at Post Office™	Affix Stamp Here Postmark with Date of Receipt.			
USPS® Tracking Number Firm-specific Identifier	Postmaster, per (name of receiving employee)	Address (Name, Street, City, State, and ZIP Code™)	Postage	Fee	Special Handling	Parcel Airlift
ESS Group, Inc. 404 Wymon Street, Suite 375 Waltham, MA 02451						
1.		Mullen, Daisy M 14 Clarke Road Coventry, RI 02816				
2.		Ferland, Wayne H & Rosemary 6 Glenview Court Coventry, RI 02816				
3.		Barraco, Anthony S Jr. 12 Clarke Road Coventry, RI 02816				
4.		Money, Steven E. & Beth E. 28 Clarke Road Coventry, RI 02816				
5.		Miles, Robert E. & Gloria 7 Clarke Road Coventry, RI 02816				
6.		Antonaccio, Robert V. & Gail 2 Glenview Court Coventry, RI 02816				





Certificate of Mailing — Firm

Name and Address of Sender

ESS GROUP, INC.  
404 WYMAN STREET, SUITE 375  
WALTHAM, MA 02451

TOTAL NO.  
of Pieces Listed by Sender

TOTAL NO.  
of Pieces Received at Post Office™

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Postmark with Date of Receipt.

Postmaster, per (name of receiving employee)

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Firm-specific Identifier

Address  
(Name, Street, City, State, and ZIP Code™)

Postage

Fee

Special Handling

Parcel Airlift

	USPS® Tracking Number Firm-specific Identifier	Address (Name, Street, City, State, and ZIP Code™)	Postage	Fee	Special Handling	Parcel Airlift
1.		Enight, Rosemary 185 Knotty Oak Road Coventry, RI 02816				
2.		Merrill, James M. & Susan M. 175 Knotty Oak Road Coventry, RI 02816				
3.		Delfino, Carol A 1 Clarke Road Coventry, RI 02816				
4.		Dermes, Lionel P & Judy E 25 Chase Road Coventry, RI 02816				
5.		Kennedy, William C. & Joyce 13 Clarks Road Coventry, RI 02816				
6.		Knight, John H & Jane E 4 Glenview Court Coventry, RI 02816				





# Certificate of Mailing — Firm

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USPS® Tracking Number Firm-specific Identifier	Address (Name, Street, City, State, and ZIP Code™)	Postage	Fee	Special Handling	Parcel Airlift	
ESS Group, Inc. 404 Wyman Street, Suite 375 Waltham, MA 02451	Postmaster, per (name of receiving employee)					
1.	Companatico, Domenic G 24 Clarke Rd Coventry, RI 02816					
2.	Skurka, Thomas H Et ux Joan E 41 Hill Street Coventry, RI 02816					
3.						
4.						
5.						
6.						

COMPANATICO DOMENIC G  
24 CLARKE RD  
COVENTRY, RI 02816

KENNEDY WILLIAM C & JOYCE  
13 CLARKE RD  
COVENTRY, RI 02816

DELFINO CAROL A  
1 CLARKE RD  
COVENTRY, RI 02816

KNIGHT JOHN H & JANE E  
4 GLENVIEW CT  
COVENTRY, RI 02816

DEMERS, LIONEL P & JUDY E  
25 CHASE RD  
COVENTRY, RI 02816

MERIANO JAMES M & SUSAN M  
975 KNOTTY OAK RD  
COVENTRY, RI 02816

MILLER ROBERT E & GLORIA  
7 CLARKE RD  
COVENTRY, RI 02816

ANTONACCIO ROBERT V & GAI  
2 GLENVIEW CT  
COVENTRY, RI 02816

ENRIGHT ROSEMARY  
988 KNOTTY OAK RD  
COVENTRY, RI 02816

MONEY STEVEN E & BETH E  
28 CLARKE RD  
COVENTRY, RI 02816

BARRACO ANTHONY J JR  
12 CLARKE RD  
COVENTRY, RI 02816

FERLAND WAYNE H & ROSEMAR  
6 GLENVIEW CT  
COVENTRY, RI 02816

MULLEN DAISY M  
14 CLARKE RD  
COVENTRY, RI 02816

BERGERON, RICHARD & LYNN  
8 DARIUS LN  
COVENTRY, RI 02826

FINCH PATRICK W & SHEILA  
980 KNOTTY OAK RD  
COVENTRY, RI 02816

PADYKULA VIRGINIA M  
22 CLARKE RD  
COVENTRY, RI 02816

BETTEZ RUDOLPH T & BARBAR  
TRUST  
PO BOX 252  
HOPE, RI 02831

GRUETZKE ROBERT  
16 CLARKE RD  
COVENTRY, RI 02816

RUDOLPH THOMAS W & MICHEL  
18 CLARKE RD  
COVENTRY, RI 02816

RUSSO MICHAEL R  
20 CLARKE RD  
COVENTRY, RI 02816

CARUSO MATTHEW K & KERRI  
984 KNOTTY OAK RD  
COVENTRY, RI 02816

JENSEN ALAN R & FRANCINE  
9 CLARKE RD  
COVENTRY, RI 02816

SILVA JOSEPH T & SARAH E  
26 CLARKE RD  
COVENTRY, RI 02816

BETTEZ, RUDOLPH & BARBARA  
1293 CHOPMIST HILL RD  
SCITUATE, RI 02857

IZZI NICHOLAS J  
152 BURNT HILL RD  
HOPE, RI 02831

Poccia James J Et ux Christine A (TE)  
PO Box 285  
96 Main Street  
Hope, RI 02831

Peters, Richard Et ux Lori  
92 Main Street  
PO Box 446  
Hope, RI 02831

Murdock, Erin K Et al  
Dinobile, Brian N (JT)  
88 Main Street  
Hope, RI 02831

Skurka, Thomas H Et ux Joan E  
91 Hill Street  
Coventry, RI 02816

Macamaux, Paul R  
42 Spruce Drive  
Hope, RI 02831

Palmieri, Cheryl A Trust  
Bruce E Harris Jr  
18 Mill Street  
PO Box 302  
Hope, RI 02831

Bettez, Roland Et ux Marsha  
83 Wood Cove Drive  
Coventry, RI 02816

Matheu, Gilbert & Randy  
PO Box 275  
Hope, RI 02831

Desautels, Arthur & Veronica  
PO Box 19  
Hope, RI 02831

Haynes, Edward L Et ux Jacqueline S  
(TE)  
2 Mill Street  
Hope, RI 02831

Frament, Gavin A Et ux Brenda (TE)  
143 Whipple Avenue  
Warwick, RI 02889

Barroso, Jose A Et ux Lucy  
76 Main Street  
Hope, RI 02831

Cyr, Roger P Et ux Diane T (TE)  
5 Howland Lane  
Hope, RI 02831

Mercier, Marjorie R-Trust  
Palombo, Arlene L. & Harris, Margaret  
L. Trustees  
13 Mill Street, PO Box 248  
Hope, RI 02831

Richard, Theodore J –IV  
C/O 408 Seven Mile Road  
Hope, RI 02831

Chevalier, John P.  
21 Mill Street  
Hope, RI 02831

Grabbert, Laura E and Grabbert,  
Thomas A (JT)  
380 Seven Mile Road  
Hope, RI 02831

Dimuccio, David E.  
1224 Narragansett Blvd.  
Cranston, RI 02905

Anderson, Gertrude L.  
41 Main Street  
PO Box 106  
Hope, RI 02831

Still Water Christian Fellowship  
51 Main Street  
Hope, RI 02831

Therrien, Yvette E.  
PO Box 95  
Hope, RI 02831

Stettler, Myriam  
PO Box 103  
38 Main Street  
Hope, RI 02831

Moran, Angela L.  
2/4 Brown Street  
PO Box 164  
Hope, RI 02831

Mitra Arundee Et ux Melody (TE)  
39 Hope Furnace Road  
Hope, RI 02831

Tamboe, Kenneth G. & Emilie M. RLT  
Tamboe Kenneth G & Emilie M  
Trustees  
3960 Dorrit Avenue  
Boynton Beach, FL 33436

Woodhouse, Hampton R Et ux Sarah  
67 Ben Brown Avenue  
Hope, RI 02831

Peters, Richard Et ux Lori  
92 Main Street  
PO Box 446  
Hope, RI 02831

Connaughton, Daniel J. Et ux Karen E  
(TE)  
35 Hope Furnace Road  
Hope, RI 02831

Narragansett Electric CO  
C/O Property Tax Department  
25 Research Drive  
Westborough, MA 01582-0099

Haley, Theodore T Jr Et ux Louise M  
104 Main Street  
Hope, RI 02831

Pimentel, Charlene M.  
P.O. Box 415  
Hope, RI 02831-0415

Wall, Jeremy R. Et al Leja Ashley D.  
(JT)  
43 Hope Furnace Road  
Hope, RI 02831

Kibbe, Carl H. Et ux Debra L.  
68 Ben Brown Avenue  
Hope, RI 02831

Brown, Cheryl A Revocable Trust  
Brown, Cheryl A Trustee  
53 Ben Brown Avenue  
Hope, RI 02831

Shlesinger, Edward B.  
41 Hope Furnace Road  
Hope, RI 02831

Martin, Brian R Et ux Renee L  
PO Box 173  
Hope, RI 02831-0173

New England Development RI LLC  
30 Old Kings Highway South  
Darien, CT 06820

Mcinnis Family Trust 2015  
Mcinnis, Brian D. and Renee Trustees  
3 Brown Street  
Hope, RI 02831

RI Housing & Mortgage Finance Corp  
44 Washington Street  
Providence, RI 02903

Rudolph, John E Et ux Valeria J  
28 Main Street  
PO Box 16  
Hope, RI 02831

Clairborne Wayne C Et ux Charlene L  
(TE)  
9 Brown Street  
Hope, RI 02831

Collins, Charles A Jr Et Ux Robin A  
224B Central Pike  
PO Box 187  
N Scituate, RI 02857

Kirch, James D. Et ux Lori A  
11 Glenview Court  
PO Box 295  
Hope, RI 02831

Dalnas, Eric D.  
29 Mill Street  
Hope, RI 02831

Lemoui, Paul S Et ux Darlene S  
105 Howard Ave  
Hope, RI 02831

Dessert, Joseth M  
45 Ames Street  
Coventry, RI 02816

Dandrow, Walter J-Jr Et al Dandrow,  
Jennifer L., & Heather L. (JT)  
32 Lakeview Drive  
Chepachet, RI 02814

Belleville, Henry H Et al Belleville,  
Edward (JT)  
35 Main Street  
Hope, RI 02831

Dimartino, Angela Et vir Christopher  
(TE)  
22 Main Street  
Hope, RI 02831

Audubon Society of RI  
12 Sanderson Road  
Smithfield, RI 02917

Pawtuxet River Authority  
334 Knight Street  
Warwick, RI 02886

Hope Associates, Inc.  
408 Seven Mile Road  
Hope, RI 02831

Silvia, Kathleen  
PO Box 3  
Hope, RI 02831

Leveillee, Justin M  
PO Box 247  
Hope, RI 02831

Allan, John N. Et ux Mary E.  
103 Main Street  
Hope, RI 02831

Windward, John T Jr. Et ux Julie A  
7 Harrington Ave  
Hope, RI 02831





**NON HAZARDOUS WASTE MANIFEST**

1. Generator's US EPA ID No.

Manifest Document No.

2. Page 1 of 1

3. Generator's Name and Mailing Address

Parliament Development  
60 State Street, Boston, MA 02109

A. Non-Hazardous Manifest Document Number

NHZ001 82716

4. Generator's Phone (617) 548-8333

B. S.G.I. (Gen. Site Address)

1 Mill St Situate, RI

5. Transporter 1 Company Name

NRC East Environmental services

6. US EPA ID Number

MA C 3 0 0 0 9 8 3 9 9

C. S.T.I. (Lic. Plate #)

978-465-1595

7. Transporter 2 Company Name

8. US EPA ID Number

E. S.T.I. (Lic. Plate #)

F. Transporter's Phone

9. Designated Facility Name and Site Address

NRC East Environmental services inc.  
77 Parker Street  
Newburyport MA 01950

10. US EPA ID Number

MA C 3 0 0 0 1 4 9 6 6

G. State Facility's ID

77 Parker Street  
Newburyport MA 01950

H. Facility's Phone

978-465-1595

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)

a. UN 1203, Gasoline, 3, 2B11 (Gasoline/water mixture  
for reclamation - Ignitable - Toxic - Benzene)

12. Containers

No. Type

0 0 1 1 T T 0 1 1 0 5 4 G

13. Total Quantity

Unit

1054 G

14. Unit Wt/Vol

I. Waste No.

State

NONE

State

NONE

State

State

State

State

State

State

J. Additional Descriptions for Materials Listed Above

(L) 24 Hour Emergency Phone

a. Approval # \_\_\_\_\_ ERG # 128

b. \_\_\_\_\_

K. Handling Codes for Wastes Listed Above

Interim Final

a. \_\_\_\_\_

b. \_\_\_\_\_

c. \_\_\_\_\_

d. \_\_\_\_\_

15. Special Handling Instructions and Additional Information

Point of Departure:

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations, and all applicable state laws and regulations.

Printed/Typed Name

x Richard J. Dorcus

Signature

R. Dorcus

Month Day Year

07 01 20

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

ATHRON HANSON

Signature

A. HANSON

Month Day Year

07 01 20

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name

Christine Strickland

Signature

C. Strickland

Date

Month Day Year

07 01 20

ORIGINAL-RETURN TO GENERATOR

WWW.NRCC.COM

WWW.NRCC.COM

WWW.NRCC.COM

WWW.NRCC.COM

WWW.NRCC.COM

WWW.NRCC.COM

GENERATOR

TRANSPORTER

FACILITY